

UNIVERSITY GRANTS COMMISSION

AGENDA AND PROCEEDINGS

NO-221

26TH OCTOBER 1979

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Minutes of the 221st meeting of the University Grants Commission held on October 26, 1979.

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The following were present:

Professor Satish Chandra	Chairman
Prof. B. Ramachandra Rao	Vice-Chairman
Shri P. Sabanayagam	Member
Shri S. Vasudevan	Member
Prof. Anales Tripathi	Member
Prof. C.V. Subramanian	Member
Prof. Usha H. Mehta	Member
Prof. Hrinah Miri	Member
Prof. Ram Lal Parikh	Member
Mr. Justice S.M. Sikri	Member
Shri F.K. Chhabra	Secretary

Dr. Abrik Singh Choema regretted his inability to attend the meeting.

SECRETARIAT

Additional Secretary

Dr. D. Shankar Narayan

Joint Secretaries

Shri S. Visvanath
Shri I.C. Menon

Deputy Secretaries

Dr. D. Swaminadhan
Dr. S.P. Gupta
Dr. M.L. Mehta
Dr. T.M. Majala
Shri Y.D. Sharma
Shri A.B. Gupta
Shri M.P. Balakrishnan
Shri L.R. Mal
Shri A.G. Dashmukh

Finance Officer:

Shri B.S.Tyle

Homage to Loknayak Jayprakash Narayan

The Commission expresses its deep sense of grief and sorrow on the sad demise of Loknayak Jayprakash Narayan on October 8, 1979. JP's life of selfless devotion and dedication to the people of India as well as to mankind as a whole is exemplary to university community and therefore his name will continue to inspire the entire educational community in developing education as a means of social transformation and service to common men and women of our country so that the entire educational system became a fit instrument of National and Human Development. The university community will always remember with gratitude JP's efforts in arousing the nation's conscious to the urgent task of revamping the educational system in order to bring it nearer to the life and work of the masses.

The Commission joins the Nation in the bereavement on passing away of this great soul. We pray for eternal peace to the departed soul.

Professor Satish Chandra informed the Commission that Dr. A.R. Kidwai has since resigned from the membership of the Commission consequent upon his appointment as Governor of Bihar. The Commission placed on record its deep appreciation of the valuable services rendered by Dr. A.R. Kidwai, during the period of his membership of the Commission.

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SECTION-I

Item No.1.01: To receive the minutes of the meeting of the Commission held on 21st September, 1979

The minutes of the 220th meeting of the U.G.C. held on September 21, 1979 were confirmed.

Arising out of the minutes (Item No.2.02), the Commission agreed that the Gujarat Vidyapith and the Tata Institute of Social Sciences may send their development plans within the amount of Rs. one crore suggested for plan.

It was suggested that while indicating the notional amount for preparing the new plan proposals, the amount for general development schemes and campus development in the case of Central Universities may be shown separately. A note indicating the items to be covered under campus development, both for the Central Universities and the Institutions deemed to be Universities, may be placed before the Commission at a later meeting.

It was agreed that the Visiting Committees to assess the requirements of the universities in the light of the proposals now invited may only be sent after a definite indication of the availability of additional resources is available.

It was also suggested that the spill-over in respect of each university as on 1.4.79 which is to be treated as independent of the amount suggested for the new plan proposals, should be worked out. This spill-over should be taken into account while accepting new plan proposals, and in the context of the policy indicated in the approach to the current Plan.

Item No.4.04-- The Commission desired that the present list of Departments identified for purposes of allocation of teacher fellowships may be reviewed and the question regarding accepting further proposals under the general Rs. 5 lakh scheme for teacher fellowship to be received beyond 31.12.79 may be brought up again.

Item No.1.02(a): To approve the action taken on certain matters.

(b): To receive the items of information

(c): To approve the statement of proposals which could not be accepted by the Commission.

(a) The Commission approved the action taken on items listed in Appendix I *

Arising out of Item No.1.02(a)(18), it was agreed that wherever ad-hoc appointments exceed the period of six months, the same should be reported to the Commission.

(b) This was noted.

* Not enclosed.

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Arising out of Item No.1.02(b)(1), the Commission expressed its concern in the manner in which the results for M.B.B.S. have been declared and admissions to the M.D. Courses been made at the Aligarh Muslim University and desired that the steps which may be taken by the university to rectify the irregularity, as suggested by the Medical Council of India be brought to the notice of the Commission.

(c) This was noted.

Item No.1.03: To approve the statement of grants released from 1st September, 1979 to 30th September, 1979.

The Commission approved the grants sanctioned from 1st September, 1979 to 30th September, 1979 Appendix.III*

Item No.1.04(a) To receive the statement of expenditure incurred by the UGC during the year 1979-80 upto 30th September, 1979.

Item No.1.04(b) To receive a statement showing the sanctions and bills pending as on 30th September, 1979.

(a) This was noted.

(b) This was noted.

SECTION-2

(Matters relating to standards)

Item No.2.01: To consider the report of the Committee appointed by the Commission for making an assessment of the B.E. Courses through correspondence at the Rajasthan University.

It was agreed that the consideration of the report may be deferred pending the discussions which the Chairman may have with the Vice-Chancellor, Rajasthan University.

Item No.2.02: To consider the report of the Committee appointed by the University Grants Commission to review the work done by the Examination Reform Unit at the Andhra University.

The Commission accepted the report of the Committee which reviewed the working of the examination reform unit at Andhra University and agreed to provide assistance on the existing basis upto 31.3.1981. The Commission also agreed to provide the

*Not enclosed.

following additional facilities; during this period.

1. Workshop/Seminar Rs.40,000 per annum
2. Stationary & Contingency Rs.20,000 per annum

The Commission was of the view that the workshop/seminar should be more in the form of training programme for evaluators rather than an all-India Institutes.

The Commission could not accept the recommendation of the Committee that a Professor who is requested to look after the examination reform unit may be paid an honorarium of Rs. 500 per month. The Commission was of the view that in case a Professor is requested to look after the examination reform unit, his other duties may be suitably adjusted.

Item No.2.03: To consider the following recommendations made by the Standing Committee on part-time and own-time education held on 7th February 1979:-

- (a) for organisation of workshops in different subjects by different universities.
- (b) the decision of the Committee on the suggestion of the Ministry of Education and Social Welfare regarding possibility of organising the workshop or a seminar to evaluate the Correspondence courses and make it relevant to the Community.

(a) The Commission agreed that as recommended by the Standing Committee on correspondence courses, workshops may be organised at different levels for purposes of (i) evaluation of teaching materials (ii) to explore the possibility of having common syllabus and courses of study.

(b) The question of making part of the correspondence courses practical oriented having a direct bearing on the students local environment may be considered at a later stage.

Item No.2.04: To consider the recommendations of the Committee appointed by the University Grants Commission to suggest model courses for Defence Studies at the Under-graduate and Post-graduate levels.

The Commission agreed that the syllabus suggested by the Committee for defence studies for the postgraduate level may be brought to the notice of the universities for their guidance along with the suggestions received from the Ministry of Defence for association of defence personnel in the conduct of these courses.

The recommendations regarding introducing defence studies at the undergraduate level may be brought up again before the Commission for further consideration.

Item No.2.05: To receive the minutes of the Committee appointed by the University Grants Commission to work out the modalities of the Scheme for support of Research by Retired teachers from Universities/ Colleges.

The Commission agreed that the existing scheme of 'utilization of services of retired teachers' may be discontinued. It was however agreed that superannuated teachers should be eligible to participate in any of the following schemes of the Commission:

1. Preparation of University-level books.
2. Educational innovations.
3. Support for research projects.

In the case of projects which are finally accepted the Principal Investigator (the superannuated teacher) could be paid an honorarium of Rs. 750 per month in addition to such other facilities which may be recommended as part of the project.

Normally, no person beyond the age of 65 years may be considered for participating in any of the above schemes, unless in exceptional cases, the concerned Panel makes a specific recommendation to this effect.

SECTION-3

(Reference from Governments)

Item No.3.01: To consider a reference received from the Ministry of Education and Social Welfare for the comments of the UGC on paras 29 to 37 of the report of Tripartite meeting on conditions of work and employment of Professional workers organised by the International Labour Organisation at Geneva from November 22 to November 30, 1977.

The Commission noted that the recommendations made by the tripartite meeting on Conditions of Work & Employment of Professional Workers organised by the International Labour Organisation at Geneva from November 22 to November 30, 1977 were not relevant to the Indian situation. However, it had no objection if the Government desired to consider these recommendations.

Item No.3.02: To consider a reference received from the Government of India, Ministry of Education & Social Welfare regarding the views of the Commission on the draft scheme drawn up for financial assistance to Institutions to carry out studies of the problems of educational administration in India.

The Commission did not agree with the methodology suggested in the scheme to assist organisations and institutions to undertake studies on problems on implementation of educational policies, programmes and plans. However, in view of the clarification given by the Education Secretary, the Commission agreed that it was desirable to undertake studies on definite topics/problems which may be identified by a Committee on which UGC is represented. This Committee could also identify the institutions which may take up such studies. The Commission would give such assistance as may be required for the study.

Item No.3.03: To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding the selection Committee for recruitment of Principals in the Colleges administered by the minority communities.

The Commission agreed that it be recommended to the Central Government that the composition of the selection Committee for the post of Principals of minority colleges may be as follows:-

1. Chairman of the Governing Body.
- 2&3. Two members of the Governing Body.
4. One nominee of the Vice-Chancellor.
5. One expert from a Panel prepared by the Director Incharge of Higher Education in the State.

Item No.3.04: To consider a reference from the Ministry of Education and Social Welfare regarding the introduction of vocational courses as a part of the regular general education programme of 2 years degree courses in the colleges located in small town

The Commission desired that the present scheme of re-structuring of courses which provides for study of selection application oriented subjects along with other academic subjects in an integrated manner may be brought to the notice of the Planning Commission. These combinations include subjects of relevance to both urban and rural areas, and may help in better employability of the graduates. It was agreed that a small group may be appointed to look into the question of

adding integrated vocational subjects along with other academic subjects so as to increase the employability of the graduates.

The Commission reiterated its earlier decision that the colleges where such facilities are provided do not offer B.A./B. as a vocational degree.

Item No.3.05: To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding development of sports and physical education among the tribal students as formulated by M.P. Government in consultation with the National Institute of Sports, Patiala.

It was noted that a team appointed by the Ministry of Education is visiting the four Centres suggested for development of sports for tribal students in Madhya Pradesh and that further action may be taken in the light of the report of the Committee.

Item No.3.06: To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding the question of revision of scales of pay of library staff and Director of Physical Education in the universities and colleges in the country.

This was noted.

Item No.3.07: To consider a reference from the Ministry of Education and Social Welfare regarding the loss incurred by Visva Bharati in running its canteen refectories.

The Commission desired that the Ministry of Education be informed that it would not be possible for the Commission to provide funds to Visva-Bharati to wipe out the accumulated deficit for the refectories. The Commission further regretted to note that the University even now has not implemented the earlier recommendation that the resident students would run their own messes on no-profit no-loss basis.

Item No.3.08: To consider a reference from the Department of Social Welfare regarding recommendations made by the National Conference on women institutions particularly those at the higher level for promoting the education and development of masses of women who have not access to formal education system.

The Commission noted that the Recommendations made by the National Conference on Women and Development held from May 19-21, 1979.

in New Delhi, would be covered under the Commission's programme of extension education including adult education and the women colleges which desire to undertake them could be supported under the adult education and extension programme.

SECTION-4
(Special Programme)

Item No. 4.01: To consider the recommendations of the Standing Advisory Committee for the Centres of Advanced Study programme and Special Assistance to Selected University Department.

The Commission felt that the recommendations of the Standing Advisory Committee for the Centres of Advanced Study and Special Assistance to Selected University Departments may be considered at the next meeting of the Commission along with the recommendations of the Review Committee regarding this scheme. In the meanwhile, the Departments concerned may be allowed to make awards of fellowships on the existing basis. In the case of the Departments which are receiving assistance from the UNDP projects, the Universities may be informed that they should facilitate utilization of the UNDP assistance, pending decision of the Commission on the reports of the Evaluation Committee.

Item No. 4.02: To receive the report of the Committee appointed to consider the question whether the maintenance grants to Central Universities and also deemed to be universities be paid on block grants system or on the basis of annual grant/deficits.

The Commission reiterated its earlier views that it would be desirable that the Central Universities and Institutions deemed to be Universities are provided maintenance grants on the block grants system.

While the Commission agreed about the need to develop norms for drawing up realistic estimates for different items of expenditure for maintenance for a block period on a quinquennium basis, it felt that for the remaining period of 1980-83, it should be possible to fix payable maintenance grant on a block system.

It was further agreed that this question be remitted for reconsideration by the Committee.

Item No. 4.03: To consider the recommendations made by the Committee appointed by the UGC to allocate 250 junior research fellowships to universities.

The Commission generally accepted the recommendations made by the Committee appointed to allocate 250 junior research

fellowships to the universities and postgraduate centres. It was agreed that such fellowships may also be made available to the postgraduate Centres at Goa, Mangalore and Shimoga. It was however, agreed that the universities may be informed of the special fellowships available for blind and physically handicapped students and a few fellowships for students seeking transfer of their awards from one university to another. The Commission may consider cases for award of these fellowships on the merits of each case.

The Commission was of the view that the number of JRFs at present being allocated needed to be increased and that this question may be taken up along with the review which is being undertaken for utilisation of the JRFs.

Item No. 4.04: To receive the protocol of Cooperation between institutions of higher education in India and Poland in specified fields.

The Commission noted the Protocol of Cooperation between institutions of higher education in India and Poland in specific fields. It was also suggested that the possibility of cooperation between the two sides in the fields "biodegradation and biodegradation of materials" may be explored.

It was desired that a note on the programme of collaboration under the Cultural Exchange agreements being implemented by the Commission may be circulated to the members.

Item No. 4.05: To receive a note on the recommendations made in the Indo-U.S. Seminar on "Relationship of University Research in Science & Technology to National Development" held in Srinagar from September 18-21, 1978.

The Commission noted the recommendations made in the Indo-U.S. seminar on "Relationship of University Research in Science & Technology to National Development" held in Srinagar from September 18-21, 1978 and desired that those requiring action be brought up again before it. It was also suggested that "Rural Development" could be a relevant subject for an Indo-U.S. joint seminar.

Item No. 4.06: To consider a proposal received from the Botanical Survey of India for implementation of an All India Coordinated Project on Development of Herbaria in colleges/educational institutions.

The Commission accepted in principle the recommendations of the Biological Science Panel on the proposals made by the

Botanical Survey of India for establishing 50 units of herbaria in different parts of the country and agreed to provide assistance for this purpose, as may be agreed to mutually.

Item No. 4.07: To consider a note relating to the implementation of the scheme of assistance for providing common facilities for the colleges located in the metropolitan cities (Bombay & Madras).

The Commission was of the view that only schemes which have already been started under the project of grants to metropolitan universities for common facilities for colleges may be allowed to be completed. In view of the limited resources available, it may not be possible for the Commission to take up any new scheme. However, if there is any urgent need for creation of such common facilities, this could be considered on the merits of each case.

SECTION-5

(Grants to Universities & Colleges)

Item No. 5.01: To consider a proposal received from the Annamalai University for financial support for its Golden Jubilee celebrations.

The Commission agreed that a grant of Rs. 10 lakhs be provided to Annamalai University on the occasion of its golden jubilee. The grant may be utilised in accordance with the guidelines already prescribed by the Commission.

Item No. 5.02: To consider a proposal from the Poona University to include the Centre for Development studies and Activities, Poona under Section 2(f) of the UGC Act.

It was agreed that this may be referred to a Committee for advice.

Item No. 5.03: To consider a proposal from Jadavpur University for the construction of a Common Guest House for the three Universities situated in Calcutta (Jadavpur, Calcutta and Rabindra Bharati).

The Commission accepted in principle the proposal of Jadavpur University for construction of common guest house complex for the Universities in Calcutta and desired that the details of the scheme may be worked out.

Item No.5.04: To consider the proposal of Rajasthan University for allocation of teachers fellowships under the Centre for development of Physics Education.

The Commission agreed that a total of five teacher fellowships (at any given time) for M.Phil. programme in Physics education may be allocated to the Centre for physics Education Rajasthan University upto the academic year 1982-83 in the first instance.

Item No.5.05 To consider the request of Saurashtra University to allow it to proceed with the construction of buildings approved during the fifth plan period and which have not been started so far as a special case.

The Commission agreed that the Saurashtra University be permitted to proceed with the construction of buildings approved during the fifth plan period and which have not been started so far. The expenditure on the construction of these buildings will be the first charge on the sixth plan allocation of the University.

The Commission further agreed that the universities may be permitted to undertake construction of buildings agreed to under the Quality Programmes, namely, University Science Instrumentation Centres, Centres of Advanced Study, Departments of Special Assistance, Computer Centres and Area Studies.

Item No. 5.06: To consider the proposal of the Andhra University for establishment of a Rural Institute of Higher Education & Technology in the rural area of Nuzvid, Krishna District, Andhra Pradesh.

The Commission regretted that it could not accept the proposal of Andhra University for establishment of a Rural Institute of Higher Education & Technology in the rural areas of Nuzvid, Krishna District, A.P.

Item No. 5.07: To consider the question of providing assistance for substitutes appointed by Bishop Heber College, Tiruchirapalli, in place of the Principal and the Professor of Tamil who have been awarded teacher fellowships under the Scheme of development of under-graduate education.

The Commission agreed that while the Principals of colleges or senior lecturers in colleges may participate in the teacher fellowship programme, the salary of the substitute would be payable only in the pay scale of the lecturer as prevalent in the college concerned.

Item No. 5.08: To consider the report of the Committee set up by the Commission to examine the details of the Fifth Plan development schemes of the Mens' and Women's Polytechnics, Aligarh Muslim University.

Consideration of this item was deferred.

Item No. 5.09: To consider the proposal of the University of Delhi for revising the scales of pay of the post of Controller of Examination from Rs. 1500-1800 to Rs. 1500-2000.

The Commission, while taking note of the duties and responsibilities of the Controller of Examinations in Delhi University, agreed that the revised scale of Rs. 1500-1800 may be upgraded to Rs. 1500-2000 i.e. on par with that of the Registrar of the University.

In this connection, it was pointed out that the scales of pay of the Registrars and other functionaries in the different Institutions deemed to be universities were not uniform and in view of this, the question of rationalisation of the scales of pay of the Registrar and other functionaries in the Institutions deemed to be Universities may be brought up before the Commission.

Item No. 5.10: To consider a proposal from the Roorkee University for providing financial assistance for the maintenance of the School of Research & Training in Earthquake Engineering.

The Commission agreed to provide assistance for maintenance for the School of Research & Training in Earthquake Engineering, Roorkee University for the year 1979-80 on the existing basis pending the decision of the Government of India to treat this expenditure as non-plan expenditure.

SECTION-6
(Miscellaneous)

Item No. 6.01: To consider the question of payment of Conveyance Allowance to non-official members of the Commission and travelling allowance to non-official members of the Committees constituted by the University Grants Commission viz., Daily Allowance, Conveyance Allowance and permission to travel by Air.

Consideration of this item was deferred.

Item No.6.02: To consider certain establishment matters of the University Grants Commission.

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- (i) **Penalty** proposed to be imposed on Shri N.Ramanujan Under Secretary (Class-I- Now Group A Post) under the UGC Employees (Conduct) Regulations, 19
 - (ii) Revision of scales of pay of the posts of Secretary and Additional Secretary.

(i) After taking all facts into consideration, the Commission agreed that Shri N.Ramanujan is guilty of all the charges against him. However, in view of Shri Ramanujan's unqualified admission of the charges and after taking into consideration the representations contained in his letter dated 16th November, 1978, the Commission took a lenient view of lapses on his part and ordered that his increment may be withheld for a period of one year with cumulative effect. The commission also desired that Shri Ramanujan may be advised that mistakes committed should be rectified by him.

(ii) The Chairman mentioned to the Commission that the approval of the Government of India has since been received to the revision of the scale of pay of the posts of Secretary and Additional Secretary to Rs. 2500/- 2750 and Rs.2250-2500 respectively w.e.f. 1st October, 1979.

Item No.6.03: To consider further the proposal of British Council for bilateral cooperation between institutions of higher education in the two countries under their scheme "Core Budget Link Scheme".

The Commission desired that the proposal of the British Council for bilateral cooperation under their scheme "Core Budget Link" may be discussed again with it in the light of the recent policy of British Council with regard to ongoing links under IBUC programmes, and the matter brought up again.

Item No.6.04: To consider a reference from Vice-Chancellor, Panjab Agricultural University, Ludhiana regarding election/nomination of Vice-Chancellor in the Universities & State Legislatures.

Consideration of this item was deferred.

Item No.6.05: To note the date and place for the next meeting of the Commission.

It was noted that the next meeting of the Commission will be held on November 23, 1979 in New Delhi.

R.K.Chhabra
Secretary

Satish Chandra
Chairman

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting
Date : 26th October, 1979
Time : 10.00 A.M.
Place : UGC Office, New Delhi.

A G E N D A

SECTION-1

- Item No.1.01: To receive the minutes of the meeting of the Commission held on 21st September, 1979.
- Item No.1.02(a) To approve the action taken on certain matters.
(b) To receive the items of information.
(c) To approve the statement of proposals which could not be accepted by the Commission.
- Item No.1.03: To approve the statement of grants released from 1st September, 1979 to 30th September, 1979.
- Item No.1.04(a) To receive the statement of expenditure incurred by the UGC during the year 1979-80 upto 30th September, 1979.
(b) To receive a statement showing the sanctions and bills pending as on 30th September, 1979.

SECTION-2

(Matters relating to Standards)

- Item No.2.01: To consider the report of the Committee appointed by the Commission for making an assessment of the B.Ed. Courses through correspondence at the Rajasthan University.
- Item No.2.02: To consider the report of the Committee appointed by the University Grants Commission to review the work done by the Examination Reform Unit at the Andhra University.

- Item No.2.03: To consider the following recommendations made by Standing Committee on part-time and own-time education held on 7th February 1979:-
- a) for organisation of Workshops in different subjects by different universities.
 - b) the decision of the Committee on the suggestion of the Ministry of Education and Social Welfare regarding possibility of organising a workshop or a seminar to evaluate the Correspondence Courses and make it relevant to the community.
- Item No.2.04: To consider the recommendations of the Committee appointed by the University Grants Commission to suggest model courses for Defence Studies at the Under-graduate and Post-graduate levels.
- Item No.2.05: To receive the minutes of the Committee appointed by the University Grants Commission to work out the modalities of the Scheme for support of Research by Retired teachers from Universities/ Colleges.

SECTION-3

(Reference from Governments)

- Item No.3.01: To consider a reference received from the Ministry of Education and Social Welfare for the comments of the University Grants Commission on Paras 29 to 37 of the report of Tripartite Meeting on conditions of work and Employment of Professional workers organised by the International Labour Organisation at Geneva from November 22 to November 30, 1977.
- Item No.3.02: To consider a reference received from the Government of India, Ministry of Education & Social Welfare regarding the views of the Commission on the draft scheme drawn up for financial assistance to Institutions to carry out studies of the problems of educational administration in India.
- Item No.3.03: To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding the Selection Committee for recruitment of Principals in the colleges administered by the Minority Communities.

- Item No.3.04: To consider a reference from the Ministry of Education and Social Welfare regarding the introduction of vocational Courses as a part of the regular general education programme of 2 years degree courses in the colleges located in Small Towns.
- Item No.3.05: To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding development of Sports and Physical education among the tribal students as formulated by MP Government in consultation with the National Institute of Sports, Patiala.
- Item No.3.06: To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding the question of revision of scales of pay of Library Staff and Director of Physical Education in the Universities and Colleges in the Country.
- Item No. 3.07: To consider a reference from the Ministry of Education and Social Welfare regarding the loss incurred by Visva-Bharati in running its Refectories.
- Item No.3.08: To consider a reference from the Department of Social Welfare regarding recommendations made by the National Conference on women Institutions particularly those at the higher level for promoting the education and development of masses of women who have no access to formal education. system.

SECTION-4

(Special Programme)

- Item No.4.01: To consider the recommendations of the Standing Advisory Committee for the Centres of Advanced Study programme and Special Assistance to Selected University Departments in Science Subjects.
- Item No.4.02: To receive the report of the Committee appointed to consider the question whether the maintenance grants to Central Universities and also deemed to be Universities be paid on Block grants system or on the basis of annual grant/deficits.
- Item No.4.03: To consider the recommendations made by the Committee appointed by the University Grants Commission to allocate 250 Junior Research Fellowships to Universities.

- Item No.4.04: To receive the Protocol of Co-operation between institutions of higher education in India and Poland in specified fields.
- Item No.4.05: To receive a note on the recommendations made in the Indo-U.S. Seminar on "Relationship of University Research in Science & Technology to National Development" held in Srinagar from September 18-21, 1978.
- Item No.4.06: To consider a proposal received from the Botanical Survey of India for implementation of an All India Co-ordinated Project on Development of Herbaria in Colleges/Educational Institutions.
- Item No.4.07: To consider a note relating to the implementation of the Scheme of assistance for providing Common facilities for the colleges located in the Metropolitan Cities (Bombay & Madras).

SECTION-5)

(Grants to Universities & Colleges)

- Item No.5.01: To consider a proposal received from the Annamalai University for financial support for its Golden Jubilee celebrations.
- Item No.5.02: To consider a proposal from the Poona University to include the Centre for Development Studies and Activities, Poona under section 2(f) of the UGC Act.
- Item No.5.03: To consider a proposal from Jadavpur University for the construction of a Common Guest House for the three Universities situated in Calcutta (Jadavpur, Calcutta & Rabindra Bharati).
- Item No.5.04: To consider the proposal of Rajasthan University for allocation of teachers fellowships under the Centre for Development of Physical Education.
- Item No.5.05: To consider the request of Saurashtra University to allow it to proceed with the construction of buildings approved during the fifth Plan period and which have not been started so far as special case.
- Item No.5.06: To consider the proposal of the Andhra University for establishment of a Rural Institute of Higher Education & Technology in the rural area of Nuzvid, Krishna District, Andhra Pradesh.

- Item No.5.07: To consider the question of providing assistance for substitutes appointed by Bishop Heber College, Tiruchirapalli, in place of the Principal and the Professor of Tamil who have been awarded teacher fellowships under the scheme of development of under-graduate education.
- Item No.5.08: To consider the report of the Committee set up by the Commission to examine the details of the fifth plan development schemes of the Men's & Women's Polytechnics, Aligarh Muslim University.
- Item No.5.09: To consider the proposal of the University of Delhi for revising the scales of pay of the post of controller of Examination from Rs.1500-1800 to Rs. 1500-2000.
- Item No.5.10: To consider a proposal from the Roorkee University for providing financial assistance for the maintenance of the School of Research & Training in Earthquake Engineering.

SECTION-6

(Miscellaneous)

- Item No.6.01: To consider the question of Payment of Conveyance Allowance to non-official members of the Commission and travelling allowance to non-official members of the Committees constituted by the University Grants Commission viz. Daily Allowance, Conveyance Allowance and permission to travel by air.
- Item No.6.02: To consider certain establishment matters of the University Grants Commission.
- Item No.6.03: To consider further the proposal of British Council for bilateral cooperation between institutions of higher education in the two countries under their Scheme "Core Budget Link Scheme".
- Item No.6.04: To consider a reference from Vice-Chancellor Panjab Agricultural University, Ludhiana regarding election/nomination of Vice-Chancellors in the Universities & State-Legislatures.
- Item No.6.05: To note the date and place for the next meeting of the Commission.
- Any other item.

SECTION 1.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Minutes of the 220th meeting of the University
Grants Commission held on September 21, 1979.

The following were present:

Professor Satish Chandra	..	Chairman
Professor B. Ramachandra Rao	..	Vice-Chairman
Shri P. Sabanayagam	..	Member
Shri S. Vasudevan	..	Member
Professor Usha H. Mehta	..	Member
Professor Mrinal Miri	..	Member
Dr. Amrik Singh Cheema	..	Member
Professor Ram Lal Parikh	..	Member
Mr. Justice S.M. Sikri	..	Member
Shri R.K. Chhabra	..	Secretary

Professor Amales Tripathi and Professor C.V. Subramanian
regretted their inability to attend the meeting.

SECRETARIAT

Joint Secretaries

Shri S. Visvanath
Shri I.C. Menon

Deputy Secretaries

Dr. D. Swaminadhan
Dr. S.P. Gupta
Dr. M.L. Mehta
Dr. T.N. Hajela
Shri Y.D. Sharma
Shri A.B. Gupta
Shri M.P. Balakrishnan
Shri L.R. Mal
Shri A.G. Deshmukh

Finance Officer

Shri B.S. Tyle

p.t.o.

SECTION-I

Item No.1.01: To receive the minutes of the meeting of the Commission held on 17th August, 1979.

...

The minutes of the 219th meeting of the Commission held on August 17, 1979 were confirmed.

Item No.1.02(a) To approve the action taken on certain matters.

(b) To receive the items of information.

...

(a) The Commission approved the action taken on items listed in Appendix-1*

(b) This was noted.

Item No.1.03: To approve the statement of grants released from 1st August, 1979 to 31st August, 1979.

.....

The Commission approved the grants sanctioned from 1st August 1979 to 31st August 1979 Appendix.II*

Item No.1.04(a) To receive the statement of expenditure incurred by the UGC during the year 1979-80 upto 31st August, 1979.

...

(b) To receive a statement showing the sanctions and bills pending as on 31st August, 1979.

(a) This was noted.

(b) This was noted.

SECTION -2

(Matters relating to Standards)

Item No.2.01: To consider the question of providing assistance to Universities during Sixth Plan for recurring expenditure other than for salaries of staff, recommended by the Fifth plan Visiting Committee for Engineering & Technology.

...

The Commission agreed that the recurring grants agree to for development of engineering and technology in the universities may continue to be paid upto the same period for which the expenditure for staff would be provided by the Commission.

The Commission further desired that the State Governments concerned may be requested that the recurring expenditure now being agreed to may be treated as committed expenditure after the Commission's assistance ceases.

Item No.2.02: To receive the guidelines to be issued to the Universities for preparing their Plan for 1979-83 and other allied matters.

...

The Commission noted that on the basis of present indications a sum of Rs. 126 crores may be available to the Commission at present for allocation for the sixth Plan (1978-83). Out of this a sum of Rs. 43.32 crores was provided during 1978-79 leaving a balance of Rs. 82.68 crores. As such the existing allocation may just be sufficient to meet the spill-over/committed expenditure of the earlier Plan. The Commission, therefore, felt concerned that within the remaining allocation available it may not be possible to take up new programmes for both development and quality improvement unless additional funds were provided to the Commission. In this connection, it was mentioned that the Government of India were being approached to increase the allocation for the Commission by at least Rs. 100 crores.

It was further felt that in case the Commission was able to obtain additional funds, the universities should also be ready with their plans for urgent development needs and in certain cases where universities have already utilised the Non-Recurring allocation of the Fifth Plan upto 75-80%, it would be an advantage to have their requirements assessed through visiting committees, with the provisional allocations suggested (Appendix.III) which would exclude the spill-over/committed expenditure and the proposals would be sent in three priorities, 50%, 25% and 25%. Keeping this in view the Commission agreed that without making any firm or provisional commitment, universities may be advised to formulate and send their proposals for development in the light of the guidelines Appendix.IV which were accepted by the Commission. The Commission also desired that the spirit of this resolution should be incorporated in the letter to be addressed to the universities inviting their plan proposals.

In this connection, the Commission desired that the question of the universities providing for adequate planning machinery which may continuously monitor its programmes and review its requirements may be examined.

Item No.2.03: To consider the recommendations of the Working Group appointed by the University Grants Commission to suggest criteria for determining the viability of colleges.

...

The Commission accepted the criteria suggested by the working group for determining viability in respect of Arts Colleges, Science Colleges and multi-faculty colleges as given below:-

(i) There should be at least four departments in the colleges.

(ii) There should be at least two teachers in each department.

(iii) There should be a minimum of ten permanent teachers in the college, excluding the Principal and the Director of Physical Education.

(iv) The pupil-teacher ratio in the college should not exceed 20:1 This, however, could be relaxed in special cases.

(v) Annual expenditure on books and journals should be at least Rs. 15/- per student.

(vi) Annual expenditure on laboratory equipment should be at least Rs. 60/- per science student.

It was noted that these guidelines will be kept in view while determining the basis on which grants may be provided to the colleges during the Sixth Plan.

SECTION-3

(References from Governments)

Item Nos. 3.01 to 3.07

Consideration of these items was postponed.

SECTION-4

(Special Programme)

Item No.4.01: To consider the report of the Committee appointed by the Commission to review the Schemes of unassigned grant to the Universities for implementation during the year 1979-80. -----

The Commission accepted the recommendations of the committee regarding the purposes for which the assistance may

be provided to the universities under unassigned grant and the basis on which the grants may be determined as per Appendix.V.

As regards the UGC Unit, the Commission agreed that assistance to the universities may be provided during the current year on the same basis as for previous years and in the meantime the working of the UGC Units and their role and responsibilities may be reviewed.

Item No.4.02: To consider the question of continuing teacher fellowship awards under the Scheme of development of undergraduate education in colleges during the fifth Plan period
..... related matters.....

...

The commission considered a note regarding Teacher Fellowship and agreed as follows:

1. The proposals received from the colleges upto 31st December 1979 may be considered for teacher fellowship awards under the general development scheme of the colleges. It was noted that while computing the overall ceiling and expenditure for award of teacher fellowships, an estimated amount of Rs. 50,000/- for the three year fellowship and Rs. 17,000/- for one year fellowship may be taken into account within the overall ceiling of Rs.3 lakhs/Rs.5 lakhs/Rs.8 lakhs/Rs.10 lakhs.
2. The Commission agreed that the duration of the teacher fellowship whether for M.Phil or Ph.D. be not extended beyond the normal tenure of one year/three years. Such persons who are unable to complete their work could take advantage of vacations or apply for study leave to the colleges concerned to complete their work.
3. The teachers who have been awarded the teacher fellowships for M.Phil and have successfully completed the course/project work required for the award of degree may be given teacher fellowship for a maximum period of two years for doing work leading to Ph.D. degree provided the additional sum of Rs. 34,000/- is available within the ceiling available to the concerned colleges.

Item Nos.4.03 to 4.07

Consideration of these items was postponed.

p.t.o.

:6 :

SECTION-5

(Grants to Universities and Colleges)

Item No.5.01 to 5.08

Consideration of these items was postponed.

SECTION-6

(Miscellaneous)

Item Nos. 6.01 to 6.02

Consideration of these items was postponed.

Item No.6.03: To note the date and place for the next meeting of the Commission.

...

It was agreed that October-November 1979 meetings of the Commission will be held on the following dates:

October 26, 1979

November 23, 1979

Item Nos.6.04 to 6.05

Consideration of these items was postponed.

R.K. Chhabra
Secretary

Satish Chandra
Chairman

Appendix-III to Item No.2.02

Provisional Ceiling allocation suggested for the Plan 1979-83 for development plans in the Universities.

1. Further detailed consideration has been given with regard to the ceiling grants to be suggested for preparation of VI Plan proposals by the Universities in different States, Central and deemed Institutions. On the basis of the present stage of development and grouping of universities (as in I of the note) and the need for bringing up at least one university in a State to be developed stage in VI Plan i.e. period upto 31.3.1983 it was felt that the following ceilings of grants may be considered i.e. Rs. 1 crore; Rs. 75 lakhs, Rs. 50 lakhs. The suggestions, statewise are given in the following pages. This is exclusive of all on going schemes (spill over) and for new schemes only.

(In the case of Central Universities and deemed institutions, the amount includes provision for share which in case of State Universities would be payable by State Governments concerned).

2. Summary

I. State Universities	33x1 Cr.	33.0	:	
	29x0.75	21.75	=	59.25
	9x05	4.50		
II. Central Universities				16.00
III. Deemed Universities				4.75
IV. Post-graduate Centres				2.80
				<u>82.80</u>

3. Universities may prepare plans for the period, for New schemes, for 1979-83 (but mostly for a 3 year period) and place them in 3 priorities- I. 50%; II. 25%; III. 25%.

4. Sharing basis is to be decided.

"SLK"

Provisional ceiling allocation suggested for the
Plan 1979-83 for development plan of the Universities.

I- State Universities

State	Rs. One Crore	Rs. 75 lakhs	Rs. 50 lakhs
1. Andhra	Andhra O Osmania Sri Venkateswara*	-	-
2. Assam	Gauhati*	Dibrugarh	-
3. Bihar	Patna* Ranchi*	Bihar Bhagalpur Magadh	K.S. Darbhanga
4. Gujarat	Baroda Gujarat*	Sardar Patel Saurashtra South Gujarat	
5. Haryana	Kurukshetra	-	
6. Himachal Pradesh	Himachal Pradesh*		
7. Jammu & Kashmir	-	Jammu Kashmir	-
8. Karnatak	Bangalore* Mysore* Karnatak	-	-
9. Kerala	Kerala*	Calicut Cochin	
10. Madhya Pradesh	Saugar	Jabalpur Vikram Bhopal	Indore Jiwaji Ravi Shankar Indira Kala Sangeet
11. Maharashtra	Bombay Poona Marathwada*	SNDT Women & S Shivaji	-
12. Orissa	Utkal*	Berhampur Sambalpur	-
13. Punjab	Punjabi* Panjab	Guru Nanak	
14. Rajasthan	Rajasthan Jodhpur	Udaipur	

p.t.o.

State	Rs. One Crore	Rs. 75 lakhs	Rs. 50 lakh
15. Tamil Nadu	Madras Madurai* Annamalai		
16. Uttar Pradesh	Allahabad Lucknow Gorakhpur Meerut*	Poorkee	Agra Kashi Vidyap Sampurnand Sanskrit Kanpur
17. West Bengal	Calcutta Jadavpur North Bengal*	Kalyani Burdwan	
	33	23	9
Provision for Universities to come under 12(A)		Mithila; Rohtak; Garhwal; Kumabr; Kakatiya; Nagarjuna(6)	

Total- 71

NB.

1. Universities marked with one* have been brought under Rs. 1 cro group from 0.75 cr. group, so as to facilitate their growth and in view of special needs of development in the region.
2. Big states like Tamilnadu, Karnatak which have fewer universiti have been given due consideration.
3. In addition to above, the universities would recieve state Government share which may be equal to about 50%
4. The state Government would have also to provide for campus development.

II. Central Universities

a) Aligarh	}		
Banaras	}		
Delhi	}	Rs. 1.50 Cr. each	4.5
b) South Delhi		Rs. 1.0 Cr. (Composite)	1.0
Campus			
c) Visva Bharati		Rs. 1.0 Cr.	1.0
d) Jawaharlal		Rs. 1.5 Cr.)	2.5
Nehru University		Rs. 1.0 Cr.)	
		(Campus)	
.....			
e) Hyderabad		Rs. 2.0 Cr.)	
		Rs. 1.0 Cr.)	3.00
		(Campus)	
f) North Eastern		Rs. 2.0 Cr.)	4.0
Hill University		Rs. 2.0 Cr.)	
		(Campus)	

16.0

N.B.

- a) In case of North Eastern Hill University, Hyderabad comprehensive proposals may be prepared for the total amount.
- b) Provision for Campus development of Central Universities and agricultural faculty of Visva Bharati, Banaras Hindu University, and North Eastern Hill University, is to be made separately. Also for deemed universities for campus development scheme.
- c) Provision is to be made for (i) Central Universities' medical colleges and (ii) High School of Central Universities.

III. Institutions deemed to be Universities

- | | | |
|----|--|----------------------------------|
| a) | Central Institute of English
and Foreign Languages
Jamia Millia Islamia | 1.0 Cr.
1.0 Cr. |
| b) | Birla Institute of Technology
and Science
Gujarat Vidyapith
Tata Institute of Social Sciences | 0.75 Cr.
0.75 Cr.
0.75 Cr. |
| c) | Gurukul Kangri Vishwavidyalaya | 0.50 Cr. |
| d) | (For Gandhigram and Rabindra Bharati for
additional schemes, an amount may be required-
say Rs. 20-25 lakhs each). | |

VI. Universities Postgraduate Centre

Rs. 40 lakhs each to the 7 Postgraduate Centres.

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Appendix IV
to Item No. 2.02

University Grants Commission

Guidelines to the Universities for preparation
of proposals for the Plan 1979-83.

I. GENERAL

(i) Introduction

1. The University Grants Commission has formulated its policy for development of higher education programmes for universities and colleges in the current Plan period. The "Policy Framework" and the "Approach to Development of Higher Education" prepared in this regard have been considered and endorsed at the two conferences of the Vice-Chancellors of Universities held in May and July, 1978.
2. The main emphasis in the current Plan is on improvement of standards of university education and qualitative improvement and also to make extension and integral part of activities of the institutions of higher education. Expansion of educational facilities, both by way of opening of new universities, university centres for postgraduate studies or new departments would have low priority.
3. The policy followed during the last plan period to keep the expenditure on construction of new buildings to the minimum essential would be continued in this plan period. Special cases, where there are compelling reasons to spend more funds on construction programmes, particularly in the case of the new universities established in the last ten years or so would, however, be considered on merit of each case.

(ii) Resources Position

4. The financial resources available for higher education during this plan period for central sector would be very limited. A higher proportion of funds for higher education have been allocated to the State Governments in the Plan period. Keeping in view the very limited resources available, the universities (as well as the colleges) have to critically identify with sufficient care and thinking their real developmental needs and assign to each of them relative priorities as well.
5. The developmental assistance that may be available from the University Grants Commission to the universities would essentially be related to the needs for qualitative improvements and development of viable schools/groups of teaching and research in

areas of importance to national development. There is also the need of balanced development, to the extent possible, of the various disciplines and departments not only within each university but also amongst universities within a State.

(iii) Regulating Enrolment in relation to Facilities

6. The universities which have already reached a critical size and development will have to exercise considerable restraint on expansion of enrolment in formal and full-time instructional programmes at the undergraduate stage in the university departments, keeping a broad balance of 3:1 between the undergraduate and the adequate attention could be given to advanced teaching and research. In these universities demands for increase in enrolment in undergraduate courses should be substantially met through correspondence courses, extended/evening classes, increasing enrolment in the colleges, and by allowing students to appear as private students. In the case of the postgraduate courses and research, training for M.Phil/Ph.D., the enrolments should be kept to desirable optimum numbers in relation to the strength of the faculty and other facilities available and greater emphasis should be laid on improvement of quality of instruction and research output.

(iv) Strengthening and coordination of Teaching & Research

7. Each university is required to prepare a comprehensive plan to cover the academic teaching and general research programmes of its departments of study, giving detailed information about:

- (a) the number of students enrolled at various stages in the fifth plan (1974-78) and 1978-79 in relation to the faculty strength and other facilities available;
- (b) output of students, results in relation to inputs;
- (c) total income and expenditure on non-plan and plan from all sources, UGC, State Government and other sources; and
- (d) the present position as well as the enrolment at various levels proposed to be attained at the end of 1982-83.

8. Efforts should be made to develop suitable pre-Ph.D. programmes in the various faculties, in relation to their needs and to make the training of Ph.D. both inter-disciplinary and broad-based. M.Phil. courses as well as post M.A./M.Sc. specialised courses of regional relevance could be introduced in relation to the faculty strength and other facilities and on the justification of felt manpower needs.

9. The universities may give priority to the programmes of strengthening existing postgraduate departments from the point of view of adequate staff - both academic and technical supporting personnel, research facilities, workshop and library services. The consolidation of such facilities should be given priority before universities consider starting further specialisation within existing departments or starting new departments, as otherwise both of them are likely to remain sub-viable.

10. Every effort should be made to coordinate and centralize major instrumentation and other experimental facilities in the universities so as to make them available for a number of users. There should be adequate provision for maintenance and repair of such equipment so that their use is maximized. The university service and instrumentation centre or the central workshop and instrumentation facility should be adequately strengthened for this purpose.

(v) Extension

11. The universities would be required to discharge adequately their responsibilities not only in the area of teaching and research but also by taking up extension work and accepting certain responsibilities for the entire educational system and to the communities around them.

12. Extension should be made an integral part of the university culture and may assume a variety of programmes and activities most suited to different university situations. While the idea is to involve all teachers, substantial portions of the faculty may be involved to begin with. Such extension activities may be either in the nature of interaction with all levels of educational system, primary, secondary education in schools, or adult education and non-formal education programmes including use of mass media and educational technology, science education centres for creative work by all sections of society and action-oriented research programmes for solving local problems. In this connection, special attention may be paid to the programme of Adult Education, guidelines for which have issued separately.

13. Extension may also involve closer interaction with the society in programmes of integrated rural development, inculcation of scientific temper and awareness of impact of science in every day life and proper utilization of products of science and technology, extension lectures, etc.

14. It could also include well defined efforts towards production of books, reading materials, and other activities of production of materials for formal and non-formal/adult education programmes by utilising the infrastructure facilities of the

contd...4/-

universities and colleges and interacting with local voluntary organisations, industries etc.

15. Acceptance of extension as a part of the overall university culture would require recognition of these activities as contributing to the total work load of the teachers and also should not involve any additional payment specifically for such extension activities. The University should monitor all the extension activities regularly, with reports at suitable intervals to the Commission.

(vi) Opening of New Courses of Study & New Departments

16. In the case of well developed universities, opening of new specialisations would be mainly for purpose of inter-disciplinary integration based upon inter-departmental collaboration or in newly emerging areas which could be largely sustained by existing facilities within the university.

17. In the case of other universities, opening of new departments would be conditioned by overall needs for such departments within the State or region as a whole and conforming to the specific norms.

18. Any efforts to open new departments of study with sub-viable level inputs and inadequate preparation would be discouraged.

19. In making proposals for starting anew postgraduate courses or department of study, if any, priority should be given only departments which try to develop postgraduate teaching and research in newly emerging areas of importance, which can make a contribution to regional and national developmental needs rather than for duplicating traditional M.A./M.Sc. programmes. Wherever appropriate, such courses should be organised on an inter-departmental basis and in collaboration with the R & D institutions and industries in the vicinity.

20. Any courses which have no relevance or are outdated should be dispensed with.

(viii) Assistance for Special Programmes and Research

21. In the case of special quality improvement programmes, University Grants Commission would continue to follow the selective approach for purposes of inviting departments to participate in programme such as (a) College Science Improvement Programme (COSIP), (b) Colleges Humanities and Social Sciences Improvement Programmes (CHSSIP) - University Leadership Projects, (c) Examination Reforms, (d) participation in the Faculty Improvement Schemes,

(e) support for individual, group and departmental research programmes (f) area studies, (g) adult and continuing education programmes, (h) University Service Instrumentation Centres, etc. In respect of programmes, such as, the Centre of Advanced Study, Special Assistance to Selected Departments, proposals would be invited by the Commission in the light of the policy to be followed for these schemes and in consultation with the subject panels and the standing committees constituted for such programmes.

(viii) Participation of Academic and other staff in Planning Development

22. In the formulation of the development proposals of the various departments in the university, it may be ensured that participation and involvement of academic staff at all levels is made possible and their suggestions and requirements are duly considered before finalizing the plan proposals to be sent to the Commission broadly within the ceiling allocation indicated for each university.

II. NEW APPROACH FOR DEVELOPMENT IN CURRENT PLAN PERIOD

23. Prior to the actual formulation of the new development proposals of each of the teaching departments in the universities, it would be necessary to keep in view the new approach indicated in the VGC documents to distinguish between developing departments and well developed departments and to see that:

(a) in the case of developing departments, necessary amounts are made available within the Plan allocation to bring-up their facilities and activities to an optimal level essential for their teaching and general research work and for maintenance of adequate standards;

(b) to identify from amongst developing departments a few departments which have reached a stage of development and therefore, have the potential to become fully developed over the next five years, with the help of some critical inputs and academic guidance. A cluster of such departments could be considered for intensive development during the current plan period; and

(c) in the case of well developed departments, to utilize the general plan assistance mainly to make good their deficiencies for teaching programmes. In addition, such departments may also be requested to prepare additional proposals outside the Plan ceiling suggested, to obtain assistance for their activities, on the basis of merit, from the various quality improvement programmes and research support available from the Commission.

Such programmes should be well defined and time-bound and must have specific academic accountability. These proposals should be prepared separately and sent to the Commission for consideration.

24. For purposes of determining the state of development of each department, appropriate criteria with regard to the infrastructure facilities, faculty strength, supporting technical staff student enrolment at different levels, types of academic teaching and research activities undertaken and output of the departments could be taken into account as indicated in the criteria suggested in Annexure-I. These criteria are not to be rigidly applied since the situation would differ from subject to subject, from experimental sciences to theoretical disciplines and from university to university. If the university considers it essential to depart from these criteria, the criteria adopted by the university could be indicated. The university, on the basis of these criteria, may group its existing departments into three categories mentioned above.

25. The university is also requested to keep in view, in this connection, the concept of formation of schools of studies to bring together related departments for purposes of developing inter-disciplinary programmes of work and common facilities Annexure-II. The departments should be encouraged to develop inter-departmental collaborative teaching and research programmes of an inter-disciplinary nature and wherever possible should form themselves into schools with well defined courses offered by the constituent units. Such programmes would receive special consideration for financial support.

III CONTINUING PROGRAMMES FROM V PLAN PERIOD OR EARLIER (SPILLOVER/COMMITTED)

26. In preparing the development proposals for the current plan period beginning 1st April, 1979 the universities should keep in view necessity of bringing to successful completion, the programmes which were initiated during the last plan period and in some cases, even earlier than that. The financial requirements in respect of such ongoing programmes and for which resources were committed but were not fully utilised will, therefore, have to be reflected as "spill over" and shown separately from the new proposals for the current Plan. The time schedule for completing these programmes should also be clearly indicated. The procedure for the calculation of spill-over is given in Annexure-III.

27. Any development programmes which may have been accepted by the Commission but which may not have been taken up for implementation by 1st April, 1979 could, however, be reviewed and if considered

necessary, could be included as new proposals to be taken up in the current Plan period.

28. The expenditure on such continuing programmes is proposed to be provided separately. It would not form, as in earlier plan periods, first charge on the ceiling grant now indicated, and which would be in respect of new proposals only.

IV NEW PROPOSALS FOR CURRENT (SIXTH) PLAN PERIOD

(i) Plan Period and Funds from Different Sources

29. New proposals for the current plan period should relate to the years 1979-83 (i.e. from 1st April, 1979 to 31st March, 1983) and should be within the ceiling grant now indicated to the university, and excluding the "spill-over/committed expenditure".

30. In working out the financial estimates in relation to the new development proposals, the sources likely to be available from various sources including the non-plan maintenance grant available from the State Government, developmental assistance from the State Government as well as any other endowments available to the University should be taken into account so that the total resources available including the grant that may be approved by the Commission would be utilised in a rational manner for meeting to the extent possible the developmental needs of the university and its departments.

(ii) Developmental Needs

31. The proposals for development to be sent to the Commission may be related to the following:

(a) Development of existing university departments for teaching and associated research;

(b) Introduction of new specialisations or areas of study in the existing departments as well as on an inter-departmental basis in relation to the number of students to be enrolled and teachers available, so as to make such courses viable and worthwhile (including curricular reforms, restructuring of courses at undergraduate and postgraduate levels suggested by the Subject Panels).

(c) Programmes of reforms such as, modernization of courses giving specific orientation for purposes of local/regional relevance and for major research effort;

(d) Improvement of Laboratory and library facilities and services;

(e) Workshop facilities and other central instrumentation, maintenance facilities;

(f) Requirements for academic and supporting technical staff positions and administrative back-up keeping in view full utilization of existing staff positions, both non-plan and plan posts and deploying them in various specialisations. Any senior positions asked for should be clearly identified in the major thrust areas of importance and in relation to the infrastructure facilities already available or to be created during the Plan period;

(g) Introduction of regional language as medium of instruction and needs thereof;

(h) General facilities required by the university for support of the various academic programmes; and

(i) Proposals indicating the specific extension activities to be undertaken by the various departments and the requirements thereof should be clearly stated, after indicating the manner and extent to which the existing facilities would be utilised for promoting such extension activities. Priority may be given to participation in the National Adult Education Programme in an effective manner.

(iii) Priorities and Phasing of Proposals

32. The new proposals to be sent to the University Grants Commission may be grouped in three categories within the ceiling grant indicated: First priority upto 50% of the ceiling grant suggested and second and third priority upto 25% each of the suggested ceiling. The schedule for implementation of these proposals upto March 1983 in a phased manner should be indicated.

(iv) Suggested Limits for Expenditure for Different Purposes

33. Buildings: In the matter of utilisation of the available grants in the next plan period, the universities may spend upto 20% of the ceiling grant for construction of buildings required for academic programmes viz. class rooms, laboratories, workshops, library and similar facilities.

34. Academic and other staff and Faculty Improvement: Similarly the universities may utilise 20% to 25% of the grant indicated for purposes of creating new posts of academic staff, technical supporting staff and staff required for providing

administrative back-up to the teaching departments. This may include faculty improvement programmes component also to enable young teachers to improve their qualifications by further training etc. by keeping abreast of latest research and extension of the frontiers of knowledge in the relevant/related fields/disciplines. The creation of new posts, if any, in developed departments should be very carefully examined and kept at a minimum so that other departments in the developing category could bring their staff strength to the required level as per UGC norms.

35. Laboratory Equipment and Library Books & Journals: The remaining 55% to 60% of the allocation indicated would, therefore, be available for purposes of equipment required for teaching and research, creation of central instrumentation facilities, augmentation of the workshop for repair and maintenance of the equipment, equipment required for library to provide for reprographic and other facilities and for purchase of library books and journals for the central library as well as the departmental libraries required to support the ongoing academic programmes of teaching and research.

36. Maintenance of Equipment: At least 10% of the equipment grant should be set part for repairs and maintenance so as to ensure that no equipment would remain idle and is fully commissioned to use. This provision cannot be diverted to any other purpose without reference to Commission.

V PATTERN OF ASSISTANCE AND SHARING BASIS

37. The pattern of assistance and the sharing basis for various projects in the development programmes for universities are given in the Annexure-IV.

VI UNIVERSITY CENTRES FOR POSTGRADUATE STUDIES

38. University which have already established university centres for postgraduate studies may prepare the departmental proposals for existing departments as well as new departments of such centres, separately and send them along with the proposals for the main campus, departments. The guidelines indicated for the universities proposals and the norms prescribed for postgraduate courses in Science, Humanities and Social Sciences subjects should be kept in view so that the existing departments could be brought to the required level of facilities and staff.

VII LAST DATE OF RECEIPT OF PROPOSALS
IN U.G.C.

39. Twenty five copies of the new proposals formulated by the University in the light of the above guidelines may be sent to the University Grants Commission at the earliest but in no case later than 31st December, 1979.

University Grants Commission

Some criteria suggested for reckoning the University Departments in the Developed or developing category (as on 1st October, 1978).

....

(Ref: Para 8 & 9 of guidelines)

1. All departments which are participating in the UGC programmes of (i) Centres of Advanced Study and (ii) Special Assistance to selected departments, are to be considered as belonging to the Developed Category.
2. In the case of all other departments the following criteria should be applied to determine whether they belong to Developed or developing category. These criteria are not to be applied rigidly, as situations vary from subject to subject and university to university. If a Department scores 10 or more points out of possible 16 points given below, such a department could be considered as belonging to the developed categories.
3. The criteria below have been suggested for university departments mainly engaged in postgraduate teaching and research. However, where the department has teaching responsibility for undergraduate classes also an additional 4 staff members may be added to criteria No. 1 relating to staff strength.

Criteria suggested	For science Departments	For Humanities & Social Sciences Departments	Suggested points for Scores
1	2	3	4
Staff strength (with atleast 2 Professors, and 2 Readers each and 50% of the lecturers with research qualifications)	16 or more	12 or more	3
Number of students <u>admitted</u> to the Master's degree class each year.	16 or more	25 or more	1
Number of students admitted to M.Phil or other Post M.A./M.Sc. courses in special areas.	10 or more	10 or more	1
Total number of full time research students working for Ph.D degree and average annual output of Ph.Ds. (taken as a 5 year average)	20 or more 5 or more (in the case of Theoretical Science, 2 or more)	20 or more 3 or more	2

.....2..

	1	2	3	4
5. Number of major fields/ areas(Thrust) of specialisation in the department (only those areas which have <u>atleast</u> 2 specialist staff should be counted).		3 or more	3 or more	1
6. Number of on-going research projects supported by various funding agencies (each scheme with not less than Rs.10,000 p.a.)		5 or more	3 or more	2
7. Are the library facilities satisfactory - including books & journals subscribed).		i) Over 2000 titles (multiple copies of the same book to be taken as one title)	2 pts. in case of Humanities and Social Sciences and one point in case of Science Departments.	
		ii) An average of 100 new books added each year.		
		iii) At least 20 journals currently subscribed and with back volumes for past 20 years or so.		
8.(a) Are the laboratory facilities (including equipment) adequate to support present teaching and research training programmes (total value of equipment not less than Rs. 5 lakhs at current prices.		Yes/No	Not applicable	1 pt.
(b) Are there any specialised laboratory facilities in major areas of research in the department (total value of such equipment above Rs. 10 lakhs)		Yes/No	-do-	
(c) Is there adequate Technical supporting staff, say a ratio of 1:3 (teaching staff)		Yes/No	-do-	
9. Has the department been invited by UGC to participate in:				

1	2	3	4
4) Departmental Research Support OR Area Studies Programme.	Yes/No	Yes/No	1
ii) College Science Improvement Programme OR COHSIP - University Leadership Project.	Yes/No	Yes/No	1
iii) Has the Department organised Summer Institute, Seminars, Refresher Courses etc. in past 5 years.	5 or more	5 or more	1
10. Has the staff been invited to participate in the following			
i) National Lectures Scheme of UGC.	Yes/No	}	Yes/No
ii) National Fellowships Scheme	Yes/No		
iii) National Associateships	Yes/No		
Total Points			16

GUIDELINES FOR THE CONSTITUTION OF SCHOOLS
IN THE UNIVERSITIES.

1. In universities where the existing departmental and faculty pattern continues to operate Schools/Centres may be formed by grouping together departments which have common programmes & which can interact in the matter of organising common courses and research programmes.
2. Such Schools/Centres may be administered by committees which may be formed with the concerned heads of departments and some other colleagues in the departments who are specialists in the areas or specialities concerned.
3. The Convenorship of the Schools/Centres may be by rotation among the heads of departments who are members of the Committee.
4. The Committee may meet as often as there is need but not less than twice a year.
5. The Committee may deal with the following topics, besides any other matters pertaining to the schools :
 - a) To identify and organization of interdisciplinary courses such as Life Sciences, Marine Sciences, Environmental Sciences, etc., or courses which would help breaking down barriers between departments and promote greater academic co-operation between them.
 - b) To identify and develop new areas of research in the interdisciplinary area pertaining to the school.
 - c) To organise M.Phil/pre-Ph.D inter-disciplinary courses in in the School.
 - d) To review the progress of research schemes undertaken on an inter-disciplinary basis.
 - e) To organise seminars and discussion groups and such other activities including summer institutes, conferences etc. relevant to the school.
 - f) To recommend scholars and fellows in the research schemes jointly undertaken by the teachers in the school & to assess their progress.
 - g) To decide how to allocate the budget for common programmes made available by Departments the University and any other agencies

- (h) To decide the manner of utilisation of facilities such as equipment, laboratories etc. placed at the disposal of the school by the Departments, University and any other agencies.
6. The School may through the University approach the University Grants Commission and other functioning agencies, for separate ear-marked funds for common programmes.
- While it may not be possible to give an exhaustive list of schools that may be set up a few examples are given below:-

School of Earth Sciences
School of Life Sciences
School of Environmental Sciences
School of Marine Sciences
School of Energy Studies
School of Basic Medical Sciences
School of Population studies
School of Historical Studies
School of Regional Studies.
School of Behavioural Sciences

Annexure III

Procedure for the calculation of Spill-over
from earlier plans to Sixth Plan.

....

The following procedure may be followed for identifying items and calculating amount for spill-over/committed expenditure under Fifth Plan which would be separated from Sixth Plan allocation of the University from general development:

A) Recurring

i) Staff

Salary payable for the teaching and non-teaching staff approved by the Commission in the V Plan upto 31-3-1981.

ii) Junior Research Fellowships

Amount payable towards fellowship and contingencies for the Fellowships selected upto 31-3-1979 against Junior Research Fellowships to the University on the basis of V Plan Visiting Committee recommendations upto the end of their tenure as per fellowships rules.

iii) Miscellaneous

Amount approved per annum for items of recurring nature approved under Misc. Schemes for the period ending 31-3-1981.

B) Non-Recurring

i) Books & Equipment:

Amount paid upto 31-3-1980 against the allocation approved for these items during V Plan. Any allocation not utilised by this date would lapse.

ii) Buildings

a) Amount payable after 1-4-1979 within the approved amount in respect of all building projects construction of which has actually been started.

**GUIDELINES FOR THE CONSTITUTION OF SCHOOLS
IN THE UNIVERSITIES.**

1. In universities where the existing departmental and faculty pattern continues to operate Schools/Centres may be formed by grouping together departments which have common programmes & which can interact in the matter of organising common courses and research programmes.
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 - a) To identify and organization of interdisciplinary courses such as Life Sciences, Marine Sciences, Environmental Sciences, etc., or courses which would help breaking down barriers between departments and promote greater academic co-operation between them.
 - b) To identify and develop new areas of research in the interdisciplinary area pertaining to the school.
 - c) To organise M.Phil/pre-Ph.D inter-disciplinary courses in in the School.
 - d) To review the progress of research schemes undertaken on an inter-disciplinary basis.
 - e) To organise seminars and discussion groups and such other activities including summer institutes, conferences etc. relevant to the school.
 - f) To recommend scholars and fellows in the research schemes jointly undertaken by the teachers in the school & to assess their progress.
 - g) To decide how to allocate the budget for common programmes made available by Departments the University and any other agencies

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ii) Buildings

a) Amount payable after 1-4-1979 within the approved amount in respect of all building projects construction of which has actually been started.

b) In case the estimates/expenditure exceeds the amount already approved and the Commission approves the increased expenses, the Commission's share of the excess expenditure over and above the amount already approved under V Plan will not be treated as spill-over but as a first charge on Plan (1979-83).

c) Proposals for building projects approved by the Commission either as a part of V Plan or outside V Plan but on which work was not started and the university was advised to defer them may be considered alongwith the VI Plan proposals.

....

Pattern of Assistance to Universities during
Plan : 1979-83

Sl. No.	Scheme/Project	Pattern of Assistance	
		Contri- bution by UGC.	Contribution to be made by State Govt. and/or Univ. as matching grant
1	2	3	4
1	University departments and University postgraduate Centres. (Research/postgraduate and undergraduate (both) facilities).		
	i) Staff: Professor	100%	-
	Readers	100%	-
	Lecturers	100%	-
	Technical staff	100%	-
	ii) Equipment	75%	25%
	iii) Books and Journals	75%	25%
	iv) Buildings (teaching laboratories)	50%	50%
	v) Workshop (including sheds & machine tools)	50%	50%
	vi) Animal House Facilities	50%	50%
2.	Libraries:		
	a. Buildings & furniture	50%	50%
	b. Books & Journals	75%	25%
	c. Professional staff	100%	-
	d. Library Equipment	75%	25%
3.	Staff quarters/Teachers Hostels visiting Faculty Complex (Buildings)	50%	50%

1	2	3	4
4.	Students Hostels (Building)		
a.	Men's Hostel	50%	50%
b.	Women's Hostel	75%	25%
5.	Establishment/Improvement of University presses (including machinery and equipment only)	50%	50%
6.	Health Centre:		
a.	Non-recurring (building & equipment)	50%	50%
b.	Recurring (salaries of staff)	50%	50%
7.	Canteen (building, furniture and equipment)	50%	50%
8.	Faculty Improvement Programmes	100%	-
9.	Improvement of existing hostel facilities	50%	50%
10.	Extension programmes and cultural activities	75%	25%

Appendix V to Item No.4.01

Guidelines for governing Unassigned Grant
during 1979-80.

1. For the purposes of determining the quantum of assistance under unassigned grant, teachers working in colleges recognised under Section 2(f) of the UGC Act, 1956 would not be taken into account i.e. teachers working in the university teaching departments would only be taken into account.
2. The amount of unassigned grant for 1979-80 may be determined on the following basis:
 - a) For a university having upto 100 teachers
Rs.20,000/- p.a.
 - b) For a university having between 101 and 200 teachers- Rs. 30,000/- p.a.
 - c) For a university having 201 teachers and above, unassigned grant may be determined on the basis of Rs.150/- per teacher and Rs. 50/- per full-time research scholar in the university departments subject to a maximum of Rs. 1.50 lakhs.
3. The number of teachers and research scholars are to be taken as on 15th August of the previous year.
4. The Universities/Institutions may spend not exceeding 60 per cent of their unassigned grant on items 7(1) below. Preference, may be given to participation by young staff members. No teacher should be provided assistance under ~~this~~ more than once in two consecutive years.
5. The university may meet from the unassigned grant placed by the UGC at its disposal 50% of the maintenance and registration expenses of university teachers attending/participating in the international conferences. Seminars, etc. held abroad. This will be subject to the condition that the remaining 50% of the international travel cost and expenditure on maintenance and registration are met by the university from its own funds/state Government or from other sources recognised by the University. Personal contribution from the teacher shall not be treated as matching share towards international travel cost etc. The maintenance expenses would be payable as per rules laid down by the Government of India.

b) In case the estimates/expenditure exceeds the amount already approved and the Commission approves the increased expenses, the Commission's share of the excess expenditure over and above the amount already approved under V Plan will not be treated as spill-over but as a first charge on Plan (1979-83).

c) Proposals for building projects approved by the Commission either as a part of V Plan or outside V Plan but on which work was not started and the university was advised to defer them may be considered alongwith the VI Plan proposals.

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	iv) Buildings (teaching laboratories)	50%	50%
	v) Workshop (including sheds & machine tools)	50%	50%
	vi) Animal House Facilities	50%	50%
2.	Libraries:		
	a. Buildings & furniture	50%	50%
	b. Books & Journals	75%	25%
	c. Professional staff	100%	-
	d. Library Equipment	75%	25%
3.	Staff quarters/Teachers Hostels visiting Faculty Complex (Buildings)	50%	50%

1	2	3	4
4.	Students Hostels (Building)		
a.	Men's Hostel	50%	50%
b.	Women's Hostel	75%	25%
5.	Establishment/Improvement of University presses (including machinery and equipment only)	50%	50%
6.	Health Centre:		
a.	Non-recurring (building & equipment)	50%	50%
b.	Recurring (salaries of staff)	50%	50%
7.	Canteen (building, furniture and equipment)	50%	50%
8.	Faculty Improvement Programmes	100%	-
9.	Improvement of existing hostel facilities	50%	50%
10.	Extension programmes and cultural activities	75%	25%

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Rs.20,000/- p.a.
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 - c) For a university having 201 teachers and above, unassigned grant may be determined on the basis of Rs.150/- per teacher and Rs. 50/- per full-time research scholar in the university departments subject to a maximum of Rs. 1.50 lakhs.
3. The number of teachers and research scholars are to be taken as on 15th August of the previous year.
4. The Universities/Institutions may spend not exceeding 60 per cent of their unassigned grant on items 7(1) below. Preference, may be given to participation by young staff members. No teacher should be provided assistance under **this** more than once in two consecutive years.
5. The university may meet from the unassigned grant placed by the UGC at its disposal 50% of the maintenance and registration expenses of university teachers attending/participating in the international conferences. Seminars, etc. held abroad. This will be subject to the condition that the remaining 50% of the international travel cost and expenditure on maintenance and registration are met by the university from its own funds/state Government or from other sources recognised by the University. Personal contribution from the teacher shall not be treated as matching share towards international travel cost etc. The maintenance expenses would be payable as per rules laid down by the Government of India.

6. The University may give under this scheme adequate emphasis on item 7(2) below so that teacher/research scholars/technicians get sufficient opportunities for visiting centres of research or to attend academic conferences/seminars within India.

7. Items of Expenditure

UGC's contribution to be met out of the unassigned grant.

1. Travel grants to teachers/scientific technical officers, (enjoying a scale of not less than Rs.700-1300 (Revised), for participation at the international conferences/seminars/symposia etc. held abroad.

50% of the travel expenses (first class rail fare in India and International air fare by Economy class) and 50% of the maintenance and registration expenses provided the other 50% of the travel expenses as also 50% of the maintenance/registration expenses of the teachers are met by the university from its own funds/ State Government, or from other sources recognised by the University. Personal contribution from the teacher shall not be treated as matching share towards international travel cost etc. The teachers participating in such conferences, seminars, symposia should travel by air-India on the sectors where it operates, even on sectors where it does not operate air passage should be booked through Air India.

2. Travel grant to teachers/research scholars/technicians for visiting centres of research or to attend academic conferences/seminars within India.

TA & DA according to University Rules on 100% basis from the unassigned grant.

3. Exchange of teachers

Visits of teachers/experts/scientists from within the country. The following guidelines may be followed:

a) Free accommodation and boarding to be provided by the host university from its own funds.

- b) Travelling expenses of the visiting teachers/experts may be met out of the unassigned grant according to the rates prescribed by the host institutes including air fare where necessary with the approval of the Vice-Chancellor.
- c) The visiting teacher/experts may be paid an honorarium upto Rs. 100/- per lecture/seminar, the exact amount to be decided by the Vice-Chancellor. A maximum of Rs. 500/- would be available for an assignment of not less than two weeks duration.

8. While sending the accounts of the unassigned grant, the university may give details viz. name of the teacher, university department, international conference attended, travel cost registration/maintenance expenses etc. out of the amount of unassigned grant for meeting the travel cost of university teachers. The university may also certify that 50% of the travel expenses, registration/maintenance expenses, etc. have been met by the university/State Government from their own resources or from other sources recognised by the university in respect of each such international travel undertaken by the university teachers. Personal contribution from the teachers shall not be treated as matching share towards international travel cost registration, maintenance expenses, etc.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 26th October, 1979.

Item No. 21.02(a) To approve the action taken on certain matters.

- (1) The following proposals of colleges have been approved by the Commission for financial assistance under Rs.5.00 lakhs scheme during the Fifth Plan period:

S.No.	Name of the College.	Purpose	Estimated Cost	UGC Share	Date of approval
1	2	3	4	5	6
<u>Agra University</u>					
1.	Kishori Raman Girls Degree College, Mathura	Long-term teacher fellowships to Smt. Shobha Pathak, Lecturer in English.			28-6-1979
2.	Kishori Raman College, Mathura	Long-term teacher fellowship to Shri Ram Sharma, Lecturer in Botany (for two years)			17-7-1979
3.	-do-	Long-term teacher fellowship to Shri S.S. Jaimini, Lecturer in Botany. (for two years)			12-7-1979
4.	Dabu Shivnath Agrawal College, Mathura.	Long term teacher fellowship to Sh. K.C. Gupta, Lecturer in Chemistry for Ph.D. at Vikram University, Ujjain.			10-7-1979
5.	Raja Balwant Singh College, Agra	Long-term teacher fellowship to Shri Bachchu Singh, Lecturer in Chemistry for Ph.D. at Allahabad University.			-do-
6.	St. John's College, Agra	Long-term teacher fellowship to Shri K.B. Lal, Lecturer in Chemistry for Ph.D. at Allahabad University.			21-7-1979

contd..2/-

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|-----|-------------------------------------|--|-----------|
| 7. | St. John's College,
Agra | Long-term teacher fellowship to
Shri V.D. Thomas, Lecturer in
English for Ph.D. at Banaras Hindu
University. | 21-7-1979 |
| 8. | St. John's College,
Agra | Long-term teacher fellowship to
Shri G. Chaturvedi, Lecturer in
Political Science for Ph.D. at
Jawaharlal Nehru University. | -do- |
| 9. | Kishori Raman College,
Mathura | Long-term teacher fellowship (2
years) to Shri R.K. Jain,
Lecturer in Botany for Ph.D. at
R.B.S. College, Agra. | 18-7-1979 |
| 10. | Ganjundwara College,
Ganjundwara | Award of Teacher Fellowship for
Ph.D. at Agra College, Agra to
Shri Bal Krishan Gupta | 25-7-1979 |
| 11. | -do- | Award of teacher fellowship at
R.B.S. College, Agra to
Shri Rajinder Kumar | -do- |

Bundelkhand University

- | | | | |
|-----|--|---|-----------|
| 12. | Bipin Dihari College,
Jhansi | Long-term teacher fellowship to
Shri J.K. Upadhyaya, Lecturer in
Physics for Ph.D. at Saugar
University. | 25-6-1979 |
| 13. | Sri Agrasen Mahavidya-
laya, Mauranipur | Long-term teacher fellowship to
Shri Chimoy Chatterjee, Lecturer
in Economics for Ph.D. at
Banaras Hindu University. | 19-6-1979 |

Gorakhpur University

- | | | | |
|-----|--|--|-----------|
| 14. | Gulab Devi Mahila
Mahavidyalaya, Ballia | Long-term teacher fellowship to
Smt. Pratibha Pandey, Lecturer in
Education for Ph.D. at Saugar
University. | 14-5-1979 |
| 15. | Shri Gandhi Degree
college, Maltari
(Azangarh) | 1) Long-term teacher fellowship to
Shri Radha Kant Rai, Lecturer
in History, Cultural & Arch.
for Ph.D. at Gorakhpur
University.

2) Short-term teacher fellowship for
one year to Shri Ramand Singh,
Lecturer in Hindi for Ph.D. at
Kashi Vidyapith, Varanasi. | 15-5-1979 |

Gorakhpur University (Contd.)

- | | | | |
|-----|---|--|----------------------------|
| 16. | D.C.S.K. Degree College
Maunath Bhanjan,
Azamgarh | Long-term teacher fellowship to
Shri Jai Prakash Rai, Lecturer in
Geography for Ph.D. at Gorakhpur
University. | 19-5-1979 |
| 17. | Shibli National College,
Azamgarh | Long-term teacher fellowship to
Shri Tarif Hasan, Lecturer in
Military Science for Ph.D. at
Allahabad University, as a special
case, from the date he has already
joined the teacher fellowship for
3 years or the date of submission
of thesis whichever is earlier. | 2-6-1979 |
| 18. | Kisan Degree College,
Basti | Long-term teacher fellowship to
Shri Rakesh Kumar Pande, Lecturer
in Zoology for Ph.D. at Gorakhpur
University. | 15-6-1979 |
| 19. | D.A.V. Post-graduate
College, Azamgarh | 1) Long-term teacher fellowship
Shri Maheshwari Kant Verma,
Lecturer in Chemistry for
Ph.D. at Gorakhpur University.

2) Long-term teacher fellowship
to Shri Kanai Swaroop
Srivastava, Lecturer in
Sociology for Ph.D. at Kashi
Vidyapith. | 19-6-1979

19-6-1979 |
| 20. | Shri Mahanth Ramashrya
Das Mahavidyalaya,
Bhunkuram, Ghazipur | Short-term teacher fellowship to
Shri Virendra Singh, Lecturer in
Sociology for M.Phil. at Kashi
Vidyapith | 21-6-1979 |
| 21. | Satish Chandra College,
Ballia | Long-term teacher fellowship to
Shri Ram Vihar Pandey, Lecturer
in Chemistry for Ph.D. at
Gorakhpur University subject to
registration. | 28-6-1979 |
| 22. | Shivapati Degree College,
Shohratgarh, Basti | Short-term (one year) teacher
fellowship to Shri G.P.
Srivastava, Lecturer in Geography
for Ph.D. at MLK College,
Balrampur, Conda (Avadh Univ.) | 5-7-1979 |
| 23. | Dayanand Degree College,
Gorakhpur | Award of a long-term teacher
fellowship to Shri Shiva Prakash
Gaur, Lecturer in History for Ph.D.
at Gorakhpur University. | 7.79 |

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|-----|---|--|-----------|
| 24. | Gandhi Shatabdi Samarak Mahavidyalaya, Koilsa, Azamgarh | Long-term teacher fellowship to Shri Bhagat Singh, Lecturer in Sociology for Ph.D. at Kashi Vidyapith | 16-7-1979 |
| 25. | Gandhi Samarak Degree College, Samodhpur, | Long-term teacher fellowship to Shri G.S. Dubey, Lecturer in Physics for Ph.D. at Gorakhpur University. | -do- |
| 26. | Shri Gandhi Degree College, Maltari, Azamgarh | Short-term (one year) teacher fellowship to Shri Dina Nath Rai, Lecturer in Political Science, for Ph.D. at Gorakhpur University. | -do- |
| 27. | Swami Devanand Degree College, Deoria | Long-term teacher fellowship to Shri A.K. Shukla, Lecturer in Chemistry for Ph.D. at Gorakhpur University subject to his being registered for Ph.D. | 21-7-1979 |
| 28. | UdaipPratap College, Varanasi. | Teacher Fellowship for two years from back date of joining teacher fellowship to:
1) Shri Chandra Shekhar Singh, Lecturer in Ancient History for Ph.D. at Gorakhpur University.
2) Shri Ramshrey Singh, Lecturer in Mathematics for Ph.D. at Banaras Hindu University.
3) Shri Ram Dayal Singh Lecturer, in Physics for Ph.D. at Banaras Hindu University.
4) Shri Krishna Kumar Singh, Lecturer in Chemistry for Ph.D. at Allahabad University. | 2-8-1979 |

Kanpur University

- | | | | |
|-----|----------------------------------|---|------------|
| 29. | A.N.D.M.M. Mahavidyalaya, Kanpur | Long-term teacher fellowship to Smt. Uma Kanti Tiwari, Lecturer in Chemistry. | 16-6-1979 |
| 30. | D.A.V. College, Kanpur | Long-term teacher fellowship to Smt. Raj Rani Jha, Lecturer in Zoology. | June, 1979 |

31.	Hindu Kanya Maha- vidyalaya, Sitapur	Long-term teacher fellowship to Smt. Asha Agarwal, Lecturer in English.	25-6-1979
32.	Hindu Kanaya Maha- vidyalaya, Sitapur	Long-term teacher fellowship to Smt. Santosh Dua, Lecturer in Education.	-do-
33.	Feroze Gandhi College, Rai Bareilly.	Short-term teacher fellowship to Shri Hari Sharan Lal, Lecturer in English for Ph.D. at Banaras Hindu University.	7-79
34.	Y.D.P.G. College, Lakhimpur Kheri	Long-term teacher fellowship to Shri Rakesh Pratap Singh Tomar, Lecturer, in Botany for Ph.D. at National Botanic Garden, Lucknow.	16-7-1979
35.	Bhagwan Din Arya Kanya Mahavidyalaya, Lakhimpur Kheri	Award of a long term teacher fellowship to Km. Uma Singhal, Lecturer in Psychology for Ph.D. at P.P.N. College, Kanpur.	8-8-1979
<u>Meerut University</u>			
36.	I.P. Degree College, Bulandshahr	Long-term teacher fellowship to Shri Amar Prakash Garg, Lecturer in Botany.	May, 1979
<u>Bahilkhand University</u>			
37.	Hindu College, Moradabad	Long-term teacher fellowship to Shri Shiv Singh, Lecturer in Physics for Ph.D. at Lucknow University.	18-7-1979
38.	-do-	Long-term teacher fellowship to Shri S.C. Goel, Lecturer, in Psychology for Ph.D. at Lucknow University.	-do-
39.	-do-	Short-term teacher fellowship to Shri P.C. Maheshwari, Lecturer in Education (for one year)	-do-
40.	-do-	Long-teacher fellowship to Shri V.K. Gupta, Lecturer in Economics for Ph.D. at S.V. College, Aligarh.	-do-

- (2) Osmania University - Grant-in-aid for the celebration of the Diamond Jubilee of the University.
-

The Osmania University sent on 8th August, 1978 a proposal for assistance in connection with the Diamond Jubilee Celebration during 1979 on its completing 60 years of existence and sought Commission's approval for the same.

In accordance with Commission's Resolution No.23 of November, 1976, the above proposal of the Osmania University was accepted 'in principle' and it was agreed to provide a sum of Rs.10 lakhs for the purpose, on the condition that 2/3 of this grant would be used for augmenting research facilities in the university (orders dated 21-3-1979).

- (3) Construction of Women's Hostel, Rajasthan.
-

The Commission agreed to provide assistance to the Rajasthan University for the construction of a 66 seated Women's Hostel within the Vth Plan allocation as recommended by the Visiting Committee in II/III Priorities. The University was subsequently advised to defer the construction of the Hostel.

The Rajasthan University requested for reconsideration of their proposals. In view of the urgent and pressing need for accommodation, the University had started the construction work prior to the final approval of the Commission. In view of the difficulties explained by the University, the Commission, as a special case, has agreed to condone the lapse on the part of the University. In starting the project with specific approval of the Commission on the condition that this will be first charge in the VIth Plan and the sharing basis will be as determined for the VIth Plan period. The University has further been advised to approach the State Government for release of their share in the first instance.

- (4) Banaras Hindu University - Construction of Men's Hostel for 54 students under Vth Plan scheme for development of Humanities, Social Science and Science - Relaxation on ban of construction of new buildings.
-

The proposal of the Vice-Chancellor, Banaras Hindu University
contd..

to go ahead with the implementation of construction of Men's Hostel for 54 students approved at a cost of Rs.6.45 lakhs under Fifth Plan development scheme for Humanities, Social Science and Science vide letter No.F.4-2/79(D-2a) dated 10th July, 1979 has been accepted, as a special case, in relaxation of (UGC decision taken on 13th July, 1979 - Item No.1.05 - Circular No.F.15-10/79(CP) dated 25th July, 1979) ban on construction of new buildings, vide Chairman's orders dated 16th August, 1979 (F.4-2/79(D-5a/DS))

- (5) Grant of higher initial salaries to the teachers against the posts approved by the Commission for Science Departments - Fifth Plan Scheme.
-

As recommended by the Dibrugarh University, higher initial start viz. Rs.940/- p.m. to Dr. Sarda Kanta Sama, Lecturer in Life Science in the scale of Rs.700-40-11-50-1600 has been approved.

- (6) Additional Staff at the College of Agriculture, Nagaland.
-

The Commission, on the recommendation of the Planning Group of College of Agriculture, Nagaland has approved the following additional staff in the College of Agriculture, Nagaland, which is a Constituent College of North Eastern Hill University:

- i) 4-Lecturers (One each in Agricultural Botany, Zoology, Chemistry and Engineering).
- ii) 3-Lab. Attendants
- iii) 1-Assistant Librarian
- iv) 3-Technical Staff (Bus Driver, Mechanic and Electrician).

The question of administrative staff for the College would be examined in consultation with I.C.A.R.

(7) Approval of grants to Additional COSIP Colleges.

Approval of grants to 30 colleges during 1978-79 for undertaking COSIP has already been reported to the Commission at its meeting held in November, 1978.

The proposal from the following colleges have been examined and grants recommended for a period of three years for implementing COSIP with the approval of these colleges, the total additional colleges brought under the scheme during 1978-79 comes to 34:

S.No.	Name of the College	Affiliated to University	Grant approved	Date of approval
1.	S.S.S. Arts Science & Commerce College, Kadugodi, Bangalore.	Bangalore University	3,00,000/-	5-2-1979
2.	S.B. Science College, Aurangabad	Marathwada	3,00,000/-	--do--
3.	A.S. College, Srinagar	Kashmir	3,00,000/-	--do--
4.	Fatima College, Maryland, Madurai	Madurai Kamraj	3,00,000/-	--do--

(8) Approval of grant to COSIP Colleges for undertaking follow-up activities.

The approval of grants to 46 colleges for undertaking follow-up activities have already been reported to the Commission.

Proposal from following colleges have since been examined and grants approved for undertaking the follow-up activities during the next two years.

S.No.	Name of the College	Affiliated to University	Grants approved	Date of approval
1.	K.L.E. Society's Sri Nijalingappa College, Bangalore	Bangalore	1,50,000/-	12-4-1979

contd.. /-

2. St. Teresa's College, Kerala 1,80,000/- 7-9-1979
Ernakulam

- (9) Approval of grants to colleges - after successful implementation of follow-up programme.

The Commission at its meeting held on 17th October, 1977 (vide item No.6(46) while considering the recommendation made by the Standing Committee for COSIP agreed with the suggestions that the colleges which have successfully implemented the COSIP programme may be enabled to continue their association with the programme and to take specialised activities and association on 100% basis may be given for such purposes.

Accordingly, the proposal from Sophia College for Women, Bombay have been examined and grant approved for undertaking innovative programmes for one to two years is as under:

<u>Grant Approved</u>	<u>Date of Approval</u>
Rs.24,300/-	1-8-1978

- (10) COSIP - ULP in Physics - Approval of grants for follow-up activities to the Department of Physics, Bangalore University.

The Commission while considering the recommendations made by the Standing Committee on COSIP inter-alia agreed that the ULP departments which have completed the first phase of their activities may be encouraged and assisted financially over the next two years for taking up suitable follow-up activities.

The proposal of the Department of Physics, Bangalore University for taking up follow-up activities was examined by an expert committee appointed for the purpose and its recommendations have been accepted. The following grants have been approved for a period of two years (vide orders dated 21-9-1979):

- a) Supply of new materials developed under COSIP-ULP, books, equipment and teaching aids to the colleges departments. Rs.75,000/-

contd..10/-

b)	Requirements of the University Department with regard to supporting staff (Rs.10,000/- p.a.)	Rs. 20,000/-
c)	Honorarium to departmental staff (Rs.10,000/- p.a.)	Rs. 20,000/-
d)	In session courses for college teachers of participating colleges (Rs.15,000/- p.a.)	Rs. 30,000/-
e)	Preparation of manuscripts and their publication (Rs.10,000/- p.a.)	Rs. 20,000/-
f)	Books for the University Department Library to support ULP activities (Rs.5,000/- p.a.)	Rs. 10,000/-
g)	Other miscellaneous expenditure (Rs.10,000/- p.a.)	Rs. 20,000/-
Total for 2 years		<u>Rs. 1,95,000/-</u>

(11) Extension of research projects in Science subjects.

Under the scheme 'Support for Research in Science subjects' financial assistance has been made available to faculty members in the universities, university centres for postgraduate studies and affiliated post-graduate colleges since the year 1974-75 to enable them to take up suitable research projects. The projects are approved on the basis of recommendations made by subject panels constituted by the Commission. The research projects are initially approved for three years period and extendable to a maximum period of another two years. The research work done under the project is subjected to continuous monitoring by the experts suggested by the Panels.

The matter regarding extension of the research projects beyond initial three year period was placed at the subject Panel meetings. The Panels decided that the office may take action for the extension of the projects on the basis of Monitor's report and recommendations. It was also decided that pending evaluation of work done by the Investigators under the projects, the office may accord ad-hoc extension.

The above decision of the Panels has been approved along with the proceedings of Panel meetings.

A list of the research projects where ad-hoc extension for 6 months or regular extension for 1-2 years has been accorded is attached (Annexure).

- (12) Inclusion of D.S. College, Aligarh to participate under COHSSIP.
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... The UGC at its meeting held on March 10, 1975, agreed that selection of COSIP colleges for participation in the COHSSIP should be contingent on their good performance in the COSIP. Accordingly, 12 COSIP colleges were selected for participation in the COHSSIP as reported to the Commission at its meeting held on the 14th and 15th July, 1975 under item 2(a) (13). These 12 colleges included D.S. College, Aligarh (affiliated to Agra University). Subsequently it was decided that the college which had started the COSIP activities recently may be requested to implement the COHSSIP after they had run the COSIP for a year or so. Since DS College, Aligarh belonged to this category, it was not invited to participate in the COHSSIP. This was also reported to the Commission at its meeting held on the 11th and 12th of August, 1975 under Item 2(a).

The D. S. College, Aligarh, had since intimated that the COSIP programme was approved in November 1972 and it has been successfully implemented in the college for three years. The College had therefore requested for inclusion under COHSSIP also. In 1975, the Commission had regretted its inability to select the D.S. College, Aligarh, for participation in COHSSIP.

The College has again requested for its selection for COHSSIP. As the Commission has evolved a point formula for selection of colleges under COHSSIP, this may be considered independently. As DS College, Aligarh, is one of the best Post-graduate institutions of Agra University it has been invited to participate in the COHSSIP vide orders dated 23-6-1979.

- (13) Development of Area Studies Programme in Bombay University.
-

The Bombay University had sent a proposal for the creation of two posts of Professors - one each in their Centres

of East African Studies and Soviet Studies, agreeing to surrender a post of Reader and Documentation Officer in the Centre of East African Studies, and a post of Reader and Junior Fellowship in the Centre of Soviet Studies sanctioned during the fifth plan period. These posts have not been filled by the University. The UGC Standing Advisory Committee on Area Studies accepted the proposal of Bombay University. However, while recording the minutes of the meeting of the Standing Advisory Committee, it was indicated that a post of Professor each for the two Centres of Area Studies may be sanctioned in lieu of the vacant post of Reader in each of the two Centres. The Commission accepted the recommendation of the Advisory Committee at its meeting held on July 13-14, 1979. Keeping in view the correct decision of the Advisory Committee, Commission's sanction to the creation of a post of Professor in each of the two Centres referred to above in lieu of two posts of Readers, a Documentation Officer and a Junior Fellowship has been communicated to the University.

- (14) Termination of Indo-British Universities Collaboration Link between Department of Biological Sciences, Madurai Kamaraj University and Department of Biochemistry, Oxford University.

The IBUC Programme on spore formation on Bacteria between Madurai Kamaraj University and Oxford University agreed in 1975 was ~~revived~~ in 1978 and on the basis of the joint report submitted by Professor J. Mandelstam of Oxford University and Prof. A. Gnanan of Madurai Kamaraj University, the programme was extended for a further period of 3 years in the field of "Biological Control of Insect Pests".

The British Council on the basis of the report of Professor Mandelstam have communicated their desire to discontinue the link on the ground that the research under the link has not proved fruitful enough to warrant its continuation. In view of the above, it has been decided to terminate the link and Madurai Kamaraj University has been informed.

- (15) Commonwealth Academic Staff Fellowships and Scholarships 1979-80.

The Commission as in the past years invited nominations

for the Commonwealth Academic Staff Fellowships and Scholarships for the year 1979-80. Of the 167 nominations received, the UGC on the recommendation of Expert Committee (i) recommended 15 scholars (including 4 in the reserve list) in Science and Technology and 7 in Humanities and Social Sciences for fellowships and (ii) 11 scholars in Science and Technology (including 1 in Reserve List) and 4 in Humanities and Social Sciences for Scholarships. The Association of Commonwealth Universities, U.K. have in view of the budget cuts imposed by the British Government on the activities of the Association of Commonwealth Universities, London awarded only 7 fellowships and 4 scholarships to the following:

SCHOLARSHIPS

- | | | |
|--|--------------------|------------------------------|
| 1. Shri G.P. Patnaik,
Utkal University | 1-10-79 to 30-9-81 | University of
Nottingham |
| 2. Shri S.K. Bhargava,
IP Degree Coll. Meerut | 1-10-79 to 10-7-81 | University of
Exeter. |
| 3. Dr. R.S. Mishra,
Sanbalpur University | 1-10-79 to 10-7-81 | University of
East Anglia |
| 4. Shri P. Sudhir
N.E.H.U., Shillong | 1-10-79 to 10-7-81 | University of
London |

FELLOWSHIPS

- | | | |
|---|--------------------|--|
| 1. Dr. P.S. Rao
Kakatiya University . | 1-10-79 to 10-7-80 | Glasgow
University |
| 2. Shri S.H.H. Qadri,
Kakatiya University | 1-10-79 to 10-9-80 | Medical Research
Council
Laboratories
Survey. |
| 3. Dr. V.M. Pawar,
Marathwada Agricultural
University, Parbhari | 1-10-79 to 10-7-80 | Commonwealth
Forestry
Institute, Oxford. |
| 4. Prof. P.K. Uppal
I.V.R.I. Izatnagar | 1-10-79 to 10-7-80 | University of
Cambridge. |
| 5. Dr. S.K. Shama
Saugar University | 1-10-79 to 10-7-80 | University of
East Anglia. |
| 6. Dr. Dilbagh Singh
J.N.U., New Delhi. | 1-10-79 to 10-7-80 | London University. |
| 7. Dr. B.N. Puhan
Utkal University | 1-10-79 to 10-7-80 | Institute of
Education, London
University. |

The above awards have also been communicated to the concerned Universities/concerned awardees.

- (16) Regularisation of posts agreed to be adjusted and extension of the tenure of the temporary posts of one S.O.(Grade-II) and one Assistant created for Adm.I Cell for 3 months w.e.f. 11-6-1979.

The Commission at its meeting held on 7th August, 1979 (Item No.6.01 - iii) accepted the recommendations of the UGC Standing Committee on Establishment Matters at its meeting held on 26th July, 1979 that in view of increase in normal work of the secretariat of the Commission during the last 3 years, one post of Divisional Head and three posts of Branch Officers declared surplus by SIU in its report dated 19th May, 1977 may be adjusted. The Commission had earlier similarly agreed to adjust another surplus post of Branch Officer against the post of Branch Officer for SCT Cell. Accordingly, the temporary posts of Deputy Secretary (1), Education Officers (2) and Under Secretaries (2) have been brought on the permanent strength of the respective cadres under the orders of the Commission dated 17-9-1979.

2. The tenure of the temporary posts of one S.O.(Grade-II) and one Assistant created w.e.f. 11-6-1979 for a period of 3 months in the first instance for Adm.I Cell for work relating to DPCs, etc. has also been extended upto 10-12-1979 as the need for the same still continues.

- (17) Amendment in the UGC Employees (Conduct) Regulations, 1967.

In exercise of the power conferred by clause (c) of the sub-section (1) of Section 26 of the UGC Act, 1956 (3 of 1956) read with Rule 9 of the UGC (Terms and Conditions of Service of Employees) Rules, 1958, the UGC, with the previous approval of the Central Government made UGC Employees (Conduct) Regulations, 1967. These Regulations were framed on the basis of Government of India Rules on the subject. Consequent to amendment in the

corresponding rule of the Central Civil Services (Conduct) Rules, 1964, the figures occurring in Regulation 18(3) of the UGC Employees (Conduct) Regulations, 1967 have been amended to read as Rs.2,000/- for Class I and Class II (now Group A and Group B) posts and Rs.1000/- for Class III and Class-IV (now Group C and Group D) posts with the approval of the Central Government.

- (18) Continuation of the existing procedure of making officiating arrangements on ad hoc basis on seniority basis.
-

Arising out of the recommendation (1) made by the Committee appointed by the University Grants Commission to prepare suitable guidelines for counting continuous officiating period towards probationary period for purposes of confirmation in the post as approved by the Commission at its meeting held on 27th April, 1979 (Item No.2(a) - 36) i.e. "no official should be promoted to officiate against any vacancy unless he has been approved by the concerned Departmental Promotion Committee in accordance with Cadre and Recruitment Rules", action has already been initiated to draw Select Lists for various cadres. It is expected that except for the post of Joint Secretary, the Departmental Promotion Committee would be meeting within a period of 3 months to prepare the Select Lists for other posts of officers against "promotion" quota. For "direct recruitment" quota, advertisements inviting applications have been sent to press for the posts of Deputy Secretary and Education Officer.

2. It would thus be seen that Select Lists for some cadres may not be available for some time more. In order to ensure that the work of the Commission does not suffer, it has been decided that the existing practice of making officiating arrangements on ad hoc basis may be continued in respect of the cadres where the Select Lists have not been drawn so far but are expected to be prepared shortly and where Select Lists already prepared have been exhausted.

3. The Government of India orders regarding ad hoc promotions reads as under:

"The DPC procedure indicated above should be followed strictly in all cases as a general rule. In exceptional circumstances and under exigencies of public service, it may be necessary to make ad hoc appointment without following the prescribed procedure. Such ad hoc

appointments should be subjected to the following instructions:

'A'

(a) purely short-term vacancies caused by leave, short-term deputation, training etc. may be filled by ad hoc appointment if the posting of the persons next in the approved panel would be administratively difficult if he is not interested in such short-term promotion. Such appointment can be made also when the panel is exhausted or expired and if there is no time to convene a DPC meeting and prepare a fresh panel. Adhoc appointments made to fill in short term vacancies should be only by promotion of departmental candidates and not by direct recruitment.

(b) In the case of regular vacancies due to death, retirement, resignation, promotion, deputation for period exceeding one year, the vacancies should be filled by the regular method and not by adhoc appointments. However, if the panel is exhausted or expired and if delay is anticipated in preparing a fresh panel, and if the exigencies of public interest require the filling up of vacancy immediately, adhoc appointment can be made without following the prescribed procedure. Even in such cases direct recruitment should be avoided as far as possible since it might create complications if the candidate selected by regular process is different from the adhoc appointee. In any case, Ministries/Departments should periodically review all such adhoc appointments and replace the adhoc appointees by persons approved for regular appointment in accordance with prescribed procedure.

(c) Every Ministry/Department should prescribe suitable reporting system for reporting all continuing adhoc appointments to the Secretary/Minister in charge of the Administrative Ministry who would give suitable directions for terminating the ad hoc arrangements as early as possible. Adhoc appointments continuing for more than one year may be reported to the Department of Personnel and Administrative Reforms on 1st June, every year.

The proposal to make adhoc appointments is in accordance the instructions of the Government of India as at 'A' above.

Annexure to Item No.1.02(a) (11)

List of Research Projects where adhoc/regular extension has been approved as on 1-9-1979.

Code No.	Name of the P.I./University	Title of the Project	Recurring grant approved	Effective date for implementation of the project 3 years from	Ad-hoc Ext. if any	Period	Extended on existing basis or extended with addl. cost
2	3	4	5	6	7	8	9
002/74	Prof.N.N. Dasgupta, Calcutta University.	Bio-Physical studies on the structure of DNA ...complex.	JRF : 2 Contingency: Rs.15,000/- p.a.	1-2-75	-	1 yr.	-
005/74	Dr.K.Sathianandan & Dr. A.D. Tillu, Poona University	Fabrication of He-Ne-Co ₂ Ne & Ar. gas lasers and ... measurement.	JRF : 1 Contingency: Rs.2,300/- p.a.	10-9-74	-	2 yr.	-
008/74	Prof. B.B. Deo Utkal University.	Problems of Quantum Electrodynamics.	JRF : 1 Contingency: Rs.5,000/- p.a.	1-1-75	-	2 yr.	-
001/75	Dr. M.P. Vema Agra College, Agra	Dielectric Behaviour of Ionic crystals.	SRF : 1 Contingency: Rs.5,000/- p.a.	3-4-75	-	2 yr.	-
002/75	Dr. A. Alluriah Regional Engg. College, Warrenghal	Digital Electrometer	JRF : 1 Contingency: Rs.2000/- p.a.	1-8-75	-	8 months	-
004/hy/75	Dr. N.G. Puttaswamy, Bangalore University	Mossbauer effect - study of Binary Alloys.	No cost	5-3-75	-	8 months	-

contd..2/-

1	2	3	4	5	6	7	8	9
<u>PHYSICS (CONTD.)</u>								
<u>1975</u>								
4.	005/75	Dr. P.K. Misra Berhampur University	Properties of Solids	JRF : 2 Contingency & Comp. 10,000/- p.a.	15-5-75	-	1½ yr.	-
5.	006/75	Dr. L. Sata- pathy & Dr. (Mrs.) Manata Sata- pathy, Berhampur University	a) Study of fourheavy and nuclei. b) Phenomological & micro-coope... and the phenomon of phase transition.	JRF : 3 Contingency & Comp. Rs. 10,00/- p.a.	15-5-75	-	2 yr	-
6.	008/75	Prof. M. De. Calcutta Univ.	Apodisation and optical filter- inglight.	No cost	1-4-1975	-	1 yr	Add cost Rs. 10,000
7.	009/75	Prof. J.C. Pala- thingal, Calicut Univ.	Theoretical investigation& life times of Nuclear excited.	Computation - Rs. 1,500/-p.a. Materials - Rs. 5,000/-p.a. Contg. & Travel - Rs. 3,500/-p.a.	1-10-75.	6	months	-
8.	012/75	Dr. N. Umakantha Karnatak Univ.	Development of student laboratory... physics. Polarization effects on the energy loss of electrons.	No cost	1-9-75	6	months	-
9.	013/75	Dr. B. Anjaneya Sastry. Osmania Univ.	Fabrication of wide....single and polycry- stalline Non- Metallic solids.	JRF : 1 Tech: 1 Contingency: Rs. 20,000/- p.a.	2-9-75	-	2 yrs.	-
10.	014/75	Prof. D. Krishna- murti Mysore Univ.	Basic Research on liquid crystals.	JRF : 2 TA : 2 Contingency: Rs. 15,000/- p.a.	3-4-75	-	1 yr.	(No cost)

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018/75
SICS
(CONTD)

018/75	Dr. H.S. Shah South Gujarat University	Optical and Magneto-optics of displaced metals.		3-6-75	-	1 yr.	-
020/75	Dr. V.S. Anantha- narayanan, I.I.Sc. Bangalore	Construction of a differen- tial important systems.	No cost	6-3-75	6	months	-
021/75	Prof. M. Vijayan I.I.Sc. Bangalore	X-ray crystallo- graphic & otherimportant molecules.	Contingency: Rs. 10,000/-	5-3-75	-	2 yrs. Adl. N.R. Rs.25,000/-	-
022/75	Prof. R.K. Poddar Calcutta Univ.	Molecular Bio- logy: Biophysical Aspects	SRF : 2 Tech.Asstt. 1 Contingency Rs. 17,000/- p.a.	17-6-75	-	2 yrs.	-
024/75	Dr. S. Guha, School of Studies in Physics, Ravi Shankar Univ.	Instabilities in solid state Plasmas	JRF : 2 Contingency: Rs. 5,000/- p.a.	5-3-75	-	2 yrs.	-
026/75	Prof. V.D. Gupta Lucknow Univ.	An experimentalemphasis on biopolymeric systems.	No cost	5-7-75	6	months	-
028/75	Prof. G. Sivaram Sastry Osmania Univ.	Studies on Electrons Spin resonance ... metalions.	JRF : 2 Contingency: Rs. 3,500/- p.a.	1-9-75	-	1 yr	-
031/75	Dr. C.V. Sheth Karnatak Univ.	Theoretical investigations on the stopping power for protons.		15-10-75	-	8½ months	-

1	2	3	4	5	6	7	8	9	
PHYSICS 1975 (CONTD.)									
19.	036/75	Prof. B.R. Nag Calcutta Univ.	High Field surfacein semiconductors.	SRF : 1 Contingency: Rs.10,000/- p.a.	1-7-76	6 months	-	-	
20.	038/75	Dr. D.R. Gupta Jodhpur Univ.	Electro Acoustic effects in Plasma (Ionised Gas)	JRF : 1 Contingency: Rs.2,500/-	18-10-75		1 yr	-	
21.	039/75	Dr. D.D. Dubey Panjab Univ.	Radiation damage to proteins irradiated in dry state.		1-3-76	6 months	-	-	
22.	050/75	Dr.K.M. Motadia Gujarat Univ.	Multifrequency absorption radio waves in the ionosphere.	JRF : 1 Contingency: Rs.6,000/- p.a.	1-1-1976		1 yr	-	
23.	054/Phy/ 75	Dr. N. Lingappa Mysore Univ.	a) Gamma-X-ray .. b) Nuclear reaction & Scattering studies. c) Ionospheric studies.	No cost		6 months	-	-	
24.	060/75	Dr. V. Deva- nathan, Madras Univ.	Nuclear Techni- ques applied to solid state Physics.	Contingency: Rs.5,000/- p.a.	21-1-76	-	3 yrs		
25.	061/75	A collaborative research project "A study of interactions of 400 Gc V/c protons with Nuclei" submitted by Physics Department of Delhi, Jammu, Panjab and Rajasthan Universities.						1½ yrs	

 2 3 4 5 6 7 8 9

SICS
 5 (CONTD.)

063/75	Dr. V.S. Nanda Delhi Univ.	A study of crystalization kinetics & other phase transitions in high polymers.	S.T.A. 2 T.A. : 1 Mech. 1 Lab. 1 Attd.	1-9-75	-	2½ yrs - (Project was initially approved for 1 year)
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5 (PHYSICS)

002/76	Dr. (Mrs.) A. Bhamathi, Andhra Univ.	Dielectric Proper- ties of Polymers in solid state & solutions.	SRF : 1 JRF : 1 Contingency: Rs. 3,500/- p.a.	1-5-76	-	1 yr. -
009/76	Dr. (Mrs.) Padmini Agarwal, M.S. University of Baroda.	Study of Ultra- sonicand liquid crystall- ine mixtures	JRF : 1 Conti: Rs. 5000/- p.a.	1-5-76	-	2 yr -
002/76	Prof. J. Verma & Dr. D.R.S. Somayajulu, Udaipur Univ.	Measurement of Quadrupole moments and gR factors.	Lab. Tech.: 1 Travel: Rs. 5,000/-	1-8-76	6	months -

ISTRY 1974

001/74	Dr. S.P. Mushran Allahabad Univ.	Kinetics & Mechanism of Oxidation of Sugars by some less familiar Oxident.	JRF : 2 Contingency: Rs. 4,000/-	5-9-74	-	2 yr -
002/74	Dr. Arun K. Dey Allahabd Univ.	Metal Chelate formation..... Anti tubercular compounds as ligands.	JRF : 1 Contingency Rs. 2,000/-	1-1-75	6	months -

contd...6/-

1 ----- 2 ----- 3 ----- 4 ----- 5 ----- 6 ----- 7 ----- 8 ----- 9 -----

CHEMISTRY
1974 (CONTD.)

3.	003/74	Dr. O.P. Malhotra Banaras Hindu University	Studies on Transient Enzyme Substrate Covalent intermediates.	No Cost	9-9-74	-	7 months	-
4.	008/74	Dr. A.C. Jain H.P. University	Constitutional & synthetic studies products.	JRF : 1 Contin- gency 4,000/- p.a.	14-6-74	-	1 yr	-
5.	009/74	Prof. R.V. Copala Rao Jadavpur Univ.	Equilibrium & Non-EquilibriumSolutions.....	JRF : 2 Contin- gency Rs.5,000/- p.a.	4-4-75	-	1 yr	-
6.	012/74	Prof. S. Swami- nathan, Madras Univ.	Molecular Rearrangements	SRF : 1 JRF : 1 Contin- gency: Rs.5,000/- p.a.	16-9-74	-	1 yr.	-
7.	015/74	Prof. Krishna C. Joshi Rajasthan	Some aspects of Chemistry Organo-Flourine	JRF : 2 Contin- gency: 5,000/- p.a.	5-6-74	-	1 yr	-
8.	016/74	Prof. S. Pari Sambalpur Univ.	Reaction of Transition metal complexes of..... Polydentate ligands.	JRF : 1 Contin- gency: Rs.2,000/- p.a.	4-7-75	-	1 yr	-
9.	018/74	Dr. K.P. Srivastava, Birla Instt. of Technology & Sc., Pilani.	Studies on the 'Preparation of Molybdenum oxide catalysts.	JRF : 1 Contin- gency: Rs.2,000/-	21-8-74	-	1 yr	-

MISTRY 1975

2	3	4	5	6	7	8	9
002/Chem/75	Prof. R.P. Rastogi Gerakhpur University	Thermodynamic Studies of membrane Phenomena.	SRF:1 JRF:1 Contin- gency: Rs.5000/- P.A.	1.8.75	-		1yr -
003/75	Dr. Rup Dutta B.I.T.S. Pilani	Effect of exchange cation on the..... clay minerals	JRF:1 Contin- gency: Rs.2000/- P.A.	15.5.75	-		1yr.-
005/75	Dr. Nurul Islam Aligarhh Muslim University	Optional spectra electrical technical applications	SRF:1 JRF:1 Contin- gency: Rs.5000/- P.A.	16.5.75	6	-	mon- ths.
006/75	Dr. M.A. Beg, Aligarh Muslim University	Reactions of transition metal Hallides in the Solid State	SRF:1 JRF:1 Contin- gency: Rs.5000/- P.A.	22.5.75	6	-	mon- ths
008/Chem/75	Dr. J.P. Singhal Aligarh Muslim University Z_kir Husain Engg. College.	Absorption & reactions of pesticidesclys & Solids.	JRF:2 Contin- gency: Rs.5000/-	8.3.75	-		1yr -
012/75	Dr. K.B. Pandeya Delhi University	Coordination Chemistry of Trace elements in Human Body	JRF:1 Contin- gency Rs.2500/-	5.9.75	6	-	mon- ths-
014/75	Prof. S.S. Sandhu Guru Nanak University	Studies of the interaction of metal..... molecules.	JRF:2 Contin- gency: Rs.5000/-	6.3.75	-		2yrs -

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CHEMISTRY 1975 (Contd.)

8	018/75	Prof. (Mrs.) K.K. Rohatagi Mukherji Jadavpur University	Photochemistry of Biologically important mole- cules.	SRF:1 JRF:1 Contin- gency: Rs. 5000/-	1.9.75	-	1 yr	Ad N. Rs. 19
9	019/75	Dr. Amalendu Das Jadavpur University	Investigations on Mucins.	JRF:1 Conting- gency: Rs. 2000/- P.A.	1.8.75	6	-	mon- ths.
10	025/75	Dr. P.C. Jain Kurukshetra University	X-ray diffra- ction and three-dimen- sional Crystal structure determination ...State interest.	JRF:2 Contin- gency: Rs. 6000/-	22.3.76	6	-	mon- ths.
11	026/75	Dr. D.M. Puri Kurukshetra University	Formation Constants & Reaction mechanism of transition metal complexes.	JRF:2 Contin- gency: Rs. 4000/- P.A.	1.8.75	-	1 yr.	
12	027/75	Dr. H.K. Pujani Kurukshetra University	Synthetic Studies on Bridgehead Nitrogen.... anthelmintics	JRF:1 Contin- gency: Rs. 2500/-	28.7.75	-	1 yr.	
13	029/75	Dr. K.G. Marathe Poona Univ.	Photochemical and..... related N.S.C. heterocycles.	JRF:1 Contin- gency: Rs. 2000/- P.A.	10.3.75	6	-	mon- ths.
14	031/75	Dr. J.P. Tandon Rajasthan University	Studies on Organic ... derivatives of.....gbond.	JRF:2 Contin- gency: Rs. 4000/- P.A.	10.5.75	-	1 Yr.	

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MINISTRY 1975 (Contd.)

032/75	Dr. R.K. Bansal Rajasthan University	Synthesis of some novel Hetero..... Ylid Intermediates.	JRF:1 Contingency: Rs. 2000/- P.A.	29.3.75	-	1 Yr.	-
33/75	Prof. R.C. Malhotra, Delhi University	Apparently Covalent... in Biological Systems.	SRF:2 JRF:2 Lab- Attd:1 Technician:1	5.3.75	6 months	-	Addl. N.R. Rs. 22500,
34/75	Dr. S.N. Tandon Roorkee University	Studies on Synthetic inorganic Ion Exchanges.	SRF:1 JRF:1 Contingency: Rs. 5000/- P.A.	21.5.75	6 months	-	-
38/75	Dr. K.S. Suresh Udaipur Univ.	Synthesis of Antimalarial Drugs.	JRF:1 Contingency: Rs. 2000/- P.A.	1.5.75	6 months	-	-
39/75	Prof. N. Appala Raju Sri Venkateswara University	Investigations of some important subsidiary elementsparts of Andhra Pradesh.	SRF:1 Contingency Rs. 3000/- P.A.	6.3.75	6 months	-	-
40/75	Dr. S.B. Rao, Sri Venkateswara Univ.	Extraction Polarographic studies.	SRF:1 JRF:1 Contingency: Rs. 5000/- P.A.	11.3.75	6 months	-	-
41/75	Prof. A.K. De, Visva Bharati	Studies on Synthetic Inorganic Ion Exchanges.	SRF:1 JRF:1 Contingency: Rs. 5000/- P.A.	4.4.75	6 months	-	-

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CHEMISTRY 1975 (Contd.)

22	042/75	Dr. M.P. Singh Allahabad University	Studies in Kinetics and mechanism..... and to electron transfer processes.	SRF:1 JRF:1 Contingency: Rs.5000/- P.A.	22.10.75	+	1 Yr.
23	044/75	Dr. S.N. Bhat, N.E.H.U.	Electronic Behaviour of Biological materials.	JRF:1 Contingency: Rs.3000/- P.A.	31.1.76	-	1 Yr.
24	046/75	Dr. K.M. Srivandan- daiah Bangalore University	Synthesis of peptides of biological interest	SRF:1 JRF:1 Contingency: Rs.7000/- P.A.	9.9.75	6	- months
25	048/75	Dr. H.P. Agarwal Bhopal University	Studies on Electrode solution interfaces	JRF:2 Contingency: Rs.5000/-	28.11.75	-	1 Yr.
26	050/75	Dr. S. Mukherjee Calcutta University	Studies on regulation of Hyper cholesterolemiaby modified Butterfate.	SRF:1 JRF:1 Contingency: Rs.15000/- P.A.	6.3.76	-	1Yr.
27	053/75	Dr. P. Bandhyop- dhyay Calcutta University	Investigation on the..... related com- pounds.	JRF:1 Contingency: Rs.2500/- p.a.	7.11.75	6	- months
28	054/75	Dr. Premmoy Ghosh Calcutta University	Chemical modification of polymersimproved properties.	SRF:1 JRF:1 Contingency: Rs.5000/- p.a.	28.9.75	-	1 Yr.

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ISTRY 1975 (Contd.)

57/75	Dr. V.K. Aluvalia Delhi University	Studies in Photodynamically Active Compounds.	SRF:1 JRF:1 Contingency: 10000/- p.a.	1.10.75	-	2 Yrs.	-
59/75	Prof. Harish C. Gaur Delhi Univ.	Thermodynamics and.....of Molten Salts.	JRF:2 Contingency: Rs. 5000/- p.a.	1.4.76	-	1 Yr.	-
61/75	Sh. P.P. Singh, Gorakhpur University	Structural Studies of.... Hexa Thiocyanate complexes	JRF:2 Contingency: Rs. 5000/-	15.9.75	6	months	-
63/75	Dr. Akshya. mal, Jodhpur University	Volatic metal complexes of transition.... (Lahtanides & actinides)	JRF:1 Contingency: Rs. 3000/-	1.9.75	-	1 Yr.	-
64/75	Dr. Sudhindra N. Mishra Jodhpur University	Reactions of co-ordinated ligands	JRF:2 Contingency: Rs. 5000/-	18.9.75	-	1 Yr.	-
67/75	Dr. S.M. Sawhney Kurukshetra University	Synthesis of Thiaz of..... agents	JRF:1 Contingency: Rs. 3000/- p.a.	1.10.75	6	months	-
70/75	Dr. A.K. Gengupta Lucknow University	Studies on potential pesticides... derivatives	JRF:2 Contingency: Rs. 5000/- p.a.	23.1.76	-	1 Yr.	-

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CHEMISTRY 1975 (Contd.)

36	071/75	Dr. P.S. Subramanian Madras Univ.	Phytechomical Studies on India..... reticulate	JRF:2 Contin- gency: Rs.5000/- p.a.	21.11.75	-	1 Yr.	-
37	073/75	Dr. V.T. Ramakrishnan, Madras University	Organic Photochemistry	JRF:2 Contin- gency: Rs.5000/- p.a.	22.12.75	6	-	months
38	079/75	Dr. A.K. Ghosh North Bengal Univ.	Organotin CoordinationBiocidal properties.	JRF:1 Contin- gency: Rs.3000/- p.a.	30-12-75	6	-	months
39	085/75	Dr. V.D. Gupta Rajasthan University	Synthetic & Structural aspects of.... and Hydroxamic	JRF:1 Contin- gency: Rs.2500/- p.a.	30.7.75	6	-	months
40	085/75	Dr. S.S. Nigam & Dr. V.K. Saxena Saugar University	Search for Antifertile agent from Indian Medicinal plants.	SRF:1 JRF:1 Contin- gency: Rs.5000/- p.a.	21.11.75	-	1 Yr.	-
41	009/75	Dr. O.P. Mehta Udaipur University	Ion Exchange Kinetics inradio tracers.	JRF:2 Contin- gency: Rs.5000/- p.a.	23.1.76	-	1 Yr.	-
42	090	Dr. B.R. Rao Visva Bharati	Studies in Polycyclics Hydrocarbons and related systems.	SRF:1 JRF:1 Contin- gency: Rs.5000/- p.a.	1.2.76	6	-	months

MISTRY 1975 (Contd.)

2	3	4	5	6	7	8	9
93/75	Dr. K.C. Roy, Visva Bharati	Studies on the Solution interface	JRF:1 Contin- gency: Rs. 2000/- p.a.	18.12.75	6	-	-
98/75	Prof. C.C. Patel I.I.Sc. Bangalore	Construction of an Electron Spin resonance spectrometer	Project Asstt:1 Lab. Tech:1		-	1 Yr.	(no cost)
99/75	Dr. V.V. Somayara- julu J.N. Tech. University	Synthetic Studies in Non-Steroidal Antifertility agents.	JRF:1 Contin- gency: Rs. 2500/- p.a.	23.1.76	6	-	-
00/75	Prof. M. Santappa Madras University	Mixed ligands complexes of copper with.... importance	SRF:2 JRF:2 Contin- gency: Rs. 7500/- p.a.	8.12.75	6	-	-
01/75	Prof. M. Santappa & Dr. K.S. Srinivasan	Investigations of the synthe- sis charac- terization and properties of micromolecules and high polymers.	SRF:1 JRF:2 Contin- gency: Rs. 10000/- p.a.	27.12.75	6	-	-

BIOLOGICAL SCIENCES
BIO-CHEMISTRY

01/74	Dr. Maharani Chakravorty Banaras Hindu Univ.	Molecular Biology of Host Virus relationship	JRF:2 Contin- gency: Rs. 5000/- p.a.	1.7.74	6	-	-
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1974 BIOLOGICAL SCIENCES
BIO-CHEMISTRY (CONTD.)

2	005/74	Dr. N. Appaji Rao & Prof. C.S. Vaidya- nathan	Studies on thecoenzyme nucleotide in plants.	JRF:2 Lab. Asstt:1 Conti- gency: Rs. 8000/- p.a.	1.7.74	-	2 Yrs.
3	007/74	Dr. V. Kaul Kashmir University	Ecological & Productivitywetlands in Kashmir.	JRF:4 Asstt.1 Conti- gency: Rs. 5000/- p.a.	14.8.74	6	- months

ZOOLOGY

4.	008/75	Dr. V.K. Gupta Delhi University	Studies on the Taxonomy (oparastic Hymenhoptera)	No cost	1.9.74	-	1 Yr.
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1975 BIOLOGICAL SCIENCES

1	002/75	Dr. M.V. Nayudu & Dr. D. Adinara- yana Sri Ven- kateswara University	Search for new Phytoale- zins & compounds.	JRF:2 Conti- gency: Rs. 5000/- p.a.	6.3.75	-	2 Yrs
2	003/75	Dr. M.M. Laloraya Indore Univ.	Phytochrome &in Plants	JRF:2 Conti- gency: Rs. 3000/- p.a.	22.5.75	-	1 Yr.

BOTANY

3.	004/75	Dr. I.N. Bharadwaja Govt. College Ajmer (Raj.) University)	Cyto-taxono- mic and..... Flora of Rajasthan	JRF:1 Conti- gency: Rs. 4000/- p.a.	20.3.75	-	2Yrs
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005/75	Dr. B.R. Singh Bihar University	Development of airfishes in India.	JRF:2 Contin- gency: Rs. 6500/- p.a.	23.3.75	-	2Yrs.	-
006/75	Dr. G.K. Lehri Regional College of Edu., Bhopal	Biochemicals aspects.....in Madhya Pradesh fisheries.	JRF:1 Contin- gency: Rs. 2000/- p.a.	6.3.75	6	months	-
010/75	Prof. A.B. Das, Visva Bharati	Engymatic Mech- anisms..... Americana (linn)	JRF:1 Contin- gency: Rs. 6000/- p.a.	3.6.75	6	months	-
012/75	Dr. A.G. Satnyanesan Instt. of Med. Sc. B.H.U.	Endocrine and neuroendocrineand water pollution	JRF:2 Contin- gency: Rs. 10000/- p.a.	12.8.75	-	1Yr.	-
013/75	Dr. D. Chandramohan Annamalai University	Studies on the Marine Antagoni- stic strepto- mycetes.	JRF:1 Lab- Asstt.1 Contin- gency: Rs. 5000/- p.a.	1.7.75	6	months	-
015/75	Dr. (Mrs.) Kunthala Jayaraman Madurai University	Transcriptional regulation of Educatyotic Development.	SRF:1	2.5.75	-	2Yrs.	Adc NR Rs. 200000
016/75	Dr. V.R. Muthukkaru- ppan Madurai University	Development of Immune Functions in Fishes.	SRF:1 Contin- gency: Rs. 5000/- p.a.	1.4.75	6	(No cost) months	-

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1975 BIOLOGICAL SCIENCES (CONTD.)

GENETICS

- 11 018/75 Prof. G.M. Reddy
Osmania Univ.
Genetic Enzymatic and Biochemical studies..... in maize.
JRF:1
Field
Asstt:1
Contingency:
Rs.10000/-
p.a. 7.3.75- 1 Yr.
- 12 019/75 Dr. S. Subramanyam
Osmania Univ
Cytogenetical Investigation on theeffect of some..... analysis.
JS. Asstt. I
Tech. 1
Contingency:
Rs. 5000/- 23.8.75 6 - months

13 BOTANY

- 13 20/75 Prof. D.D. Pant
Allahabad University
Comparative Morphotaxonomic studies of living and Fossil plants.
JRF:2
Lab-
Asstt:1 1.12.75 6 - months
- 14 025/75 Prof. S.K. Chatterjee
Burdean University
Studies on the Physiology of... practical implication.
JRF:2
Field
Asstt.1
Contingency:
Rs.10000/-
p.a. 29.9.75 6 - months
- 15 026/75 Dr. A.K. Chandra
Calcutta University
Exploring Biological..... organisms in crop plants.
JRF:2
Lab.
Asstt:1
Contingency:
Rs.5000/-
p.a. 15.11.75 6 - months
- 16 027/75 Dr. R.P. Purkayastha
Calcutta University
Investigation on the growth & for cultivation
JRF:2
Tech.
Asstt.1
Contingency:
Rs.5000/-
p.a. 1.10.75 6 - months

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75 BIOLOGICAL SCIENCES (CONTD.)BOTANY (CONTD.)

029/75	Prof. A.S. Paintal & Prof. S.C. Maheshwari Delhi University	Investigations on the..... in plants.	SRF:1 JRF:1 Contingency: Rs.10000/- p.a.	19.2.76	-	1 Yr.	-
030/75	Dr. B.D. Sharma Jodhpur University	Ferns & Fernalities of Raj..... studies.	JRF:1 Contingency: Rs.5000/- p.a.	19.9.75	6	months	-
C31/75	Dr. M.G. Panchaksharappa Karnatak University	Cytochemical Analysis of----- structures.	JRF:1 Contingency: 5000/- p.a.	1.10.75	-	1 Yr.	-
033/75	Dr. C.V. Subramanian Madras University	Study of the fungus flora of South India.	SRF:2 JRF:1 Cul. Asst:1 Driver:1 Travel: Rs.15000/- p.a. Contingency: Rs.5000/- p.a. Chemicals: Rs.10000/- p.a.	1.3.76	-	1½ Yr.	-
034/75	Prof. T.V. Desikachary Madras University	Studies on South Indian Algae	SRF:1 JRF:1 Contingency: Rs.10000/- Travel: Rs.5000/- Cul. Asst:1	24.3.76	6	months	-

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1975 BIOLOGICAL SCIENCES--(CONTD.)BOTANY

22	035/75	Dr. D. Subramanian Madras University	Biochemistry of Host..... plants.	SRF:1 JRF:1 Contingency: Rs. 7000/- p. a.	1.12.75	6 - months
23	037/75	Dr. R. Kalyanasundaram Madras University	Fungal Immunoserology	JRF:1 :1 Contingency: Rs. 1800/- p. a.	1.4.76	- ± Yr.
24	038/75	Dr. E.K. Janaki Ammal Madras University	Ethnobotanical Survey of South Indian Economic Plants with..... Primitive cultivars.	SRF:1 JRF:1 Field Asstt:1 Contingency: Rs. 10000/-	1.10.75	6 + months
25	039/75	Dr. A.R. Mehta, M.S. Univ. of Baroda	Physiological & Biochemical Higher plants....	JRF:2 Contingency: Rs. 5000/-	1.11.75	- 2 Yr.
26	040/75	Prof. P.S. Ramakrishnan North Eastern Hill Univ.	Ecosystem function of pine forests of Meghalaya	JRF:2 Field Asstt:1 Field Work:1 Rs. 4000/- Contingency: Rs. 6000/-	10.11.75	6 - months
27	041/75	Dr. Ramayya Osmania University	Floristics and foliar demotypes of the angiosperm of Hyderabad District.	Tech. Asstt:1 Contingency: Rs. 2500/-	7.3.75	6 - months

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75 BIOLOGICAL SCIENCES (CONTD.)TANY (CONTD.)

042/75	Dr. K.V.N. Rao, Osmania University	Investigations on the correlation between..... carrot explants.	JRF:2 Contin- gency: Rs.15000/- p.a.	1.3.76	6 - months	-	-
043/75	Dr. Baxi M.B.Sinha Patna University	Cytogenetic and Niosystematic Studies in ferns	SRF:1 JRF:1 Field Asstt:1 Contin- gency: Rs.7000/- p.a.	29.1.76	-	1 Yr.	-
044/75	Dr. G.L. Saha Sardar Patel University	Phytosociological Studies on vegetation of Gujarat State.	SRF:1 JRF:1 Asstt:1 Contin- gency: Rs.10000/- p.a.	17.11.75	-	1 Yr.	-
045/75	Prof. J.J. Shah Sardar Patel University	Studies in Sapwood.....in Gujarat.	SRF:1 JRF:1 Contin- gency: Rs.10000/- p.a.	14.11.75	6 - months	-	-
47/75	Dr. Sipra Guha Mukherjee J.N. Univ.	Effect of light and hormones onhigher plants.	SRF:1 JRF:1 Contin- gency: Rs.10000/- p.a.	1.8.75	4 - months	-	-

DGY 1975

49/75	Dr. Santosh Singh, John's College (Agra Univ.)	Ecology of High Attitude Soil Anthopods.	JRF:2 Contin- gency: Rs.5000/- p.a.	1.10.75	-	1½ Yr.	-
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ZOOLOGY 1975 (CONTD.)							
34.	050/75	Dr. R. Madhavi Andhra Univ.	Bionomics of Helminth Parasites of..... Melatigna.	Contingency: 13-9-75 Rs.3,000/- p.a.	-	-	8 mon
35.	054/75	Prof.M.S. Karungo Banaras Hindu University	Studies on the uses and prevention of aging mammalian tissues.	SRF : 1 JRF : 1 Contingency: Rs.20,000/- p.a.	-	-	1 yr
36.	056/75	Dr.A.S. Mikher- jee, Calcutta University	Genetic dissectionphos- phorpootein.	SRF : 1 JRF : 1 Tech.:1 Contingency: Rs.15,000/- p.a.	1-12-75	-	2 yrs
37.	057/75	Dr. A Choudhury Calcutta Univ.	Ecology of the tidalIsland Sundarbans, West Bengal.	JRF : 1 Field Asstt.:1	17-9-75	-	6 mont
38.	058/75	Dr. C.M.S. Dass & Dr. S. Dyrain- swami, Delhi University	The mammalian salivary..... differentiation.	JRF : 2 Lab.Asstt.:1 Contingency: Rs.15,000/- p.a.	13-9-75	-	2 yr
39.	060/75	Dr. K. Swarup Gorakhpur Univ.	Studies on endor- crine glands related..... certebrates.	JRF : 1 Contingency: Rs.5,000/- p.a.	1-11-75	-	1 yr
40.	061/75	Dr. V.C. Shah, Gujarat Univ.	Genetics, Cyto- genetics..... leucodema.	SRF : 1 JRF : 1 Contingency: Rs.15,000/-	1-12-75	4	- months
41.	062/75	Dr.S.C. Lakhotia Banaras Hindu University	Regulation of ruffing Gene..... Drosophila.	JRF : 1 Asstt.:1 Contingency: Rs.4,500/-	13-9-75	-	1 yr

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75 BIOLOGICAL SCIENCES (CONTD.)

063/75	Dr. S.D. Misra Jodhpur Univ.	Hydrobiology & productive of some..... freshwater... Jodhpur (Rajasthan).	JRF : 2 Tech. Asstt:1 Contingency: Rs.5,000/-	1-9-75	-	1 yr	-
066/75	Dr. V.P. Agrawal & Dr. S.V.S. Rana D.A.V. College, Muzaffarnagar (Meerut Univ.)	Studies on the effect..... heart and brain of a few mammals.	JRF : 1 Contingency: Rs.5,000/-	16-1-76	6	months	-
068/75	Dr. G.P. Shama Panjab Univ.	Cytogenetics the Mosquitoes of India.	JRF : 1 Lab. Asstt:1 Contingency: Rs.6,000/- p.a.	1-10-75	-	2 yr	-
070/75	Dr. N.C. Sukul, Visva Bharati	Studies on the Ecology..... diseased of crop plants.	SRF : 1 JRF : 1 Contingency: Rs.15,000/- p.a.	12-12-75	-	1 yr	-
071/75	Prof. Asit Barn Das, Visva Bharati.	Evaluation of Physiologicaland Damodar River (Durgapur, W.B.)	JRF : 1 Tech. Asstt.:1 Contingency: Rs.10,000/-	12-9-75	-	1 yr	-

EMISERY

072/75	Prof. D.P. Bama	Structural geography of the ribosomes and their sub- units.	SRF : 1 Tech. Asstt. 1 Contingency: Rs.7,500/- p.a.	1-10-75	6	months	-
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1975 BIOLOGICAL SCIENCES (CONTD.)

BIOCHEMISTRY

48. 075/75 Dr. K. Sivaraman The photo-chemistry of purines & nucleic acids. JRF : 1 Contingency: Rs.8,000/- p.a. Rs.8,000/- 19-2-76 6 months -

BIOLOGY

49. 079/75 D.V.K. Venugopalan Annamalai Univ. Studies on organic matter in the..... Porto Nov. JRF : 2 Contingency: Rs.10,000/- 20-11-75 - 1 yr

50. 080/75 Dr. K.K. Jyoti Jammu Univ. Studies on the productivity in Shuian-Sar Lake, Jammu JRF : 2 Contingency: Rs.5,000/- p.a. 21-9-75 - 1 yr

51. 081/75 Dr. J. Jayaraman Madurai Univ. Dynamic Nature of Mitochondrial Membrane Function in Relation to Cellular Environment. JRF : 2 Contingency: Rs.15,000/- p.a. 6-12-75 6 months -

52. 083/75 Dr. R. Jayaraman Madurai Univ. Genetics of RNA Polyme ase in Escherichia Coli. Tech: 1 (Rs.250/-) Contingency: Rs.15,000/- p.a. 1-9-75 6 months -

53. 085/75 Dr. P.K. Shrivastava, Punjabi Univ. Human anti-gens research programme. SRF : 1 JRF : 1 Animal Att: 1 Tech. Att: 1 Travel: Rs.10,000/- p.a. Contingency: Rs.2,000/- p.a. Working Expenses Rs.15,000/- p.a. 30.10.75 1 year

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75 BIOLOGICAL SCIENCES (CONTD.)

Physiology/Medicine

089/75	Dr. Shivnath Ghosal, Banaras Hindu University	Chemical and pharmacological.... Medicinal plants.	JRF : 1 JRF : 1 Contingency: Rs.10,000/- p.a.	13-6-76	6 months	-	-
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76 BIOLOGICAL SCIENCES

014/76	Dr. A.Rashid, Delhi Univ.	Improvement of crop plants through somatic cell hybridization.	JRF : 2 Contingency: Rs.10,000/-	1-6-76	-	1 yr	-
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066/76	Dr. G.C. Chatterjee & Dr. (Mrs.) A. Shama, Calcutta University	Studies on the Biochemical... living systems.	JRF : Animal Att:1 Contingency: Rs.12,000/- p.a.	-	-	2 yrs	-
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070/76	Dr. T.N. Anantha Krishnan, Loyola College, Madras.	Biotaxonomy of gall thrips and..... thrips gall.	JRF : 2 Contingency: Rs.10,000/- p.a.	1-7-76	6 months	-	-
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GEOLOGY & GEOPHYSICS

5

001/75	Dr. S.N. Bhalla Jigarh Muslim University	A study of Microfossils from the Goa & Kerala	JRF : 2 Contingency: Rs.5,000/-	24-1-76	-	1 yr	-
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002/75	Dr. Syed M. Zaimuddin, Jigarh Muslim University	Geo-Chemistry, Control Rajasthan Mica belt.	JRF : 2 Contingency: Rs.3,000/- p.a. Field work: Rs.2,000/-	15-1-76	-	1 yr	-
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GEOLOGY & GEOPHYSICS (CONTD.)							
3.	003/75	Dr. S. Sen, Calcutta University	Comparative studies semi-Arid environments.	JRF : 2 Contingency: & F.W.: Rs.7,000/- p.a.	-	6	-
4.	004/75	Dr. Aniruddha De, Calcutta University	Volcanic History ore mineralogy of the Deccan Trap flow & Region, M.P.	JRF : 1 Contingency: Rs.5,000/- p.a.	15-10-75	6	months
5.	007/75	Sh. S. Mitra Jadavpur Univ.	A study of the dispersion of mercury regions in Singhbhum, Gujarat & Tamil Nadu.	SRF : 1 Tech. Asstt.:1 Contingency: Rs.3,000/- p.a.	7-1-76	-	1 yr
6.	010/75	Dr. A.D. Mukherjee Jadavpur Univ.	Metamorphism & deformation of of sulphideto ore dressing.	JRF : 1 Contingency: Rs.2,000/- p.a.	20-12-75	6	months
7.	013/75	Dr. V. Venkat- achalapathy Mysore Univ.	a) Palynological... of Karnatak. b) Micro-Palaeon- biological... coast of India. c) Micropalaeon- tological investigations of the inter- trappeans of India.	Lab.Tech.:1 Working expenses and Contingency: Rs.5,000/- p.a.	1-10-76	6	months
8.	014/75	Prof. V.L.S.	Development of Integrated... boreholes.	JRF : 1 Techn.Asstt:1 Contingency: 10,000/- p.a. +	26-8-76	-	1½ Yr.

contd...

 2 3 4 5 6 7 8 9

**BIOLOGY &
 PHYSICS
 75 (CONTD.)**

6 months

Contd.	Prof. V.K. Gaur, Roorkee University		JRF : 1 Tech. : 1 Contingency: Rs. 10,000/-				
019/75	Dr. K.K. Singh, Vikram University	Acidic Mafic ultramafic magnetism.....joining regions.	JRF : 2 Lab. Asstt: 1 Contingency: Rs. 5,000/- p.a.	1-12-75	6	-	-

75 MATHEMATICS

001/75	Prof. K.N. Sri- vastava, M.A. College of Tech. Bhopal.	Stress distribution in composite Solids.	JRF : 1 Contingency: Rs. 2,000/- p.a.	10-3-75	-		1 yr-
002/75	Dr. O.S. Srivastav Gorakhpur University	Shock waves in dusty medium	JRF : 1 Contingency: Rs. 1,500/-	16-4-75	-		1 yr -
004/75	Dr. J. Gopal Andhra Univ.	Probability techniques..... complex variables.	JRF : 2 Contingency: Rs. 5,000/- p.a.	6-3-76	6	-	months
006/75	Dr. N. Rudraiah, Bangalore Univ.	1. Stability of conducting & non-conducting flows 2. Waves in comprehensible. 3. Flow problem problems.	SRF : 2 JRF : 1 Contingency: Rs. 5,000/- p.a. computation: Rs. 6,000/-	1-9-78	-		2 yrs -
008/75	Dr. Nabhari Parhi Bomhapur Univ.	A study of boundaryequations.	JRF : 1	13-12-75	6	-	months

contd...

1 2 3 4 5 6 7 8

1975 MATHEMATICS
(CONTD.)

- | | | | | | | | | |
|----|--------|---|--|--|----------|---|------|--------|
| 6. | 010/75 | Dr. A.P. Baisnab
Burdwan Univ. | A study on
operations in..
fixed points. | JRF : 1
Contingency:
Rs.2,000/-
p.a. | 21-10-75 | 6 | - | months |
| 7. | 011/75 | Dr. S.A. Chakra-
barty | Study of the
effect of....
plastic
media. | SRF : 1
JRF : 1
Contingency:
Rs.3,000/-
Computation:
Rs.2,000/- | 20-10-75 | 6 | - | months |
| 8. | 013/75 | Prof.(Miss) A.
George,
Kerala Univ. | Probability
models in
fertility. | JRF : 1
Contingency:
Rs.1,500/- | 17-12-75 | - | 2 yr | |

1976 GEOGRAPHY

- | | | | | | | | | |
|----|--------|--------------------------------------|--|---|--------|---|-------|--------|
| 1. | 004/76 | Dr. A.B. Mukerjee
Panjab Univ. | Service Centres &
regional.....
hills-Dun Treet. | Investi-
gator : 2
Cartographer-1
Travel: (Project
Rs.4,500/- was approved
for 1 year) | 1-8-77 | 3 | - | months |
| 2. | 008/76 | Prof. Moonis Raza
J.N. University | Transport network
commodity.....
Indian Economy. | RA : 1
JRF : 1
Computation:
Rs.27,000/-
for 2 years. | 4-5-76 | - | 2 yrs | |

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26-10-1979.

Item No. 1.02(b): To receive the items of information.

...

- (1) Aligarh Muslim University- J.N. Medical College-
Affairs of.

...

The Ministry of Education & Social Welfare sent a complaint made by Prof. Nassem Ansari of the J.N. Medical College, Aligarh Muslim University to the President, Medical Council of India against certain irregularities committed in the results and admissions for Post-graduate in the J.N. Medical College, Aligarh Muslim University. A copy of the said complaint was sent to the Vice-Chancellor, Aligarh Muslim University requesting for factual information and the views thereon of the University. The Vice-Chancellor, Aligarh Muslim University informed the Commission as under:

"Thank you for your letter of the above reference regarding alleged irregularities in the results and admissions in the JN Medical College, AMU. I have examined the details in consultation with the Dean, Faculty of Medicine and other functionaries and write to assure you that the complaint is obviously most exaggerated and grossly inaccurate.

Owing to communal riots in Aligarh City the University had to take a large number of steps partly to minimise the impact of riots and partly to take care of the consequences of the riot. While other departments of the University had to close down, it was only the J.N. Medical College and Hospital that continued to function through the period from October 6 to December 14 when the rest of the University resumed the classes. The regular working of the J.N. Medical College during these most difficult period has evoked considerable acclaim. In this regular functioning the Dean of the Faculty, the Hospital Superintendent and the professorial and other staff have played a key role. Far from the stigma mentioned in the letter of allegation, this institution deserves high praise for its functioning throughout this bad patch.

However, as several of our medical students live in the city of Aligarh and they were faced with the most extra-ordinary and depressing circumstances their studies and their concentration was bound to be seriously affected. The Examination Committee discussed this matter very thoroughly in the presence of the Dean of the Faculty of Medicine and others. It reached the conclusion after the most serious deliberation that it would not be doing favour at all if the students appearing in the M.B.B.S. examinations were given 1 per cent additional marks over and above the normal grace marks awarded by the normal rules.

No doubt a concession has been given to the M.B.B.S. students in their examinations. The impact on the emotions of the students left behind by the communal riots of a magnitude never before experienced by Aligarh, the long continued self-restraint exerted by the young students and the expectation of reward for the relief work undertaken by the students under highly charged and dangerous situations, made it necessary to view the examination results in a different perspective. There were instances when the students, held up in the city during sudden clamping of curfew, had to be brought to the examination centre under police escort on the request by the Dean.

Thus, when the results were far below the expectations of the students, the latter got terribly distressed and asked for a repetition of the examination or a review of the results. Repetition of the examination would have upset the University Schedule not only for this but subsequent years and established a dangerous precedent. It was considered less harmful to review the results. This was done by the examination committee which has a representative from the Faculty of Medicine in addition to the Dean. A uniform pattern for upgrading the marks was evolved by consensus and applied without prejudice. It is hoped that such a situation will never arise.

The Dean of the Faculty of Medicine who was a party to all these discussions and decisions did not resign on this score at all. He had personal reasons for his resignation as he explained in some detail. An exaggerated account linking the resignation of the Dean to the Award of marks etc. and the further exaggeration to the effect that senior Professors under the circumstances have resigned from office of the Dean need not be credited with any authenticity.

The office of the Dean and the Principal was held by the same incumbent till December 1977, when the office of the Principal was made independent. Since then the post of Principal has been advertised and the office has been temporarily held by a Professor (Prof. M.Zaheer) of the Medical College. Since the departure of this Professor on leave, the work of the Principal has been distributed as follows:

The administrative work concerned with the maintenance of buildings, electricity, water supply etc. is looked after by the Registrar, that with the hospital by the Superintendent and the work concerned with arrangement of lectures, transport of students, etc. by the Dean. Thus, it is not true that the Registrar is working as Principal of the medical college and no such orders have ever been issued.

The Indian Medical Council approved the Department of Medicine for registration of 6 postgraduate students every year. The Council has specified that the ratio of postgraduate students to postgraduate teachers should be 1:1. Since then, many teachers have reached the stage of supervising postgraduate research work. It is true that some of the teachers have gone abroad on leave for varying periods and their work, both in respect of under-graduate teaching and postgraduate research supervision, is being looked after by other teachers. Movement of teachers, as of other employees, is strictly guided by the consideration that the work does not suffer. Admission of 8 students in the Department of Medicine is thus strictly in accordance with the recommendation of the I.M.C. There are seven postgraduate teachers at present in the Department and the eight teachers are due to return in October, 1979. This number is exclusive of the teachers on leave.

The reply received from the vice-Chancellor, Aligarh Muslim University was sent to the Medical Council of India for advice. The Medical Council of India has sent a copy of the letter written by the President of the Medical Council of India to the Vice-Chancellor Aligarh Muslim University. The letter sent by the President is reproduced below:-

The Executive Committee of the Medical Council of India at its meeting held on 5th June, 1979, considered the various complaints received about the state of affairs obtained at J.L.M. Medical College, Aligarh of your university, vis-a-vis, the

irregularities committed especially in relation to the grant of grace marks so as to enable large number of undeserving candidates to pass the MBBS examinations. The Executive Committee had also before it a copy of your D.O. letter No.89/VC dated 20.4.79, which you had addressed to the Secretary, University Grants Commission New Delhi, explaining the position. According to the complaint received, in the matter of admission to postgraduate courses, especially for MD(Gen.Med), some irregularities have been committed.

A question had also been raised before the consultative Committee of the Parliament for the Ministry of Health and F.W., where the attention of the Chairman of the Committee was drawn to the alleged fall in the standard of MBBS. course and this was attributed to some of the Vice-Chancellor giving grace marks even when there was absolutely no justification for awarding these grace marks.

In view of the above, the Executive Committee felt gravely concerned with the above situation prevailing in the medical college of your university and I was requested by the Executive Committee to bring this matter to your notice to take immediate action to remedy the wrongs done. I am therefore to request you to kindly take effective steps to rectify the irregularities and also to ensure that this type of irregularities do not occur in the future. A detailed report about the action taken by you in the matter may please be sent at the earliest for the information of the Executive Committee.

In this connection I may bring to your kind notice that if the present situation is allowed to continue, the Medical Council of India would be constrained to take necessary action u/s 19 of the Indian Medical Council Act, 1956 for the withdrawal of the recognition of the medical qualifications granted by your university.

Thanking you for your co-operation and immediate action.

The Commission had requested the Vice-Chancellor, Aligarh Muslim University to indicate the action taken by the University on the observations of the Medical Council of India. A copy of the letter addressed to the President, Medical Council of India by the Vice-Chancellor of AMU is attached (Annexure).

(2) The Indo-British Co-operation Programme.

The University Grants Commission has been funding the following programmes:-

- 1) Collaboration between universities in India and UK in specified fields involving exchange of faculty, and implementation of joint research programme;
- 2) Exchange of younger scientists between the two countries.

Under the first programme, some academic links had been established and work has been going on. The British Council had made some suggestions with regard to developing links in areas of humanities and social sciences and Commission has constituted a committee to recommend areas which may be taken up for these links. The British Council have now informed the Commission that because of the cuts imposed by the British Government on public expenditure, their budget has been affected, and this would affect their participation in schemes already agreed to for 1979-80. The British Council have been instructed by the British Government not to take up any new links under the IBUC programme at the moment and even those proposals which the British Council had made to the UGC should be kept pending for the time-being. They have further intimated that they would not be able to fund further visits from the two sides scheduled for 1979-80. With regard to the exchange of younger scientists programme, the British Council have reduced the number of Indian scholars accepted for visit to UK under this programme for 1979-80. For 1980-81, they have suggested that the UGC may invite nominations for this programme and as soon as they have final information from the British side for funds for this programme, they would let the Commission know.

-.-.-

- (3) Revision of scales of pay of readers in colleges affiliated to the universities in UP and Orissa States.

The Commission had sometime back received a proposal from the Government of UP for the revision of scales of pay of persons who were specifically appointed as readers in the colleges in the pre-revised scale of pay of Rs.700-1100. The proposal was placed before the Committee appointed by the Commission to review the question of revision of scales of pay of senior lecturers/readers in colleges of State universities and as recommended by the committee certain additional information was asked for from the State Govt. The Committee also felt that the revision of scales of pay of the ~~etc~~ while senior lecturers/readers in colleges of the States was not an all-India problem and that each such proposal from a

State may be considered on the merits of each case.

The Govt. of India, Ministry of Education & Social Welfare also referred to the Commission a proposal from the Government of Orissa regarding the provision of a separate grade of readers appointed in the affiliated colleges of Orissa prior to revision of scales of pay as agreed to by the Govt. The Government of Orissa was also requested to supply certain information as in the case of Government of UP to enable the Commission to consider the matter further.

In view of the fact that the Governments assistance towards the revision of scales of pay of teachers of the Colleges and universities in the States has already ended on March 31, 1979, the Ministry of Education & Social Welfare was requested to advise whether the proposal of the Government of Orissa referred to by them and also the proposal received by the UGC from the Govt. of UP regarding revision of scales of readers in the colleges affiliated to the universities of these states may be considered by the Commission.

The Government of India, Ministry of Education and Social Welfare has since informed the Government of Orissa that the matter has been considered by the Ministry separately but it is regretted that it would not be possible for the Ministry to accept the proposal for a separate cadre and grade of readers in affiliated colleges which has not been visualised under the scheme of revision of scales of pay and to sanction central assistance for the purpose. The State Government is, however, free to consider this matter on merits, if necessary in consultation with the UGC. The decision of the Government of India regarding readers in Orissa State would to some extent apply in the case of readers in the colleges affiliated to the universities in the UP State also.

In this connection it may also be mentioned that the Government of India, Ministry of Education and Social Welfare have since conveyed its approval to the proposal to sanction w.e.f. 7.7.79 the scale of Rs. 1200-1900 as personal to the lecturers who were actually placed in selection grade in colleges affiliated

: 7 :

to Delhi University prior to the issue of the order by the Commission to abolish the selection grade. The decision of the Government of India in this regard has already been reported to the Commission at ~~its~~ meeting held on September 21, 1979 under item No.1.02(b).

Annexure to Item No. 120E(b)

Copy of D.O.No.202/WC dated 14.7.79 from
Dr. A.M. Khusra, Vice-Chancellor, Aligarh Muslim University
addressed to Dr. B.N. Sinha, President Medical Council
of India, Lucknow.

Your reference d.o. No.MCI-34(ii)/79-Med./8517 dated
16 June, 1979.

Subject: J.N.Medical College Aligarh affiliated to
Aligarh Muslim University-affairs of

Dear Dr. Sinha,

Thank you for your letter of the aforementioned reference, I think that when riots occurred in Aligarh city during October, November and December 1978, instead of calling the examination Committee of the University to decide what should be done to take care of the serious discomfiture, and in some cases, mental agony which the medical students living in the riot-torn city were passing through, I should have requested the Dean of the Faculty of Medicine and some members of the Examination committee to meet to seek your advice as to how to handle this problem. I am sorry that we did not consult you at that time and decided in the Examinations Committee **in consultation with the Dean of the Faculty of Medicine and other relevant functionaries.** I went to assure that the decision to give one per cent grace marks cannot be attributed to the Vice-Chancellor or any other single persons. It was a collective decision by the Examination Committee after a full consultation of all the relevant facts available to us.

However, in the light of your letter and the deliberations of the Executive Committee of the Medical Council of India, I will soon get the matter discussed at various levels in the Faculty of Medicine and in other relevant bodies of the University so that a situation like the one under reference does not arise in the future. I will also communicate to you, as desired by you, the effective steps that we are taking to rectify the irregularity and to ensure that this type of irregularity does not occur in the future.

We went to ensure that the J.N.Medical College and the Faculty of Medicine sets a trend of improvement both at the academic and the administrative levels and thus continue to deserve recognition of its medical qualifications by the Medical Council of India. As soon

p.t.o.

as I have finished the consultation and taken action, I will write to you in detail. Meanwhile, I have asked the Dean of the Faculty of Medicine, Professor P.M. Saxena to meet you to discuss some further details of this problem. I hope to go to Lucknow in the near future and would like to inform you before hand in order to meet you there if you are free.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated: 26th October, 1979

Item No.: 1.02(c) : To approve the statement of proposals
which could not be accepted by the Commission

- (1) College science Improvement Programme-
Rejection of follow up proposals.

.....
Eight colleges from whom the followup proposals
could not be accepted under COSIP have already been
reported to the Commission.

The COSIP followup proposal received from
Tata College Chaibasa has since been examined
and could not be accepted (vide orders dated 3.9.1979).
Keeping in view the nature of proposals, and also the slow
pace of implementation of activities taken up in
first phase in this college.

UNIVERSITY GRANTS COMMISSION

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Meeting :

Dated: 26th October, 1979.

Item No.1.03: To approve the statement of grants released
from 1st September, 1979 to 30th September, 1979.

Section I Non-Plan Project

8,06,26,538

Section II Plan Projects

A. To Central and States Universities for Humanities.	2,99,978	}		
B. To Central and States Universities for sciences	28,79,512			
C. To Central and States Universities for Engineering and Technology.	15,67,874			
D. To constituent/Affiliated Colleges.	39,38,887			1,18,03,772
E. To Central and State Universities for Miscellaneous Schemes.	30,16,160			
F. Miscellaneous Expenditure.	1,01,361			

Section III.

Expenditure from grants received from Central Government and other schemes for specific purposes.

66,321

Total

9,24,96,630

UNIVERSITY GRANTS COMMISSION

.....

Meeting:

Dated: 26th October, 1979

Item No. 1.04(a): To receive a statement showing expenditure incurred by the University Grants Commission during the year 1979-80 (upto 30th September, 1979).

Section I Non Plan Project	Budget Estimates 1979-80 (Rs. in lakhs)	Provisional Expenditure upto 30.9.1979 (Rs in lakhs)
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1. Administration Charges	379.00	39.65
2. <u>i) Block Grants</u>		
i) Grants to Central Universities	2675.00	1337.00
ii) Grants to Instt. deemed to be universities.	560.00	245.00
iii) Grants to State Universities for specific purposes.	9.00	4.50
3. Maintenance Grants to Delhi Colleges.	1000.00	551.67
4. <u>Grants not covered under Block Grants.</u>		
a) Health Services Scheme	18.00	-
b) House Building advance to Staff of Central Universities.	25.00	24.00
5. 1. Scholarships and Fellowships under Engg. & Tech.	100.00	15.22
2. <u>Teacher Awards</u>		
a) Teacher Fellowships)	87.43
b) National Fellowships)	1.90
c) National Associates) 450.00	0.65
d) National Lecturers)	9.98
e) Utilisation of Services of Retired Teachers.)	
6. <u>Research Fellowships</u>		
a) Junior/Senior Research Fellowships (Humanities/Science))	112.45
b) Research Associateships)	3.04
7. Grants payable to Non University Institutions Fellowships/Awards.)	2.22
Total-	4916.00	2434.71

Section II Plan Projects.

A. Grants to Central & State Universities for Humanities	400.00	221.35
B. Grants to Central & State Universities for Science.	785.00	553.12
C. Grants to Central & State Universities for Engg: & Technology	300.00	239.09
D. Grants to Constituent/ Affiliated Colleges.	731.00	466.68
E. Grants to Central & State Universities for Misc. Scheme	835.00	514.02
F. Miscellaneous Expenditure.	45.00	16.72
Total section II.	<u>3096.00*</u>	<u>2010.98</u>
Total section I & II	<u>8012.00</u>	<u>4445.69</u>

*Rs. 296.00 lakhs to be met out of the opening balance available as on 1.4.1979.

SECTION III EXPENDITURE OUT OF GRANTS RECEIVED FROM GOVERNMENT OF INDIA AND OTHER SOURCES FOR SPECIFIC PURPOSE

A. Out of grants received from Ministry of Education & Social Welfare.

i) Evaluation of Books	1250	
ii) National Sports Organisation Programme (Continuing Scheme)		
a) Construction of Gymnasium	2,30,000	
b) Play fields	1,49,217	
iii) Adult Education	4,40,000	(Refunded to Ministry of Education & Social Welfare)
B. National Service Scheme	28,820	

C. Out of Interest received on Endowment Funds

i) Dr. Zakir Hussain Memorial Lectures	19,489
ii) Ram Charit Manas	1,04,000
iii) Ambedkar Memorial Lectures	5,481
Total Section III	<u>9,78,257</u>

Total Section I, II&III- 4455.47 lakhs

Section IV Deposits & Advances

v) Conveyance Advance	6,765
i) Festival Advance	10,600
i) Flood Advance	2,000
v) Fan Advance	200
) House Building	75,630
Total section IV	<u>95.195</u>

.....
 Expenditure during 1978-79 upto 30.9.78 was as under:-
 (Rupees in lakhs)

Section I Non-Plan Project :	1871.79
Section II Plan Projects. :	<u>1853.74</u>
Total Section I&II	<u>3725.53</u>

UNIVERSITY GRANTS COMMISSION

....

Meeting:

Dated: 26th October, 1979

Item No. 1.04(a): To receive a statement showing expenditure incurred by the University Grants Commission during the year 1979-80 (upto 30th September, 1979).

Section I Non Plan Project	Budget Estimates 1979-80 (Rs. in lakhs)	Provisional Expenditure upto 30.9.1979 (Rs in lakhs)
Administration Charges	379.00	39.65
<u>i) Block Grants</u>		
i) Grants to Central Universities	2675.00	1337.00
ii) Grants to Instt. deemed to be universities.	560.00	245.00
iii) Grants to State Universities for specific purposes.	9.00	4.50
Maintenance Grants to Delhi Colleges.	1000.00	551.67
<u>Grants not covered under Block Grants.</u>		
a) Health Services Scheme	18.00	-
b) House Building advance to Staff of Central Universities.	25.00	24.00
1. Scholarships and Fellowships under Engg. & Tech.	100.00	15.22
2. <u>Teacher Awards</u>		
a) Teacher Fellowships)	450.00	87.43
b) National Fellowships)		1.90
c) National Associates)		0.65
d) National Lectures)		9.98
e) Utilisation of Services of Retired Teachers.)		
3. <u>Research Fellowships</u>		
a) Junior/Senior Research Fellowships (Humanities/Science)		112.45
b) Research Associateships		3.04
4. Grants payable to Non University Institutions Fellowships/Awards.		2.22
Total-	4916.00	2434.71

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

....

Meeting :

Dated: 26th October, 1979.

Item No.1.03: To approve the statement of grants released
from 1st September, 1979 to 30th September, 1979.

Section I Non-Plan Project

8,06,26,538

Section II Plan Projects

A. To Central and States Universities for Humanities.	2,99,978	}		
B. To Central and States Universities for sciences	28,79,512			
C. To Central and States Universities for Engineering and Technology.	15,67,874			
D. To constituent/Affiliated Colleges.	39,38,887			1,18,03,772
E. To Central and State Universities for Miscellaneous Schemes.	30,16,160			
F. Miscellaneous Expenditure.	1,01,361			

Section III.

Expenditure from grants received from Central Government and other schemes for specific purposes.

66,325

Total

9,24,96,635

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979

Item No. 1.04(a): To receive a statement showing expenditure incurred by the University Grants Commission during the year 1979-80 (upto 30th September, 1979).

Section I Non Plan Project	Budget Estimates 1979-80 (Rs. in lakhs)	Provisional Expenditure upto 30.9.1979 (Rs in lakhs)
A. Administration Charges	379.00	39.65
B. i) <u>Block Grants</u>		
i) Grants to Central Universities	2675.00	1337.00
ii) Grants to Instt. deemed to be universities.	560.00	245.00
iii) Grants to State Universities for specific purposes.	9.00	4.50
C. Maintenance Grants to Delhi Colleges.	1000.00	551.67
D. <u>Grants not covered under Block Grants.</u>		
a) Health Services Scheme	18.00	-
b) House Building advance to Staff of Central Universities.	25.00	24.00
1. Scholarships and Fellowships under Engg. & Tech.	100.00	15.22
2. <u>Teacher Awards</u>		
a) Teacher Fellowships	450.00	87.43
b) National Fellowships		1.90
c) National Associates		0.65
d) National Lectures		9.98
e) Utilisation of Services of Retired Teachers.		
3. <u>Research Fellowships</u>		
a) Junior/Senior Research Fellowships (Humanities/Science)		112.45
b) Research Associateships		3.04
4. Grants payable to Non University Institutions Fellowships/Awards.		2.22
Total-	4916.00	2434.71

Section II Plan Projects.

A. Grants to Central & State Universities for Humanities	400.00	221.35
B. Grants to Central & State Universities for Science.	785.00	553.12
C. Grants to Central & State Universities for Engg: & Technology	300.00	239.09
D. Grants to Constituent/ Affiliated Colleges.	731.00	466.68
E. Grants to Central & State Universities for Misc. Scheme	835.00	514.02
F. Miscellaneous Expenditure.	45.00	16.72
Total section II.	<u>3096.00*</u>	<u>2010.98</u>
Total section I & II	<u>8012.00</u>	<u>4445.69</u>

*Rs. 296.00 lakhs to be met-out of the opening balance available as on 1.4.1979.

SECTION III EXPENDITURE OUT OF GRANTS RECEIVED FROM
GOVERNMENT OF INDIA AND OTHER SOURCES FOR SPECIFIC PURPOSE

A. Out of grants received from Ministry of Education & Social Welfare.

i) Evaluation of Books	1250	
ii) National Sports Organisation Programme (Continuing Scheme)		
a) Construction of Gymnasium	2,30,000	
b) Play fields	1,49,217	
iii) Adult Education	4,40,000	(Refunded to Ministry of Education & Social Welfare)
B. National Service Scheme	28,820	
C. Out of Interest received on Endowment Funds		
i) Dr. Zakir Hussain Memorial Lectures	19,489	
ii) Ram Charit Manas	1,04,000	
iii) Ambedkar Memorial Lectures	5,481	
	<u>9,78,257</u>	

Total Section III

4455.47 lakhs

Total Section I, II&III-

Section IV Deposits & Advances

i) Conveyance Advance	6,765
ii) Festival Advance	10,600
iii) Flood Advance	2,000
iv) Fan Advance	200
v) House Building	75,630
	<u>95,195</u>

Total Section IV -

95.195

Expenditure during 1978-79 upto 30.9.78 was as under:-
(Rupees in lakhs)

Section I Non-Plan Project :	1871.79
Section II Plan Projects. :	<u>1853.74</u>
Total Section I&II	<u>3725.53</u>

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979.

Item No.1.04(b) : To receive a statement showing the sanctions and bills pending as on 30.9.1979.

Amount Involved

	<u>Non Plan</u> (Rs. in lakh)	<u>Plan</u> (Rs. in lakhs)
a) 1939 sanctions issued for which TR bills were awaited from the Universities & Colleges.	697.11	147.49
b) 129 bills were pending for making payment to the institutions.	8.21	3.81
Total	<u>705.32</u>	<u>151.30</u>

SECTION 2

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

.....

Meeting:

Dated: 26th October, 1979.

Item No.1.04(h) : To receive a statement showing the sanctions and bills pending as on 30.9.1979.

	<u>Amount Involved</u>	
	<u>Non Plan</u> (Rs. in lakh)	<u>Plan</u> (Rs. in lakhs)
a) 1939 sanctions issued for which TR bills were awaited from the Universities & Colleges.	697.11	147.49
b) 129 bills were pending for making payment to the Institutions.	8.21	3.81
Total	<u>705.32</u>	<u>151.30</u>

SECTION 2

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 26th October, 79

Item No. 2.01: To consider the report of the Committee appointed by the UGC for making an assessment of the B.Ed. Course through Correspondence at Rajasthan University, Jaipur.

.....

The University Grants Commission appointed a Committee consisting of the following members for making an assessment of B.Ed. course through Correspondence at Rajasthan University with particular reference to the need, conditions of admission, standard, quality of instructional material, organisational set-up, fees etc:

1. Professor Salamat Ullah
Professor of Education
Kashmir University
Srinagar
2. Dr. T.R. Sharma
Dean
Faculty of Education &
Head of the Department of
Education & Community Service
Punjabi University
Patiala
3. Professor R.C. Das
Dean (Academic) & Head of the
Department of Teacher Education
N.C.E.R.T.
New Delhi
4. Shri Rudder Dutt
Principal
School of Correspondence Courses &
Continuing Education
University of Delhi
Delhi
5. Shri M.R. Gupta
Under Secretary
U.G.C.
New Delhi

The Committee visited the Institute of Correspondence Studies and Continuing Education, Rajasthan University, Jaipur, on the 18th May, 1979 and had discussions with the University authorities. The report of the Committee is attached (Annexure). The main observations and recommendations of the Committee are as under:-

1. The Committee noted that there was a backlog of 40,000 untrained teachers in Rajasthan. The Committee was informed that Primary School teachers who graduated after joining services also are interested in obtaining the B.Ed. degree. Many of them are not able to join the regular courses because of economic and other constraints. In several schools graduate and post-graduate teachers are also working. These untrained graduate and postgraduate teachers also desire to obtain B.Ed. degree. The Committee noted that 24 colleges in the University in Rajasthan State are imparting instruction in B.Ed. course. It was also brought to the notice of the Committee that nearly 5,000 students receive instruction through these colleges. The Committee was informed that during the first year of the introduction of the B.Ed. Correspondence Course the first year enrolment was 650 in 1975-76. Later on the University realised that in order to provide effective instruction it was necessary to reduce the number of students and decided 240 students for the course. The Committee noted that out of 231 students who appeared for the course in 1977-78, 65 passed in first division, 151 in second division and 14 in third division.
2. The Committee discussed with the faculty members the question of eligibility of students for admission to the B.Ed. course and suggested the following guidelines:-
 - i) trained primary school teachers who are graduate should be given first preference.
 - ii) Postgraduate teachers with three years experience in teaching particular in the subject of science and mathematics be considered second in order of preference.
 - iii) B.A., B.Sc. with very good academic record should be considered third in order of preference.

3. The Committee was of the view that the faculty strength of the Institute of Correspondence Studies and Continuing Education can handle a total intake of 300 students. The Committee, therefore, suggested that intake may be raised from 240 to 300
4. The Committee noted that 80 per cent of the students are admitted from Rajasthan and 20 per cent from other states. The Committee felt that this ratio should be maintained.
5. The Committee discussed the question of qualification for staff requirement in the Institute.
The following qualifications were suggested:-
 - i) M.A., M.Ed. with three years teaching experience.
 - ii) In case of teachers having M.Phil. or Ph.D. degree in Education the requirement of M.A. degree may be relaxed but such teachers may normally be assigned the subjects of pedagogy.
 - iii) For each method subject one teacher be appointed in the Institute.
6. The Committee discussed the question of total staff on the basis of compulsory theory papers and subject papers. The Committee was of the view that the following core staff be appointed in the Institute:

Reader	One
Lecturer	Ten

Besides the Committee was of the view that in case of need, part-time staff may be appointed for the purpose of supervision of teaching and such other work as may be necessary.

The Committee was informed that the students are required to come for 8 weeks during the summer vacation in the beginning of the course and 8 weeks towards the end of the course. In between the students are required to come for one month for practice teaching. In all it was pointed out that student has to stay on the campus for 110 days during

a year. The Committee was satisfied that with this state of intensive teaching programme of the Institute it was possible for the Institute to handle course requirement and compete with regular students.

However, the Director pointed out that there was a great difficulty for hostel accommodation for the students.

7. The Committee, therefore, strongly recommended that a hostel for 200 students be provided for the Institute and the University should approach the State Government/UGC for this purpose.

The Committee recommended that the UGC should consider the provision of a hostel for 200 students of the correspondence courses favourably.

8. The Committee recommended that the students were required to pay nearly Rs. 1500/- in the form of fees. This Committee felt it is exorbitant. The Director pointed out that the policy of University and the State Government so far was that correspondence education should be self-financing. The members of the Committee were of the view that this approach need modification and that University/State Govt. should provide assistance to the correspondence students in the same manner as is provided for regular students. The Committee, therefore, recommended that tuition fees should be reduced to Rs. 300/- and other fees should not exceed Rs. 200/- for full course. In this way a total fees charged from students should not exceed Rs. 500/- for the full course.

9. Keeping in view the expenditure of the Institute about this course around Rs. 3.5 lacs, the Committee noted that it would lead to a deficit of about Rs. 2 lacs. The Committee recommended, to the UGC that it should provide a grant of Rs. one lac to meet the deficit of the course and the balance of the deficit should be provided by the University/State Government.

10. The Committee recommends that the B.Ed. course should be treated at par with other B.Ed. course and assistance may fully be provided by the UGC on the same basis as to other postgraduate courses

i.e. Rs. one lac per year per subject for a period of five years. The Committee also discussed with the faculty members the question of making 33 per cent assignments compulsory.

- ii. This means that the student was required to write 24/25 assignments besides the term papers. The Committee was of the view this imposed a very heavy burden on the student and therefore, recommended that the number of assignments should be reduced to 25 per cent of the total number of lessons sent.

The matter is placed before the Commission for consideration.

DS(AE)/EQ(ER)

Annexure to Item No. 2.01

Report of the Committee appointed by the UGC for making an assessment of the B.Ed. Course through Correspondence, at Rajasthan University.

.....

The University Grants Commission appointed a Committee consisting of the following members for making an assessment of B.Ed. course through Correspondence at Rajasthan University with particular reference to the need, conditions of admission, standard, quality of instructional material, organisational set-up, fees etc.:

1. Professor Salamat Ullah
Professor of Education
Kashmir University
Srinagar.
2. Dr. T.R. Sharma
Dean,
Faculty of Education &
Head of the Department of
Education & Community Service
Punjabi University
Patiala
3. Professor R.C. Das
Dean (Academic) &
Head of the Department
of Teachers Education
N.C.E.R.T.
New Delhi
4. Shri Rudar Dutt
Principal
School of Correspondence Course &
Continuing Education
University of Delhi
Delhi
5. Shri M.R. Gupta
Under Secretary
U.G.C.
New Delhi.

The Committee visited the Institute of Correspondence Studies and Continuing Education, Rajasthan University, Jaipur, on the 18th May, 1979 and had

discussions with Dr. M.L. Mishra, Director of the Institute and the teachers associated with this course. The Committee also had the benefit of discussion with Professor Daya Krishna, Pro-Vice-Chancellor, University of Rajasthan, Jaipur.

The University of Rajasthan has a score of Teacher Training Colleges affiliated to it. Even the temporarily affiliated Teachers' Training Colleges which seek affiliation on year to year basis are receiving applications over ten times the sanctioned seats, and they keep on pressing the University to increase the number of seats allotted to them. There is a pressing need from hundreds of working teachers in the Education Department of Government of Rajasthan and other States who have been deprived of motions in the absence of a degree in Education. This fact was confirmed during the session 1976-77 when 6 candidates were admitted out of 1750 applicants, who applied for admission to this course on a very short notice and advertisement. During this session to recommend admission to this course and other allied issues, a Committee recommended that intake capacity of the B.A. S.S.C.O. Course should consist of four units of 60 students each under normal conditions, but in no case should the enrolment exceed 300 students in each year. The recommendations accepted by the Academic Council, Syndicate of the University.

was appointed by the Vice-Chancellor, the Committee,

In pursuance of this the intake has been reduced to 240 seats only. The demand for this course has been continuously increasing as is evident from the table below:-

Session	No. of applications received	Admission
1976-77	1750	650 Arts Science
1977-78	1703 (including 159 received late)	240 Science Commerce Arts
	Arts	1200
	Science	262
	Commerce	47
	Not eligible	35

1978-79	2080 (including 140 received late)	240	Science	60
			Commerce	12
			Arts	168
	Arts	1551		
	Science	275		
	Commerce	69		
	Not eligible	45		
1979-80	1852	240	Science	60
			Commerce	12
			Arts	168
	Arts	1536		
	Science	170		
	Commerce	93		
	Not eligible	53		

Organisational Set-up

The Course is being run along the lines, the B.Ed. S.S.C.C. Course is run by the Regional College of Education and the Government Teachers' Training College, Ajmer & Bikaner. The University has Faculty of Education into a number of well-known under-graduate and post-graduate colleges affiliated to it. There is no separate teaching Department of Education in the University.

The Institute has the following sanctioned staff:-

Coordinator	1
Lecturers	12

A Committee was appointed to suggest staffing pattern for the B.Ed.S.S.C.C. Course by the Vice-Chancellor. The Committee has recommended the following staff pattern for four units of 60 students each:

Professor	1
Reader	1
Lecturers	14

Annexure to Item No. 2.01

Report of the Committee appointed by the UGC for making an assessment of the B.Ed. Course through Correspondence, at Rajasthan University.

.....

The University Grants Commission appointed a Committee consisting of the following members for making an assessment of B.Ed. course through Correspondence at Rajasthan University with particular reference to the need, conditions of admission, standard, quality of instructional material, organisational set-up, fees etc.:

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The Committee visited the Institute of Correspondence Studies and Continuing Education, Rajasthan University, Jaipur, on the 18th May, 1979 and had

a year. The Committee was satisfied that with this state of intensive teaching programme of the Institute it was possible for the Institute to handle course requirement and compete with regular students.

However, the Director pointed out that there was a great difficulty for hostel accommodation for the students.

7. The Committee, therefore, strongly recommended that a hostel for 200 students be provided for the Institute and the University should approach the State Government/UGC for this purpose.

The Committee recommended that the UGC should consider the provision of a hostel for 200 students of the correspondence courses favourably.

8. The Committee recommended that the students were required to pay nearly Rs. 1500/- in the form of fees. This Committee felt it is exorbitant. The Director pointed out that the policy of University and the State Government so far was that correspondence education should be self-financing. The members of the Committee were of the view that this approach need modification and that University/State Govt. should provide assistance to the correspondent students in the same manner as is provided for regular students. The Committee, therefore, recommended that tuition fees should be reduced to Rs. 300/- and other fees should not exceed Rs. 200/- for full course. In this way a total fees charged from students should not exceed Rs. 500/- for the full course.

9. Keeping in view the expenditure of the Institute about this course around Rs. 3.5 lacs, the Committee noted that it would lead to a deficit of about Rs. 2 lacs. The Committee recommended, to the UGC that it should provide a grant of Rs. one lac to meet the deficit of the course and the balance of the deficit should be provided by the University/State Government.

10. The Committee recommends that the B.Ed. course should be treated at par with other B.Ed. course and assistance may fully be provided by the UGC on the same basis as to other postgraduate courses

i.e. Rs. one lac per year per subject for a period of five years. The Committee also discussed with the faculty members the question of making 33 per cent assignments compulsory.

11. This means that the student was required to write 24/25 assignments besides the term papers. The Committee was of the view this imposed a very heavy burden on the student and therefore, recommended that the number of assignments should be reduced to 25 per cent of the total number of lessons sent.

The matter is placed before the Commission for consideration.

DS(AE)/EG(ER)

Annexure to Item No. 2.01

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was appointed by the Vice-Chancellor, the Committee,

In pursuance of this the intake has been reduced to 240 seats only. The demand for this course has been continuously increasing as is evident from the table below:-

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Organisational Set-up

The Course is being run along the lines, the B.Ed. S.S.C.C. Course is run by the Regional College of Education and the Government Teachers' Training College, Ajmer & Bikaner. The University has Faculty of Education into a number of well-known under-graduate and post-graduate colleges affiliated to it. There is no separate teaching Department of Education in the University.

The Institute has the following sanctioned staff:-

Coordinator	1
Lecturers	12

A Committee was appointed to suggest staffing pattern for the B.Ed.S.S.C.C. Course by the Vice-Chancellor. The Committee has recommended the following staff pattern for four units of 60 students each:

Professor	1
Reader	1
Lecturers	14

Part-time lecturers 14 (to be employed during Summer Contact Camps provided that there is one Lecturer for each of the School subject allowed in the Institute of Correspondence Course for B.Ed.).

Instructional Material:

The lessons for the B.Ed. Summer School-cum-Correspondence Courses are got written by experienced Faculty members in the Faculty of Education and outside Rajasthan. The University is also getting cooperation from the experts in the field from the N.C.E.R.T.

A similar process is followed for review of lessons too. The University has also appointed a Subject Committee with the following members to regulate this work:

1. Head of the Department
2. Convenor, Committee of Course/Board of Studies
3. Subject Incharge, Institute of Correspondence Studies.
4. University Professor in the Subject
5. Faculty Members in the subject/from the Department
6. Affiliated Colleges
7. Director, Institute of Correspondence Studies.

The function of the Committee is to review the panel of lessons framers and reviewers.

Course of Study and Camps:

The Course of Study extends over a period of four months with the following syllabus:

The University has prescribed for this course six Theory papers as under:-

- i) Philosophical and Sociological Foundation of Education (I paper)
- ii) Philosophical and Sociological Foundation of Education (II paper)
- iii) Psychological Foundations of Education
- iv) Workshop in Teaching

v & Content-cum-Methodology in two school subjects
vi) out of the following:

1. Hindi
2. Sanskrit
3. English
4. Social Studies
5. History
6. Civics
7. Economics
8. Biology
9. Physics
10. Chemistry
11. Mathematics
12. - Commerce

This includes an intensive programme of instruction and study on the University Campus during two Summer vacations. It requires a student to necessarily attend a total 120 days contact programme organised by the Institute in three instalments during the academic session.

The intervening period of ten months between the two summer vacations would be utilised for supervised field experience including practice training. The practice training is required to deliver twenty lessons in each of the two school subjects in school of Jaipur City and to complete practice assignments. The practice teaching programme thus run for whole of the year as the students are called in four batches for this Contact Programme of practice teaching.

Every student teachers is required to submit 33% answer to questions given at the lesson on theory papers i.e. Response sheets - failing which a student is not allow to sit for the B.Ed. examination of the University.

Two test are also conducted at the end of Summer Contact Programme.

A University examination for the degree is being held during the last week of the second summer session of the Campus instruction and study.

The University has prescribed inter-alia the following conditions for admission to B.Ed. Course:

Eligibility

i) A whole time paid inservice teacher who has obtained his Bachelor's degree in Arts/Commerce/Science (including Agriculture) of the University or of any other University recognised for this purpose by the Syndicate with any of the two school subjects and possesses minimum of 3 years experience of teaching in a school (Primary/Secondary/Higher Secondary) is eligible for admission to the Summer School-cum-Correspondence B.Ed. course.

Procedure for Admission:

Admission will be made in order of merit according to the percentage of marks obtained by the candidates at their Bachelor's degree examination, and in case a candidate has also passed his Master's degree examination, the higher of the two percentages will be taken into consideration for determination of order of merit. The following credit marks are also be given:-

- | | | |
|----|--|---------|
| a) | For having obtained First Division at the Master's Degree Examination. | 3 marks |
| b) | For having obtained second Division at the Master's Degree Examination. | 2 marks |
| c) | For having obtained Third Division at the Master's Degree Examination. | 1 mark |
| d) | For having obtained First Division at the Higher Secondary or Intermediate or equivalent Examination. | 2 marks |
| e) | For having obtained Second Division at the Higher Secondary or Intermediate or equivalent examination, or first division at the Secondary or equivalent examination. | 1 mark |
| f) | For having passed B.S.T.T. or equivalent examination. | 1 mark |
| g) | For having represented in Games & Sports/or Curriculum activities at: | |
| | i) University level | 1 mark |

ii) State level 2 marks

iii) National level 3 marks

For professional teaching experience in a recognised educational institutions, 1 mark for each completed year of service upto the maximum of 15 marks are given.

For candidates belonging to scheduled caste, scheduled tribes and for women candidates there is reservation of seats of 17%, 11% and 20% respectively. Preference will be given to candidates belonging to Rajasthan and in no case the percentage of non-Rajasthanies shall exceed 20% of the total seats. The ratio of 80 and 20 (for Rajasthanis vis-a-vis non-Rajasthanies) shall apply to reserved seats as well as the seats in the general quota.

The University is at present charging the fees for the B.Ed. course as under:-

Scheduled of fees for B.Ed., S.S.C.C. Course :

Sl. No.		Ist Term Rs.	IInd Term Rs.	3rd Term Rs.
1	2	3	4	5
1	Application Fee	10.00	500.00	250.00
2	Tution Fee	750.00	-	-
3	Caution money Deposit (refund- able) +	50.00	-	-
4	Enrolment Fee	10.00	-	-
5	Eligibility Certi- ficate Fee (where applicable)	5.00	-	-
6	Library Fee	20.00	-	-
7	Development Fee	16.00	-	-
8	Internal Assessment/ Practical work Fee; B.Ed.	50.00	-	-

1	2	3	4	5
9	Contact Camp Registration Fee	25.00	25.00	25.00
10	Identity Card Fee	2.00	-	-
11	Students Aid Fund Fee	2.00	-	-
12	Stationery Fee	-	25.00	-
Total:		875.00	550.00	275.00
+refundable deposit		50.00	-	-
+where applicable		15.00	-	-
Grand Total: @		940.00	550.00	275.00

The observations and recommendations of the Committee are as under:-

The Committee was told that there was a backlog of 10,000 untrained teachers in Rajasthan. The Committee was informed that Primary School teachers who graduated after joining services also are interested in obtaining the B.Ed. degree. Many of them are not able to join the regular course because of economic and other constraints. In several schools graduate and postgraduate teachers are also working. These untrained graduate and post-graduate teachers also desire to obtain B.Ed. degree. The Committee noted that 24 colleges in the University in Rajasthan state are imparting instruction in B.Ed. course. It was also brought to the notice of the Committee that nearly 5,000 students receive instruction through these colleges. The Committee was informed that during the first year of the introduction of the B.Ed. in 1975-76. Later on the University realised that in order to provide effective instruction it was necessary to reduce the number of students and decided 240 student for the course. The Committee noted that out of 231 students who appeared for the course in 1977-78, 65 passed in first division, 151 in second division and 14

in third division as is shown below:-

Year	Regis-tered.	Appe-ared	Ist Div.	IIInd Div.	IIIrd Div.	Failed
1976-77	637	637	73	506	44	14
1977-78	233	231	65	151	14	1
Ex-students	0	10	4	4	6	-

Two candidates did not appear in Theory Examination.

Mrs. Sudesh Minocha Topped First in Four University Colleges in the examination, 1977.

Mrs. Mohini Dugal Topped First and shri Ved Kumar Sharma Second in the examination, 1978.

1978-79

240 candidates will appear as regular

2 Ex-students.

4 Candidates who could not attend Second Summer Contact Camp in May & June, 1978.

It was also noted Sudesh Minocha topped in the four university colleges in the examination 1977-78 and Mohini Duggal topped first and Shri Ved Shama, second in the examination in 1978. The Committee therefore felt that performance of the students studying through correspondence course education was satisfactory.

The Committee discussed with the faculty members the question of eligibility of students for admission to the B.Ed. course and suggested the following guidelines:-

1. trained primary school teachers who are graduate should be given first preference.

2. postgraduate teachers with three years experience in teaching particularly in the subject of science and mathematics be considered second in order of preference.
3. B.A., B.Sc. with very good academic record should be considered third in order of preference.

The Committee was of the view that the faculty strength of the Institute of Correspondence Studies and Continuing Education can handle a total intake of 300 students. The Committee, therefore, suggested that intake may be raised from 240 to 300.

The Committee noted that 80 per cent of the students are admitted from Rajasthan and 20 per cent from other States. The Committee felt that this ratio should be maintained.

The Committee discussed the question of qualification for staff requirement in the Institute. The following qualifications were suggested:

1. M.A., M.Ed. with three years teaching experience.
2. In case of teachers having M.Phil or Ph.D. degree in education the requirement of M.A. degree may be relaxed but such teachers may normally be assigned the subjects of pedagogy.
3. For each method subject one teacher be appointed in the Institute.

The Committee discussed the question of total staff strength of the staff on the basis of compulsory and theory papers and subject paper. The Committee was of the view that the following core staff be appointed in the Institute:-

- | | | |
|-------------|---|-----|
| 1. Reader | - | One |
| 2. Lecturer | - | Ten |

Besides the Committee was of the view that in case of need, part-time staff may be appointed for the purpose of supervision of teaching and such other work as may be necessary.

The Committee was informed that the students are required to come for 8 weeks during the summer vacation in the beginning of the course and 8 weeks towards the end of the course. In between the students are required to come for one month for practice teaching. In all it was pointed out that student has to stay on the campus for 110 days during a year. The Committee satisfied that with this state of intensive teaching programme of the Institute it was possible for the Institute to handle course requirement and compete with regular students.

However, the Director pointed out that there was a great difficulty for hostel accommodation for the students. The Committee, therefore, strongly recommend that a hostel for 200 students be provided for the Institute and the University should approach the State Govt./UGC for this purpose. The Committee recommended that the UGC should consider the provision of a hostel for 200 students of the correspondence courses favourably.

The Committee recommended that the students were required to pay nearly Rs. 1500/- in the form of fees. This Committee felt it as exorbitant. The Director pointed out that the policy of University and the State Government so far was that correspondence education should be self-financing. The members of the Committee were of the view that this approach need modification and that University/State Government should provide assistance to the correspondence students in the same manner as is provided for regular students. The Committee therefore, recommended that tuition fees should be reduced to Rs. 300/- and other fees should not exceed Rs. 200/- for full course. In this way a total fees charged from students should not exceed Rs. 500/- for the full course.

Keeping in view the expenditure of the Institute about this course around Rs. 3.5 lakhs, the Committee noted that it would lead to a deficit of about Rs. 2 lakhs. The Committee recommended, to the UGC that it should provide a grant of Rs. one lakh to meet the deficit of the course and the balance of the deficit should be provided by the University/State Govt. The Committee recommends that the B.Ed. course should be treated at par with other B.Ed. course and assistance may fully be provided by the UGC on the same basis as to other postgraduate course i.e. Rs. one lakh per year per subject for a period of five years. The Committee also discussed with

the faculty members the question of making 33 per cent assignments compulsory. This means that the student was required to write 24/25 assignments besides the term papers. The Committee was of the view this imposed a very heavy burden on the student and therefore recommended that the number of assignments should be reduced to 25 per cent of the total number of lessons sent.

The Committee is grateful to the University authorities and members of the staff of the Institute of Correspondence studies and Continuing Education for their help in its deliberations.

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CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979.

Item No.2.02: To consider the report of the Committee appointed by the UGC to review the work done by the Examination Reform Unit at the Andhra University.

The University Grants Commission appointed a Committee consisting of the following members to review the work done by the Examination Reform Unit at the Andhra University:-

1. Prof. M.R. Bhiday
Head
Department of Physics
Poona University
Poona.
 2. Prof. G.B. Shah
Head
Department of Education
South Gujarat University,
Surat
- Dr. G.G. Dandapat
Education Officer
University Grants Commission
New Delhi.

The Committee visited the University on 10th May, 1979. The report of the Committee is attached (Annexure.) The main observations and recommendations of the Committee are summarised below:-

- a) The Committee observed that a limited progress has been made by the University for implementing the examination reform programmes. It is observed that Sessional Evaluation System is working well in the University and the Committee was happy to note that the University was laying much emphasis on sessional evaluation. The University has not developed any question bank so far. The grading system has been introduced at the Engineering level with a 5 point scale and with letter grades A, B, C, D, F. There is no direct grading. Marks are converted into grades after the answersheets are evaluated. The Semester System

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has been introduced in all subjects at the post-graduate level and also at the B.Ed./B.Tech. level.

(b) The Committee is of the view that the University should have organised a large number of workshops in all aspects of examination reform, particularly on sessional evaluation, question banks and grading. Though it is late, yet the Committee is happy to observe a general keenness on the part of the senior faculty members to continue the examination reform programmes with all seriousness. The Committee, therefore, expects that the progress of implementing examination reform programmes would reach a satisfactory level at the university level during the next two years.

(c) The Committee feels that it is high time for the UGC to feel that the examination reform work cannot be done by a coordinator employed in the scale of Rs.700-1300, for a great deal of spade work is necessary before the reforms can be implemented. Such spade work can only be done by a whole-time senior member of the staff preferably on the grade of a Professor who can talk freely and convincingly to other Professors on the same level. Alternatively the work can be done by a senior Professor who has interest and aptitude in doing such work and he should be paid remuneration for the same, so that he can take up the examination reform work in addition to his normal duties in the Department.

(d) The UGC assistance towards the approved staff viz. one Coordinator/Assistant Registrar, one Statistician, one Stenotypist, one L.D.C. and other facilities for the Examination Reform Unit at the Andhra University is upto 31.3.1979. The Commission at its meeting held on July, 17, 1979 decided that the period of the UGC assistance towards core staff and other facilities for examination reform units in the universities might be extended upto 1980-81 on the basis of the implementation of examination reform programmes so far. Universities which have discontinued the reforms introduced earlier be not provided assistance for such units any longer. In the light of this decision, the Committee recommends that the UGC assistance towards the existing staff of the Examination Reform Unit of the University may be continued upto 31.3.1981 and the following additional facilities may be approved:-

- | | | |
|-----|-----------------------------|--------------------|
| i) | Workshop/Seminar | 40,000/- per year |
| ii) | Stationery and contingency. | 20,000/- per year. |

- e) The Committee is of the view that a senior faculty member having aptitude and interest for examination reform work may be appointed as the Coordinator of the Examination Reform Unit and he may be allowed to carry his scale of pay. Alternatively in addition to the existing staff of the Examination Reform Unit a senior faculty member, preferably in the rank of a Professor having interest and aptitude for examination reform work may be appointed on part-time basis with a remuneration of Rs. 500/- per month. He may be designated as the Director.
- (f) The Committee is also of the view that the progress may be reviewed at the end of two years in case the UGC decides to extend its period of assistance for examination reform programmes beyond 31.3.1981.

The matter is placed before the Commission for consideration.

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Appendix to Item No. 2.02

Report of the Committee appointed by the UGC to review the work done by the Examination Reform Unit at the Andhra University.

The University Grants Commission appointed a committee consisting of the following members to review the work done by the Examination Reform Unit at the Andhra University, Waltair.

1. Professor M.R. Bhiday,
Head, Department of Physics,
Poona University,
Poona.
2. Professor G.B.Shah,
Head, Department of Education,
South Gujarat University,
Surat.
3. Dr. G.G.Dandapat,
Education Officer,
University Grants Commission,
New Delhi.

The Committee visited the University on the 10th May, 1979 and held discussion with Shri M.R.Apparow, vice-Chancellor, Professor M.Srirama Rao, Convener, Examination Reform Committee, Shri M.Gopalakrishna Reddy, Registrar, and members of the Examination Reform Implementation Committee of the University and various faculty members, regarding the measures taken so far and proposed to be taken by the University for reforming its examination system. The Examination Reform Unit was set up by the University during April, 1977 with one Coordinator/Assistant Registrar, one Statistician one Stenotypist and one IDC. The steps taken by the University regarding the implementation of Examination Reform Programmes are as follows.

I. SESSIONAL EVALUATION

Sessional Evaluation has been introduced in the faculty of Science and Engineering with a weightage of 40% and 30% respectively. There is no provision of showing the marks/grades of the sessional evaluation and the end of course of examination separately. Out of the various moods of sessional evaluation like tests, quizzes, field work, home assignments, practical work, tutorials, seminars, etc, the pattern varies from Department to Department. As regards Grievance Machinery, the College Academic Committee and the Department Academic Committee with student members deal with general grievances. If any student complains in respect of

valuation, the concerned examiner should convince the student of his marks. In case the student is still not convinced, then the matter is referred to the Department Academic Committee, failing which it is referred to the College Academic Committee. It is observed that the sessional evaluation system is working well in the university and the Committee was happy to note that the university was laying much emphasis on sessional evaluation.

II. SEMESTER SYSTEM

The details of the semester system implemented by the University are as follows:-

Course	Year of introduction	Main features of the Scheme, Unit, Courses, Credit system, session evaluation.
1	2	3

Arts:

- | | | |
|---|-----------|--|
| a) Mathematics,
History and Archaeology
Law, Economics, Hindi,
Applied Economics,
Library Science,
Psychology, Parapsychology. |) 1972-73 | Semester courses were formed providing core courses and electives. For all courses the paper setting and valuation is done by internal examiners, except in the case of comprehensive written and viva-voc examinations, where there is participation by external examiners. |
| b) Social Work, Politics,
Public Administration
and Philosophy |) 1973-74 | |
| c) English, Telugu,
Commerce M.B.A.
Sanskrit,
Sociology, Industrial
Relations and Labour
Welfare. |) 1974-75 | |
| d) Anthropology |) 1975-76 | |

1	2	3
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Sciences

- a) Physics, Chemistry, Botany, Zoology, Geology, Applied Mathematics, Applied Physics Metrology & Oceanography, Nuclear Physics.) 1972-73
- b) Biochemistry, Human, Genetics and Physical Anthropology, Pharmacy and Biochemistry.) 1973-74
- c) Statistics 1975-76
- d) Marine Sciences 1976-77

Engineering

- a) B.E./B.Tech. 1972-73

III. GRADING

Grading has been introduced at the Engineering level with a 5 point scale and with letter grades A,B,C,D,F. There is no direct grading. Marks are converted into grades after the answersheets are evaluated.

IV. Question Banks

The university has not developed any question bank so far. The University is making arrangements to conduct a primary workshop on question bank during July, 1979.

V. The Statistical Wing of the Examination Reform Unit of the university has been analysing the examinations results and trying to bring out some positive inference out of the reforms already introduced. It has also investigated into the difficulties which is being faced in implementing examination reform programmes particularly in the campus colleges. The difficulties are as follows :-

- 1. Student pressures which many teachers find it difficult to resist,

2. * tendency to inflate marks in some departments,
3. Fall in self-reliance on the part of the student and his own initiative in the library and growth of spoon-feeding pattern since the teacher himself examines..

However, the university is trying to take necessary measures to do away with these difficulties.

It is observed that a limited progress has been made by the University in implementing the Examination Reform Programmes. The university should have organised a large number of workshops in all aspects of examination reform, particularly on sessional evaluation, question banks and grading. Though it is late, yet the Committee is happy to observe a general keenness on the part of the senior faculty members to continue the Examination Reform programmes with all seriousness. The Committee, therefore, expects that the progress of implementing examination reform programmes would reach a satisfactory level at the university during the next two years.

The Committee feels that it is absolutely essential to bring about an orientation in the attitudes of academic people in the matter of examination reforms. While everyone agrees that the present examination system is out-moded and irrelevant, yet every academician tends to withdraw the forward moving step at the slightest indication of a slight difficulty. He does not mind returning to the old system which is proved as useless rather than explore new ways of achieving the objectives of assessment. This is the weakness in academicians who are reluctant to try out innovations which generally is the case in Indian universities. The Committee also feels that it is high time for the UGC to feel that the examination reform work cannot be done by a coordinator employed in the scale of Rs. 700-1300, for a great deal of spade work is necessary before the reforms can be implemented. Such spade work can only be done by a whole time senior member of the staff preferably on the grade of a professor who can talk freely and convincingly to other professors on the same level. Alternatively, the work can be done by a senior professor who has interest and aptitude in doing such work and he should be paid remuneration for the same, so that he can take up the examination reform work in addition to his normal duties in the Department.

Recommendations :

The following are the recommendations of the Committee:

1. The UGC assistance towards the staff and other facilities for the Examination Reform Unit at the Andhra University is upto 31.3.1979. The Committee recommends that the UGC assistance towards the existing staff of the Examination Reform Unit of the University may be continued upto 31.3.1981 and the following facilities may be approved:-

- i) Workshop/Seminar Rs.40,000/- per year
- ii) Stationery and contingency Rs.20,000/- per year

2. A senior faculty member having aptitude and interest for examination reform work may be appointed as the Coordinator of the Examination Reform unit and he may be allowed to carry his scale of pay. Alternatively in addition to the existing staff of the Examination Reform Unit a senior faculty member, preferably in the rank of a Professor having interest and aptitude for examination reform work may be appointed on part-time basis with a remuneration of Rs. 500/- per month. He may be designated as the Director.

3. The progress may be reviewed at the end of two years in case the UGC decides to extend its period of assistance for examination reform programmes beyond 31.3.1981.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 26th October, 1979

Item No. 2.03 To consider the following recommendations made by the Standing Committee on part-time and own-time education at its meeting held on 7th February, 1979.

- (a) for organisation of workshops in different subjects by different universities, running correspondence-courses.
- (b) the decision of the Committee on the suggestion of the Ministry of Education and Social Welfare regarding possibility of organising a workshop or a seminar to evaluate the correspondence courses and make it relevant to the community.

(a) The Committee on part-time and own-time education at its meeting held on 7th February, 1979, discussed, at length, the question of adopting a common syllabus for all the schools/institutes of correspondence courses. The Committee felt that while it may not be feasible to adopt a common syllabus at the national level, possibilities/having such a syllabus at a regional level could be explored in the first instance. The Committee felt that a study may be made in this regard by organising workshops at the regional levels in selected subjects to review the syllabi at the undergraduate level in the first instance. There may be about 20 to 25 participants in these workshops from institutes of correspondence courses, experts, in the disciplines, some members of the departments concerned and a few members of the Panels of the UGC in the concerned disciplines.

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The Committee further suggested that these workshops should review critically the existing syllabi with a view to explore if lessons at the regional level could be produced in a coordinated manner by the joint efforts of the institutes participating in the correspondence education. While doing this, care should be taken for the maintenance and upgradation of standards, coordination of efforts, provision of adequate facilities and services to the students and innovated measures. The Committee recommended that such

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workshops may be organised as below by July, 1979 :

Panjab University	..	Political Science
Punjabi University	..	Economics
Delhi University	..	History
Andhra University	..	Commerce
C.I.F.F.L.Hyderabad	..	General English

(b)

The Committee on part-time and own-time education at its meeting held on 7th February, 1979 considered suggestion of the Ministry of Education & Social Welfare regarding possibility of organising a workshop or a seminar to evaluate the correspondence courses and to make it relevant to the community. Committee was of the view that it may not be possible to review all aspects of correspondence education : a workshop or a seminar. The question relating to the teaching material may be referred to the regional workshops as indicated above for their review. With regard to making the correspondence courses relevant to the needs of the community, the committee noted that the Commission has introduced scheme of restructuring of courses at the first degree level. The idea is to make a part of courses practical oriented having a direct bearing on the students local environment. The committee was given to understand that the scheme of restructuring of courses has been introduced in a limited number of colleges at this stage. The scheme is yet to be introduced in many more colleges all over the country. In view of this, the committee felt that it may be desirable to wait for sometime before introducing such scheme in correspondence courses.

The matter is placed before the Commission for its consideration.

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CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : October 26, 1979

Item No. 2.04: To consider the recommendations made by the Committee appointed by the UGC to suggest model courses for defence studies at Undergraduate and Postgraduate levels in the universities and colleges.

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The University Grants Commission at its meeting held on December 19, 1977 considered the recommendations of the Committee appointed to suggest model courses for defence studies at the undergraduate and postgraduate levels. The Commission was not in favour of providing facilities for defence studies at the undergraduate level since defence studies was essentially of an inter-disciplinary nature. It was agreed that before a decision is taken with regard to providing facilities for defence studies at the postgraduate and research levels, the matter may be discussed with the Ministry of Defence. The matter was, accordingly, discussed by the Chairman with the officers of the Ministry of Defence on July 10, 1978. A copy of the proceedings of the meeting is enclosed (Annexure-I). It was agreed at the meeting that the representatives of the Ministry of Defence would send their comments on the model syllabus prepared by the UGC Committee. A copy of the model syllabi pertaining to postgraduate studies as prepared by the Committee appointed by the UGC is enclosed (Annexure-II). A copy of the comments of Ministry of Defence on the model syllabi pertaining to postgraduate studies as prepared by the Committee appointed by the UGC is also enclosed (Annexure-III). The views of the members of the expert committee appointed for the purpose were invited on the comments of the Ministry of Defence relating to model syllabi for defence studies at the postgraduate and research levels. The entire matter was considered by the committee consisting of the following members at its meeting held on September 5, 1979:

1. Lt. Gen. K.P. Candeth (Retired)
New Delhi

PTO

2. Col. R. Rama Rao
Director
Birla Institute of Scientific Research
New Delhi
3. Lt. Col. M.G. Abhyankar
Director
Kunzru Centre of Defence
Studies & Research
Pune
4. Dr. D.D. Khanna
Head
Department of Defence Studies
Allahabad University
Allahabad

A copy of the minutes of the meeting of the Committee is enclosed (Annexure-IV). The Committee has made the following main observations and recommendations:-

1. The changes suggested by the Ministry of Defence on the model courses for defence studies at the post-graduate level were considered to be of a very minor nature and were incorporated wherever found necessary. A copy of the model course finalised by the Committee for defence studies at post-graduate level keeping in view the comments of the Ministry of Defence and the views of the members of the committee is enclosed as Appendix-I to Annexure-IV.
2. The Committee also noted the contents of a letter No.F. 11(77)/D(Coord) dated 21.6.79 received from the Ministry of Defence, accepting the following recommendations made by the UGC after a discussion held with the officers of the Ministry of Defence on July 10, 1978 with regard to providing facilities for defence studies at the postgraduate and research level:
 - i) To associate serving or retired service officers with the boards of studies of universities in defence studies and to make available the services of serving officers to the universities for this purpose.
 - ii) To depute senior officers to serve as visiting professors/fellows in the schools or departments of defence studies in various universities.

- iii) To make available the advice and guidance of senior service officers in various research studies leading to Ph.D. degree.

The Committee desired that the above letter of the Ministry of Defence may be circulated to the universities for their guidance.

3. with a view to ensuring proper development and maintaining a high standard of postgraduate teaching and research in defence studies, the Commission may constitute a separate subject panel for defence studies as in other subjects. A report on the status of the development may be made by the panel.

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4. Defence studies may be introduced at the post-graduate level in such universities which have adequate facilities viz. staff, library and other facilities. The UGC visiting Committees which visit the universities for the consideration for their various development proposals may include experts in defence studies wherever necessary so that the requirements of such departments in universities are properly appreciated and recommendations made accordingly.

5. The resolution of the Commission that it was not in favour of providing facilities in defence studies at the undergraduate level since defence studies were essentially of inter-disciplinary nature (UGC meeting December 19, 1977), was discussed, and the Committee emphasised that the teaching of defence studies at the undergraduate level was vital for the proper development of postgraduate teaching and research. Undergraduate teaching in defence studies was being provided by a number of affiliated colleges (employing hundreds of teachers), in a score of universities, in more than half-a dozen states, and that this subject is being offered as an optional paper by students in various competitive examinations of the State Public Service Commission. The study of this subject at the undergraduate level educates the young minds on the problems of national security and civil military relationships. The Committee recommended that in the interest of maintaining high standard, the Commission may consider the desirability of reviewing its decision regarding providing facilities for this subject at the undergraduate level and circulate the model course earlier framed by

the expert committee for undergraduate courses for the guidance of universities. In this connection, attention was also invited to the following recommendation of the Review Committee on Military Science appointed under the chairmanship of Dr. D.C. Pavate, Vice-Chancellor, Karnataka University and circulated by the UGC in April, 1968 to the universities:-

"After careful consideration of the various issues involved, the Committee is of the view that at the undergraduate stage Military Studies could be conducted as an optional subject on the same footing as political science, Economics, History etc. Since the main aim of undergraduate studies is to impart liberal education, Military Studies might constitute to be one of the optional subjects which students are required to offer."

The matter is placed before the Commission for consideration.

Annexure-I to Item No. 2.04

Proceedings of the meeting of the Committee to advise the UGC on providing facilities for Defence Studies at Postgraduate and Research levels held on July 10, 1978.

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A meeting of the Committee appointed by the University Grants Commission to advise it on providing facilities for Defence Studies at post-graduate and research levels was held at 3.00 P.M. on July 10, 1978 in the UGC office, New Delhi. The following were present:-

1. Professor Satish Chandra
Chairman
University Grants Commission
New Delhi
2. Major General S.C. Sinha
Director of Military Training
Army Headquarters
New Delhi.
3. Captain R.R. Sood, I.N. VR.C.
Director of Naval Training
New Delhi
4. Air Commodore S. Raghavendran
Director of Training
Air Headquarters
New Delhi
5. Col. S. Sable
Director
Technical Training
Military Training Directorate
Army Headquarters
New Delhi
6. Shri R.K. Chhabra
Secretary
University Grants Commission
New Delhi
7. Shri Y.D. Sharma
Deputy Secretary
University Grants Commission
New Delhi.

Professor Satish Chandra welcomed the members of the Committee and placed before them the position of the teaching of courses in military studies at undergraduate and postgraduate studies in the universities and colleges in India. He apprised the committee that the Commission had appointed a committee earlier to suggest model courses for defence studies at undergraduate and postgraduate level. The Commission considered the recommendations of the Committee at its meeting held on December 19, 1977 and approved the recommendations. However, it was not in favour of providing facilities for defence studies at the undergraduate level since Defence Studies were essentially of an inter-disciplinary nature. As per decision of the Commission the present meeting of the Committee is convened with a view to having a discussion with the representatives of the Ministry of Defence in regard to providing facilities for defence studies at postgraduate and research levels.

The Committee then considered the paper sent by the Chairman, Chief of Staff Committee, Cabinet Secretariat, with regard to postgraduate and Ph.D. Degree in defence studies. Maj. General S.C. Sinha gave the background of the problem resulting the initiation of the paper by the Chief of Staff Committee on the subject of Military Studies. The main points for the paper are, firstly, the widely varying standards of the syllabus followed by various institutions at the undergraduate and postgraduate levels of military studies; and secondly, their concern for the national security involved in certain subjects and researches that may be carried out at Ph.D. and their subsequent publication.

The Committee after discussion, made the following observations and recommendations:-

1. It was noted that the University Grants Commission has not favoured the proposal for providing facilities for defence studies at the undergraduate level. It was, however, noted that the syllabus at the undergraduate level in certain colleges/universities varies to a wide degree.
2. The University Grants Commission under the UGC Act is responsible for the maintenance and improvement of standards of teaching and research of higher education. It was noted that the teaching of the study of defence studies should be made as an

academic discipline and for that each university has its own boards of studies for framing the courses of study etc. It would be advantageous to have interaction with other departments to make an inter-disciplinary approach to the study of this discipline.

3. It was felt that it would be advantageous to have the association of serving or retired service officers with boards of studies of universities for this discipline. It will also go a long way in raising the academic standard of this discipline.
4. The University Grants Commission may approach the Ministry of Defence to make available the services of senior service officers to the university for this purpose, on request.
5. Similarly it would be advantageous to have the advice and guidance of senior service officers in various research studies leading to Ph.D. degrees. It was noted that if it is intended to use any material classified or otherwise available with the defence departments, the research workers will obtain the formal written permission of the appropriate authority with a view to publishing it. It would then be upto the Ministry of Defence to either make available or withhold such information as would be dictated by security needs.
6. It was agreed that the representatives of the Ministry of Defence would send their comments on the model syllabus prepared by the UGC Committee. It may be noted that these are guidelines for the use of the universities and every university is free to modify or improve upon it.
7. The UGC Visiting Committee while making the assessment of the various departments of defence studies in the universities may also impress upon the university authorities to have the benefit of advice of senior service officers of the Ministry of Defence in drawing up their courses of study at the postgraduate level .

8. The Ministry of Defence may agree to depute some of their senior officers to serve as visiting professors/fellows in the schools or departments of the defence studies in various universities.

The meeting ended with a vote of thanks to the Chair.

ANNEXURE II

to Item No.2.04

POSTGRADUATE COURSES

DEFENCE STUDIES

M.A./M.Sc.

Core Paper-I

THEORY AND PRACTICE OF WAR
(1775 to date)

Part-I

- A. Nature, characteristics and impact of American Revolution and French Revolution on Warfare.
- B. Napoleonic Warfare with reference to its interpreters Clausewitz and Jomini.
- C. Industrial Revolution and Transformation of War
- D. Economic foundation of Military Power
- E. Social Revolutionary thinkers on war
- F. Strategy, doctrine and weapon systems, Military Organisation and Policies of France & Germany during the world war I.
- G. Appearance of armour - a landmark in the History
- H. Concept of Air Power.
- I. Concept of Sea Power

Part-II

Constitutional and political problems of Military organisation and policy 1919-45.

- J. Concept of Armoured and mechanised Warfare developed by JFC Fuller, Liddel Hart, Guderian Rommel and others during the interwar years and second World War.
- K. Strategy, Doctrine and Tactics during the Second World War on Land, Sea and Air.
- L. Application of Air Power during the Second World War.
- M. Application of Naval Power during the First and Second World Wars with suitable examples.

Part-III

- N. Theories of Nuclear Strategy and deterrence.
- O. Strategic Concepts: Surprise, presumption and stability.
- P. Strategic Doctorines: Minimalist and Miximalist approach.
- Q. Emergence of the concepts of:
 - 1. Limited War
 - 2. Insurgency and Counter - Insurgency
 - 3. Chemical and Biological Warfare
 - 4. Arms Control & Disarmament.

Selected Reading:

- 1. Alfred Vogts A History of Militarism
- 2. Nels, A. Parson Jr. Missiles and Revolution in Warfare
- 3. Stephen King Hall Defence of Nuclear Age.
- 4. Michael Howard Grand Strategy of World War II
- 5. Earle E.M. Makers of Modern Strategy
- 6. Monotogomery History of Warfare
- 7. Tedder Air Power in War
- 8. Kahn Herman On Thermonuclear War
- 9. Otto-Heilburum Partisan Warfare
- 10. Falls Cyrill Hundred Years of War
- 11. Howard M. Theory and Practice of War
- 12. Brodie B. Strategy in the Missile Age
- 13. Beaufre -A. Introduction to Strategy

- | | | |
|-----|---------------|--------------------------------|
| 14. | Emme | Air Power |
| 15. | Mahan A.T. | Sea Power |
| 16. | Halprin, M.H. | Contemporary Military Strategy |
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Note:

Major conflicts during World War II took place between Germany and Russia. Studies should not therefore be to operations in the 'Western' Front.

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Qura Paper II

M.A. / M.Sc.

WAR IN INTERNATIONAL RELATIONS

- A. Foundations and limitations of National Power.
- B. The place of power, ideology and ethics in International Relations.
- C. Theories of the causes of War.
- D. The theory of balance of power, and Systems of Military Alliances.
- E. War and Foreign Policy, War and the threat of War as instrument of state policy.
- F. The role of national interest in the formulation of foreign policy.
- G. War and the International Political systems, War as an agent of change, a means of disputes settlement and an instrument of law enforcement.
- H. Attempts to abolish war and to subject it to limitation and control.
- I. The Birth of new nations and changes in the patterns of international relations.
- J. Cold War and its effects on World politics.
- K. Nuclear developments and their importance in International Relations.
- L. K Major determinants of foreign policies of the:
 - (i) United States of America (USA).
 - (ii) Union of Soviet Socialist Republic (USSR).
 - (iii) France.
 - (iv) China.
 - (v) India.

Books Recommended:

1. Aron, R. : War and Peace
2. Wright, Q. : A Study of War

3. Frankel : International Relations
4. Knorr and Verba : The International System
5. Sproutt and Sproutt : International Politics.
6. Gibbs, G. : Problem of International Relations
7. Frankal, J. : Making of the foreign policy.
8. Northedge : Foreign Policy of the Powers.
9. Coldwin, R. : Reading in World Politics.
10. Gupta, M.G. : International Relations Vol.I and II.
11. Bell of Max. : Future of British Foreign Policy.
12. Bernard L. & Black : War and its causes.
13. Thompson, B. : Foreign Policies of the World.
14. Black C. : Neutralisation.
15. Huriya, N. : International Organisations.
16. Kar, E.H. : Between the two World Wars.
17. Morganthau, J.J. : Politics Among Nations
18. Palmer & Perkins : International Relations
19. Dutt, V.P. : China's Foreign Policy
20. Brownlie, I. : International Law and the use of Force by States.
21. Bendopadhyay : Making of Indian Foreign Policy
22. Knapp, W. : A History of War and Peace.
23. J. Frankal : National Interest.

Core Paper-III

M.A./M.Sc.

NATIONAL SECURITY

1. Concept of National Security: National Interest and its relation
National Security
2. Security Problems of a State in changing international environment.
3. National Power : Its concept and constituents.
4. Alternative strategies of National Security:
 - a. Balance of Power.
 - b. Collective Security.
 - c. Regional Defence
 - d. Nonalignment
 - e. Arms Control and Disarmament
 - f. Cold War. G. Economic strength and technological self-reliance.
5. National Security Problems of India - External and Internal.

INDIA IN WORLD STRATEGIC ENVIRONMENT

6. Impact of Political, Economic and Defence factors in Pakistan's relations with India.
7. India-China relations and its significance in our Security considerations.
8. India's relations with U.S.A. & USSR and their significance in India security perspectives.
9. India's relations with South-east Asia and West Asia with reference to their role in Indian Ocean area; impact of developments in the Indian Ocean Area on India's security.
10. India's relations with immediate neighbours.
11. India nuclear policy.
12. Analysis of India's Defence Preparedness, evaluating elements of National Power.

Role of Intelligence: Intelligence systems: organisation and control; Acquisition, analysis and dissemination of intelligence ; counter intelligence ; intelligence inputs for policy formulation and planning.

Selected Readings:

1. Lyons GM & Morton Lomis : Schools for Strategy.
2. Arthur T. Hadley : The National Safety and Arms.
3. Ravi Kaul : India's Strategic Spectrum
4. Subramanayan K. : Our National Security.
5. Lohen J.A. : The Dynamics of China's Foreign Relations
6. Ray Aswari : Domestic Compulsions & Foreign Policy of Pakistan.
7. D.F. Fleming : The Cold War and its studies.
8. Kavlo, L.J. : India's Quest for Security
9. Harkati, Y. : Nuclear War and Nuclear Peace.
10. Morgenthau H. : Politics among Nations.
11. Bandopadhyay J. : Making of Indian Foreign Policy
12. Frankel J. : National Interest
13. Cotrell H.A. : Political, Economic & Military Importance of Indian Ocean.
14. Foulce T.T. : Power Rivalry in Indian Ocean .
15. Northedge F.S. : Foreign Policy of Powers.

Core Paper IV

M.A./M.Sc.

DEFENCE ECONOMICS

AIM: To equip the student to critically analyse the economic problems of Defence and their Management.

1. INTRODUCTION:

- a. Contemporary Economic Systems
- b. Natural resources in Economic and War Management.
- c. Assessing economic and ar potential of the developing and developed countries.
- d. Role of Technology, Research and Development.

2. General Problem of Optimizations

- a. Elementary game theory and Linear Programming.
- b. Cost Benefit Analysis.
- c. Economic and defence Planning : Problems of Defence in relation to limitation of resources.

3. Defence Budgeting:

- a. Simple National Income Analysis.
- b. Determinants of Defence Budget:
- c. Factors influencing Choice alternative weapon systems.
- d. Cost effectiveness in selection of military expansion programmes.
- e. Economics of Conventional Vs Nuclear Weapon systems.
- f. Analysis of defence budget in India since 1947.

4. Mobilisation of Resources for Defence:

a. Domestic Resources:

(1) Direct Methods:

Increasing duration of working hours, additional employment curtailing vacation time, wages and income freeze, consumption and controls.

contd...

(ii) Fiscal and monetary methods:

Taxation and borrowing & deficit financing.

(iii) Economic implications of technical aspects of defence production in India.

(b) Foreign Resources:

(i) Role of Private foreign capital.

(ii) Role of Foreign capital through government institution.

(iii) Problems of imported technology in defence production.

5. Industry and Defence in India:

Defence production Organisation and role of Directorate General of Ordnance Factories and various Departmental Factories. The part played by Private sector and Public Sector. The role and range of foreign collaboration. The part played by Research and Development in Defence production. Self reliance in defence production.

6. War Time Mobilization:

(a) Priority transfer of resources.

(b) Emergency in the nature of the above mentioned problems.

(c) Techniques of control and rationing with reference to production, consumption and distribution.

7. Economic Warfare - Its techniques:

(a) Scope and content of Economic Warfare.

(b) Denial of resources to the enemy.

(c) Roles of foreign aid.

8. Effects of War:

(a) Problems of an inflationary economy.

(b) The Problem of Balance of Payments

(c) The danger of exhaustion of economic resources and solutions.

9. Problems of Reconstruction:

(a) Problems of reconstruction and rehabilitation.

- (b) Institutional, technological and Industrial development due to war.
- (c) Economics of military alliances.
- (d) Economics of disarmament.

BOOKS RECOMMENDED

- a) Indian Economy-its nature and problems - by Ghosh, Alak
- b) The British War Economy - by Murphy
- c) Political Economy of War - by AC Pigou
- d) The Economic Warfare - by WN Medlicott
- e) The Economic Problems in War and Peace - by LR Robinson
- f) Economics of Development - by Singh D. Bright
- g) Economics of Defence - by Hitch & Mekean
- h) The New Economics of National Defence - by JJ Clark
- i) Decision making for defence - by Hitch
- j) The Theory and Working of Union Fin. in India - by RN Bhargava
- k) Economics - by Samuelson, Paul
- l) Monetary Theory and Fiscal Policy - by Hanson
- m) Problems of Economic Development - by J.K. Mehta
- n) Problems of Capital formation in under-developed countries. - by Nurkse, Ragnar
- o) Mobilising Resources for War - by Tarshish, Shaw & Scltovasky
- p) Political Economy of War - by FW Hirst
- q) The Arms Trade with the Third World - by ~~by~~ ~~by~~
- r) A Guide to Keynes - by Hansen
- s) A Guide to Modern Economics - by J.K. Mehta and Mahesh Chand

Oral Paper : V

M.A./M.Sc.

CONTEMPORARY PROBLEMS OF WAR

Any two of the following problems may be selected at the beginning of the session and the courses can be framed by respective universities.

1. Concepts of Modern Guerilla Warfare and its practice in South-east Asia and China.
 2. Arms Control and Disarmament
 3. International Economic Order.
 4. Law of the seas & space.
 5. Strategic Raw Materials and their exploitation.
 6. Theory and Practice of Diplomacy since Second World War.
 7. Role of Military in Politics.
 8. Arms Aid, its economic, political and strategic implications.
 9. Rise of Nationalism since 1945.
 10. Military doctrines of USA, USSR and China.
-

M.A./M.Sc.

MILITARY HISTORY OF INDIA

(Upto 1857)

1. Military system in Vedic, Puranic and Epic Age.
2. Alexander's invasion of India with special reference to Battle of Hydaspes. Contemporary Greek accounts on Indian Warfare.
3. (a) Kautilya's Philosophy of war - State craft, Military Organisation, weapons, Patterns of Warfare.
(b) Political and Military systems Chola, Chera, Pallava and Pandya Kings.
4. Politico-Military System of Chandragupta Maurya with special reference to Megasthenes's account. Subsequent events leading to the overthrow of the Mauryas.
5. Impact of Shung, Kushana and Huna or on Warfare.
6. Changes in Hindu Military system and Art of Warfare during the age of Guptas and Harshvardhana.
7. Arab and Turk Invasions of India and new trends in Warfare. Rajput Military system and Art of Warfare with special reference to the battles of Somnath and Tarrain.
8. Military reforms and pattern of Warfare during the Sultanate period.
9. Babur's invasion of India with special reference to the battles of Panipat and Kanawa. New trends in Mughal art of Warfare during the reign of Akbar and subsequent period. Causes of the failure of Mughal Military System.
10. Maratha Military system, land and naval warfare during the reign of Shivaji. Changes in Maratha Pattern of Warfare during 18th Century with special reference to the Battle of Panipat, 1761 A.D. Impact of Western ideas on Maratha tactics.
11. Military system and pattern of War under Haider Ali and Tipu Sultan with special reference to Third Mysore War (1790-92 AD).
12. Military Organisation and pattern of warfare of Khalsa army. Impact of the Western art of Warfare and subsequent developments in the Sikh army. Anglo-Sikh warfare with reference to the battle of Sobraon, 1846 A.D.

13. Development of ^{the} Presidency armies under the East India Co.
14. Critical Analysis of the impact of Western art of Warfare on Indian Polity.

Selected Readings:

1. S.D. Singh : Ancient Indian Warfare with special Reference to the Vedic Period.
2. Professor R.C. Dikshitar : War in Ancient India.
3. L. Basham : The Wonder That was India.
4. J.F.C. Fuller : The Generalship of Alexander, the Great.
5. R.C. Majumdar : Classical Accounts of India.
6. Dharti Vidya Bhawan : The Age of Imperial Unity Publication
7. K.A. Nilakanta Sastri: Age of the Nandas and Mauryas.
8. U.N. Ghoshal : A History of Indian Public Life.
9. K.A. Nilakanta Sastri: A comprehensive History of India Vol.II.
10. R.C. Majumdar : The classical Age.
11. K.P. Kangley : Kautilya Arthasastra
12. James Tod : Annals and Antiquities of Rajasthan VOL.I
13. Habib : Comprehensive History of India.
14. R.P. Tripathi : Some Aspect of Muslim Administration.
15. Haig and Burn : The Cambridge History of India Vol.IV.
16. Dr. Ishwari Pd. : The Moghal Empire
17. J.N. Sarkar : History of Aurangzeb Vol. I to IV.
18. W. Irvine : Army of the Indian Moghals.
19. S.N. Sen : Military System of Marathas
20. H.R. Gupta : Marathas and Panipat
21. Grant Duff : A History of Marathas
22. V. Longor : Red Coats to olive green
23. G.B. Malleson : The Decisive Battles of India
24. Fauja Singh Bajwa : Military System of the Sikhs
25. S. Bhattacharya : A History of Indian History

M.A./M.Sc.

INTERNATIONAL LAW

A. Introduction

1. International Law : Definition and Nature
2. Sources and historical development of International Law.
3. Codification of International Law.
4. Relations between International Law and Municipal Law.

B. The Law of Peace

1. Subjects of International Law
2. Types of States
3. Recognition of States
4. State - Succession
5. Intervention
6. Right of Self-defence.
7. State - Territory.
8. Sea Piracy and Air Piracy.
9. Maritime Laws and conventions; conventions relating to Air Space.
10. Jurisdiction including territorial waters, economic zones ; special problems re: Straits, archipelagos etc.
11. Nationality.
12. Extradition and Asylum
13. Diplomatic and Consular Immunities
14. Treaties.
15. Delinquencies and State Responsibility.
16. International Institutions with particular reference to the League of Nations and the United Nations Organisation.
17. Collective Security and Disarmament.

C. Laws of War.

- (a) Settlement of disputes.
- (b) War - General, Characteristics of War. The Laws of War. The Armed Forces of the Belligerents. Effect of out-break of war.

- (c) Warfare in land. Violence against enemy persons. Treatment of wounded, the sick and the dead. Captivity. Appropriation and use of enemy public & private property.

Destruction of enemy property. Assault, siege and bombardment. Espionage. Ruses. Occupation of enemy territory.
- (d) War at sea: Men of War. Attack and Seizure of enemy vessels. Appropriation and destruction of Enemy Merchant Men. Prize court. Treatment of wounded and ship wrecked. /the
- (e) Air Warfare: Military Air Craft. Rules of Air warfare in relation to rules of war on land and at sea. Liability of civil aircraft to capture.
- (f) Nuclear warfare and the law of war.
- (g) Non-hostile relations of belligerents. Truces, capitulation and surrender. Armistices.
- (h) Means of securing legitimate warfare: Reprisal, Punishment of war crimes. Hostages.
- (i) Legal controls of international conflict. Attempt to prohibit war (from pact of Paris to the charter of the United Nations).
- (j) War crimes trials.

D. Neutrality:

- (a) Relations between Belligerents and Neutrals. Rights & duties of Neutrals, War Like preparations and operations. Neutral asylum. Violation of Neutrality.
- (b) Blockade: Conception, Establishment, Breach and penalties for breach. The long distance blockade.
- (c) Contraband : Conception, Absolute and conditional contraband. Direct, circuitous and Indirect carriage. Penalties.
- (d) Un-neutral Service : Carriage of persons. Transmission of intelligence. Other forms, Penalties.
- (e) Visitation, capture and trial of neutral vessels, right of visitations and search. Conveys, Navicerts, Trial of captured neutral vessels.
- (f) Modern developments and the Law of Neutrality.

Books recommended:

1. Oppenheim : International Law Vol.1 and 2.
2. Starke, J.G. : An Introduction to International Law
3. Hyde, J.N. : International Law
4. Stone, Julius : Legal controls of International Conflicts.
5. Sorensen, Max. : Manual of Public International Law.
6. O'Connell : International Law.
7. Groig, D.W. : International Law.
8. Rhynes, C.R. : International Law.
9. Kelson, H. : Principles of International Law.
10. Ferrick, C.G. : International Law
11. Castren : Modern International Law of War.
12. Wright, Q. : Study of War Vols. I and II.
13. Grab : The Relativity of War and Peace.
14. Brownlie, I. : Principles of Public International Law.
15. Ketzsch : The concept of War in contemporary History and International Law.
16. Brierly, J.L. : The Law of Nations.
17. Svanlien, O. : An introduction to the Law of Nations.
18. Brownlie, I. : Use of Force by States and International Law.
19. Mann, F.A. : Studies in International Law
20. Mc Nair : The Law of Treaties.
21. Visscher, C.D. : Theory and Reality in Public International Law.
22. Jonks, C.W. : The Common Law of Mankind.
23. Goodspeed, S.S. : The Nature and Function of International Organisation.
24. Anand, R.P. : Asian States and the Development of Universal International Law.
25. Corbett, P.P. : The Growth of World Law.

M.A./M.Sc.

Area Studies

Any two of the following Areas may be selected by the respective universities.

1. United States of America (USA)
2. Union of Soviet Socialist Republic (USSR)
3. CHINA
4. JAPAN
5. SOUTH ASIA
6. south east asia
7. WEST ASIA
8. INDIAN OCEAN

Report IX

M.A./M.Sc.

PSYCHOLOGY AND THE ARMED FORCES

1. Psychology and Soldiers

- (a) Dimensions of behaviour, motivational, affective and cognitive process. Relevance of Psychology in Defence problems.
- (b) Personnel selection and classification for defence services use of intelligence tests-Group testing procedures and elementary personality testing.
- (c) Application of principles of Psychology in military training motivation, learning, transfer of training, Group and individual training.
- (d) Factors in adjustment during army life-defence escape and psychological mechanisms.
- (e) Problems of re-adjustment of the ex-soldiers.

II. Ergonomics

- (a) Introduction to human engineering.
- (b) Man Machine systems.
- (c) Information displays; instrument dial legibility of numbers.
- (d) Control Devices - Functions identification, Resistance in control devices - forces and rations.
- (e) Problems of display and control.
- (f) Man in motion - concept of stress and effect of vibration, noise and acceleration.

III. Group Dynamics in Military Life

- (a) Group : Structure, types and their functions. Formation of Social norms. Group problem solving.
- (b) Leadership : Nature of Leadership. Function of leader. Emergence of a leader. Types of leadership. Leadership training.
- (c) Morale : Nature, determinates and techniques of boosting morale its significance in defence.

- (d) Attitude : Attitude organisations, Impact of Military life on the formation of attitudes, attitudes change.

IV. Psychological Warfare:

- (a) Nature, type, organisation and techniques of Military propganda.
- (b) Structure, Theories and techniques of coercive persuasion Determinant of brain washing, effects.
- (c) Psychology of rumour - Nature, techniques and its merits and its demerits, impact on war and society.

V. Mental disorders of Warfare.

- (a) Mental health and soldier in war.
- (b) Psychological disorders and emotional strains imposed by war - conversion Hysteria. Anxiety and war neurosis.
- (c) Predisposing conditions and methods of treatment.
- (d) Impact of nuclear and biological warfare.
- (e) Psychological problems of space flight.

BOOKS RECOMMENDED:

- | | | |
|------------------------|---|--|
| 1. Boring, E.G. | : | Psychology for the Armed Services |
| 2. Idenbarger | : | Psychological Warfare. |
| 3. Mac Conrich | : | Human Factor Engineering. |
| 4. Bartlett, F.C. | : | Psychology and the Soldier. |
| 5. Hennings | : | Air War and Emotional Stress |
| 6. Marn, J. | : | Frontiers of Psychology |
| 7. Lifton, R.J. | : | Thought Reform and Psychology of Totalism. |
| 8. Schein, E.H. | : | Coercive Persuasion. |
| 9. Brown, J.F.C. | : | Techniques of Persuasion. |
| 10. Secord and Backman | : | Social Psychology |
| 11. ICSSS Publication | : | A survey of Research in Psychology. |
| 12. Crinker, R.R. | : | Man under stress. |

M.A./M.Sc.

DISSERTATION

1. In M.A./M.Sc. Final class in Defence Studies, in lieu of one of the optional papers, a student may if permitted by the Head of the Department, undertake writing of dissertation under the supervision of a member of the Department. Two copies of the dissertation typed according to the required specifications shall be submitted by the student at least a week before the commencement of the M.A./M.Sc. Final Examinations.
2. The evaluation of the dissertation shall be done independently by an external and an internal examiner. The average of the marks given by both the examiners shall be the marks for the thesis submitted. The pass marks shall be the same as in theory papers.

M.A./M.Sc.

ARMED FORCES AND SOCIETY

1. Social institutions and their organisation and the armed forces. Social base of military power. Social background of defence personnel. Social changes and change in the character and composition of the armed forces.
2. The military organisation, Hierarchy, co-ordination, discipline, motivation and morale in the armed forces.
3. The military elite-its status and role in different countries. Their Political and other non-military roles. Analysis of military coups. Officers and other ranks - reaction in different social set up.
4. Sociology of war, Limited and total wars. Social causes of war social mobilisation for war. Adjustment and emotional problems during war. Social aspects of victory, defeat, and occupation.
5. Post-war social problems, Problems of large scale disbandment of personnel. Their rehabilitation and social adjustment of servicemen relieved after war.
6. Effect of war on national and international social, economic and political structures.
7. Ex-service personnel and their problems during peace.
8. Military - civil relationship. The soldier and society and the soldier and the political system. The soldier and the productive system. Defence system in a democratic stage. Defence system under non-democratic governments. Image of the soldier and ex-service men in different societies.
9. Social change and changes in defence personnel and their requirements. Changing structure, composition, orientation and role of defence personnel in modern society.
10. Role of armed forces as agencies of social change, modernisation and economic development.

Selected Readings:

1. Sociology

Macmillan C., New York : by Bogardus

contd..

2. Race, Class & Military : by Grille
3. The Role of Military in : By Johnson John of (ed)
under-developed countries
4. Social Orgins of Dictorship : by Barrington Moore
and Democracy.
5. On the uses of Military Power : by Klaus Knorr
in the Nuclear Age.
6. Defence & Development : by Subramanian
7. The Unconscious Motives of War : by Alix Strachey
8. Military Organisation and : by Stainslaw Androze Jewski
Society.
9. Men in Uniform : Military : by Michael Fort R.D.
manpower in Modern Industrial
Society.
10. Military Institutions and Power : by William I Gutteridge
in the New States
11. Sociology and the Military : by Morris Janowitz
Establishment
12. The New Military Changing : by Morris Janowitz (ed)
Pattern of Organisation
13. The Professional Soldier : By Morris Janowitz
A Social and Political Potrait
14. The Soviet Military and the : by Roman Kolkowics
Communist Party
15. Perspectives in Defence Flanning: by K. Subramanyam
16. Politics, Economics & Warfare . : by RA Dahl & GE Lindblon
17. The Soldier and Social Change : by Van Doorn
Comparative Studies in the
History and Sociology of the
Military Science.
18. The Social Psychology of : by Goldman
Military Science
19. Military Institutions & the : by Lang
Sociology of War
20. The Power Elite : by CW Mills
21. Elites & Society : by TB Bottonmore

M.A./M.Sc.

INTERNATIONAL ORGANISATIONS

1. The development of International Organization:

- (a) Introduction - objectives, structure, function and setting for international organisation.
- (b) The League of Nations - Origin, structure and brief review of its functions.
- (c) The establishment of the United Nations - Planning and interim arrangements.

II. The United Nations System:

- (a) The organizational framework of the U.N.O. - Legal character Principles, objectives, membership and principle organs.
- (b) Constitutional problems and Developments :- Membership representation, Voting, domestic

III. Political, Legal and Administrative Problems

- (a) The adjustment and settlement of disputes and political questions.
- (b) Collective measures, enforcement action and Preventive diplomacy.
- (c) The Regulation of Armaments
- (d) The Rule of Law - International Court of Justice, Permanent Court of International Arbitration and International Law Commission.
- (e) Civil Servants of the World - Secretary General UNO Secretariat and International Secretariats.

IV. Welfare and Trusteeship

- (a) Economic and Social organisation of UNO-objectives and structure of economic and social co-operation.
- (b) The Specialized Agencies; General Nature of the following WHO, ILO, FAO, UNESCO, ICAO, IFC, IDA, UPU, WMO, IMO and IAEA.

- (c) Economic, Social and Cultural Co-operation.
- (d) The trusteeship system and Non-self governing territories.

V. Recent Trends:

- (a) Regionalism - Arguments Pro and Con, Regionalism under the charter, the organisation of American States, Central American common market, Organisation of Petroleum exporting countries OAU, EEG.
- (b) Reflections on the future

Selected Readings:

- | | | | |
|-----|------------------|---|--|
| 1. | F.H. | : | Power and the Pursuit of Peace |
| 2. | Duchacek, I.D. | : | Nations and Men |
| 3. | Kelsen, H. | : | The Law of United Nations. |
| 4. | Gupta, D.C. | : | The League of Nations. |
| 5. | Saxena, K.P. | : | The United Nations and collective Security. |
| 6. | Goodspeed, S.S | : | The Nature and Function of International Organisation. |
| 7. | Walker, H.R. | : | World Politics in the General Assembly. |
| 8. | Brownlie, I. | : | International Law & the use of Force by States. |
| 9. | Lawson, R.C. | : | International Regional Organizations. |
| 10. | Hloomfield, L.P. | : | The United Nations at Twenty \$ after. |
| 11. | Bogardus, E. | : | Toward a World Community. |
| 12. | Macmillan, H. | : | Winds of Change. |
| 13. | Andrw B | : | Fifteen Men on a Po. Keg. |
| 14. | Hasluk P. | : | Workshops of Security. |
| 15. | Telow, E. | : | The United Nations. |

GEOPOLITICAL STUDIES

1. Evolution of Geopolitical thought : Since 19th Century
Its objectives and scope and conjectures:
 - (a) National Power and Resources.
 - (b) Analysis of the areas of operations.
 - (c) Environmental Engineering

2. Military Strategy:
 - (a) The Planning Process
 - (b) Principles of the Strategic Geography
 - (c) Geography of Land, Sea and Air Warfare
 - (i) Frontiers & Boundaries
 - (ii) Buffer Zones
 - (iii) Maritime Boundaries, concept of territorial sea
Economic Zones etc.
 - (iv) Strategic relief, offshore islands
 - (v) Land locked states and the problem of access
to seas. Emphasis on the area and heart
of the State.

3. Military Tactics:
 - (a) General principles of Military Geography
 - (b) Weather and conditions of the Sea. Natural
Land scope and geographical features of
countries and regions.

4. Logistics: Resources, Problems of Supply, Transportation
Mobility and Accessibility.

5. A case study of India with Reference to:
 - (i) The probability notion conflict situation
 - (ii) Time factor (iii) Accessibility (iv) Mobility
 - (v) Visibility (vi) Matrix of conflict (vii) Conflict
of interest (viii) Balance of Power (ix) Scale of
Warfare.

Selected Readings:

1. E.M. Earle : Makers of Modern Strategy

2. Harm Jdi Elij : Systematic Political Geography
3. K.M. Panrikar : Geographical factors in Indian History
4. J.R. Prescott : Makers of M
5. J.R. Presscot : Political Geography
6. Charles A. Fisher : Essays in Political Geography
7. Mackinder A. : Democratic ideals and Reality (1942)
8. Machinder H.J. : The geographical Pivot of History (Geographical Journal Vol. XXIII 1904)
9. B. Sukhwal : Political Geography
10. James Fa grieve : Geography & World Power

Course Title

SCIENCE, TECHNOLOGY AND NATIONAL SECURITY

A. Science and Society:

1. Science, Technology and society in different historical contexts.
2. Technological breakthroughs and societal changes.

B. Technology and Interdependence

1. Structure of international interdependence and Transfer of technology.
2. Technology and its effects on Weapon systems, strategy, industry and national economy.
3. Basic Technology e.g. Heavy Engineering; Chemicals and Materials.
4. a) Nuclear technology
b) Aero-space"
c) Communications"
d) Automation and Miniaturisation"
e) Marine technology

5. Pollution and depletion of resources

6. Energy resources and their development; effect on strategy; tactics;

C. Indian Polity and Problems of National Security

1. Resource base.
2. Science, technology and industrial growth
3. Defence and development and role of defence research and production.
4. Need for an integrated science policy.

STRATEGIES OF PEACE AND WAR

A. War and Society

1. a. War as an instrument of social change
b. War as continuation of policy by other means.
2. Changing nature of war: from limited to total war.
3. a. Rise of militarism
b. Evolution of Strategic thought
c. Mechanisation of warfare

B. Disarmament Diplomacy: From the Hague to Geneva

C. Down of Atomic Age

1. International Control of Atomic Energy.
2. Advent of nuclear weapons
3. Nuclear Strategy
4. Problems of proliferation of nuclear weapons
5. Arms race and Strategic Arms Limitation talks
6. Impact of military technology on international politics

D. Protracted Conflicts

1. Wars of national liberation and Local conflicts.
2. Strategy of the Revolutionary: Mao Tse-tung.
Che Guevara, Giap, Nussution etc.

E. Perspectives on War and Peace in Future

1. Chemical, Biological and environmental warfare.
2. Defence, development, and the third world.
3. Peace research and other approaches to conflict resolution
4. Pacem in Terris: Manseternal quest for peace

COMMENTS OF THE JTC ON THE MODEL SYLLABUS PERTAINING TO POST GRADUATE STUDIES AS PREPARED BY COMMITTEE APPOINTED BY THE U.C.C.

General

1. The syllabus is considered broad based and appropriate for Post-graduate studies. Our recommendations for including additional areas of studies are given in succeeding paras.

Core Paper I - Theory and Practices of War

2. This paper needs to be augmented in regard to the Air and Naval aspects of studies. Following additional subjects are suggested for inclusion in this paper:-

(a) Part I, Serial H

- (i) Emergence of air power and its impact on events of World War I.
- (ii) Concepts and doctrines on the employment of air power enunciated between the two World Wars.

(b) Part I, Serial I

- (i) Appearance of aircraft carriers, conventional and nuclear submarines - Landmarks in the History of Naval Warfare.
- (ii) Development of naval strategy doctrine, tactics and weapon systems since World War I.

(c) Part II, Serial E

- (i) Strategic Air operations in Europe and the Pacific during World War II and their decisive effect in the outcome of the War.
- (ii) Evolution of Land/Air and Air/Sea (Maritime) Warfare during World War II and the special doctrines evolved for these operations.
- (iii) 'The emergence of air power as a dominant force in modern warfare' (post World War II).
- (iv) Aerospace Power and its likely impact on future conflicts.

Core Paper II - War in International Relations (Serial L refers)

3. The study of major determinants of foreign policy of various countries should include Pakistan and other rim land countries having interest in the Indian Ocean.

Core Paper III - National Security

4. Following additional aspects may be considered for inclusion:-

(a) Serial 5 - The study of National Security problem of India should include the scope, probability, dimension of insurgency threat, aided by internal belligerent powers, and political and military problems of counter insurgency.

(b) Long range threat assessment, based on National Security objectives with a view to formulate optimum force levels and evolve joint strategic plans.

Core Paper IV - Defence Economics

5. The stress should be laid on fiscal strategy to cover mobilisation of economic resources, curtailment of consumption, conservation of resources, creation of money, levy of taxes and loans to sustain war efforts of a nation.

6. While discussing 'Industry and Defence in India', besides studying production organisation of Director General of Ordnance Factories, the study should include the role and organisation of Director General Supplies and Disposal and Director General of Inspection, who have a major contribution in mobilising industrial resources to meet the exacting nature of defence requirement. The intensity of interaction between these two organisations and civil industries and economy is so great that the study of defence economics would be incomplete without study of these two organisations and their problems.

7. While considering general problems of optimisation, cost benefit analysis and linear programming, the concept of value analysis and decision matrix should also be included.

Geo-Political Study (Paper VII)
and Area Studies (Paper VIII)

8. The scope of Area Studies would include Geopolitical factors which automatically imbibe resource assessment, internal economy and war potential of a nation. It would, therefore be appropriate to merge these two papers into one to avoid overlapping of 'Area Study' with 'Geo-Political Study'. The following additional Areas may also be included to make the coverage more broad-based:-

(a) Western Europe.

(b) Africa-South of Sahara.

Paper IX Psychology and the Armed Forces

9. The study of psychology and the Armed Forces, will not be complete without incorporating the topic of 'communication' and various aids/tools to improve inter-personal communication viz. Transactional analysis, Sensitivity training.

Other Recommendations

10. In addition to the selected Reading mentioned in the syllabi, some additional reading has been recommended as shown in Annexure I attached.

11. The study of development of ship building industry in India with special reference to modern warship production and its indigenisation, may also be included.

UNIVERSITY GRANTS COMMISSION

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Minutes of the meeting of the Committee appointed by the UGC to suggest model course for Defence Studies at undergraduate and postgraduate levels.

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The Committee appointed by the UGC to suggest model courses for Defence Studies at undergraduate and postgraduate levels in the universities and colleges met in the office of the UGC on September, 5, 1979 at 3.00 P.M. The following were present:-

1. Lt. Gen. KP Candeth (Retired)
New Delhi.
2. Col. R. Rama Rao
Director
Birla Institute of Scientific Research
New Delhi.
3. Lt. Col. MG Abhyankar
Director
Hunzru Centre of Defence Studies & Research
Punjab University.
4. Dr. DD Khanna,
Head
Department of Defence Studies
Allahabad University.
5. Shri Y.D. Sharma
Deputy Secretary, UGC,
New Delhi.
6. Shri CM Ramachandran
Under Secretary, UGC.

The committee had before it a background note prepared by the UGC, containing the suggestions of the Ministry of Defence, on the model syllabus for postgraduate studies drafted by the UGC expert committee, and the comments of the members of the expert committee on these suggestions.

The Committee made the following main observations and recommendations:

1. The changes suggested by the Ministry of Defence on the model courses for defence studies at the postgraduate

level were considered to be of a very minor nature and were incorporated wherever found necessary. A copy of the model course finalised by the Committee for defence studies at postgraduate level keeping in view the comments of the Ministry of Defence and the views of the members of the committee is enclosed Appendix.I.

(2) The Committee also noted the contents of a letter No.F.11(7)/77/D(Coord) dated 21.6.1979 received from the Ministry of Defence (Appendix-II), accepting the following recommendations made by the UGC, after a discussion held with the officers of the Ministry of Defence on July 10, 1978 with regard to providing facilities for defence studies at the postgraduate and research level:

(i) To associate serving or retired service officers with the boards of studies of universities in defence studies and to make available the services of serving officers to the universities for this purpose.

(ii) To depute senior officers to serve as visiting professors/fellows in the schools or departments of defence studies in various universities.

(iii) To make available the advice and guidance of senior service officers in various research studies leading to Ph.D. degree.

The Committee desired that the above letter of the Ministry of Defence may be circulated to the universities for their guidance.

(3) With a view to ensuring proper development and maintaining a high standard of postgraduate teaching and research in defence studies, the Commission may constitute separate subject panel for defence studies, as in other subjects. A report on the status of the development of teaching and research in universities may be made by the Pt

(4) Defence Studies may be introduced at the postgraduate level in such universities which have adequate facilities viz. staff, library and other facilities. The UGC Visiting committees which visit the universities for the consideration for their various development proposals may include experts in defence studies wherever necessary so that the requirements of such departments in universities are properly appreciated and recommendations made according

(5) The resolution of the Commission that it was not in favour of providing facilities in defence studies at the undergraduate level since defence studies were essentially of inter-disciplinary nature (UGC) meeting December 19, 1977), was discussed, and the committee emphasised that the teaching of defence studies at the undergraduate level was vital for the proper development of postgraduate teaching and research. Undergraduate teaching in defence studies was being provided by a number of affiliated colleges (employing hundreds of teachers), in a score of universities, in more than half-a-dozen states, and that this subject is being off ~~to~~ ~~the~~ ~~State~~ ~~Public~~ ~~Service~~ ~~Commission~~ (terminating competitive examinations of the State Public Service Commission). The study of this subject at the undergraduate level educates the young minds on the problems of national security and civil-military relationships. The committee recommended that in the interest of maintaining high standard, the Commission may consider the desirability of reviewing its decision regarding providing facilities for this subject at the undergraduate level and circulate the model courses earlier framed by the expert committee for undergraduate courses for the guidance of universities. In this connection, attention was also invited to the following recommendation of the Review Committee on Military Science appointed under the Chairmanship of Dr. D.C. Pavate, Vice-Chancellor, Karnataka University and circulated by the UGC in April 1968 to the universities:-

"After careful consideration of the various issues involved, the committee is of the view that at the undergraduate stage Military Studies could be conducted as an optional subject on the same footing as political Science, Economics, History etc. Since the main aim of undergraduate studies is to impart liberal education, Military Studies might constitute to be one of the optional subjects which students are required to offer."

Appendix-I

Postgraduate courses for Degree Studies (M.A./M.Sc.)

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<u>Paper No.</u>	<u>Subject</u>	<u>Remarks</u>	
Paper-I	Theory & Practice of War (1975 to date)	No change	
Paper II	War in International Relations	Please add (vi) Pakistan under II. Major Determinants of foreign policies of the	
Paper III	National Security	No. 5 may be read as under: National Security Problems of India- (a) External and Internal Threats (b) Long term threat assessment. Evolution of appropriate defence strategies and plans determination of optimum force levels, long term equipment planning joint operational planning.	
Paper IV	Defence Economics) }) }) }) }) }	
Paper V	Contemporary Problems of war		
VI	Military History of India upto 1857.		No Change.
VII	International Law		
VIII	Area Studies		
IX	Psychology and Armed Force.)- Sub-heading I may be read as psychology and Armed Forces (and not Psychology and Soldier). The following may be added under II after (f): (g) Communications- aid/ tools- techniques ; intra group, lateral and vertical communications, transactional analysis, sensitivity training and responses.	
X	Dissertation) }) }) }) }) }	
XI	Armed Forces and Society		
XII	International Organisations		
XIII	Geo-Political Studies		No change
XIV	Science, Technology and National Security		
XV	Strategies of Peace and war.) }	

Appendix-II

No.F.11(7)/77/D (Coord)
Government of India
Ministry of Defence
New Delhi-11,

Dated the 21st June, 1979

To

The Chairman,
University Grants Commission,
Bahadur Shah Zafar Marg,
New Delhi.110002.

Subject: Studies in Military Science in various Universities.

Sir,

I am directed to refer to D.O. letter No.F.1 -59/78(CP), dated the 31st July, 1978 from Shri Y.D.Sharma, Deputy Secretary, UGC forwarding a copy of the draft proceedings of the meeting of the Commission held on 10th July, 1978 to advise the UGC on providing facilities for Defence Studies at Postgraduate and Research levels, and to say that the following recommendations of the UGC have been accepted by this Ministry:-

- (a) To associate serving or retired Service officers with the Boards of Studies of Universities in Defence Studies and to make available the services of serving officers to the universities for this purpose.
- (b) to depute senior officers to serve as Visiting Professors/Fellows in the Schools or Departments of Defence Studies in various universities.
- (c) to make available the advice and guidance of senior service officers in various research studies leading to Ph.D. Degree.

Yours faithfully,

(K.N. Singh)
Dy.Secretary to the Government of India

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979

Item No.2.05: To receive the minutes of the Committee appointed by the University Grants Commission to workout the modalities of the scheme for support of research by retired teachers from universities & Colleges.

Since 1961-62, the University Grants Commission has been implementing the scheme for Utilisation of Services of Retired Teachers under which universities, colleges and approved institutions are assisted to avail of the services of teachers of outstanding merit who have crossed the normal age of retirement but who are otherwise fit to continue their teaching and research work. A copy of the rules governing the scheme is attached Appendix-I. Under the scheme the total placement available is 300 against which 248 teachers were working under this scheme as on 1st January, 1979 and that 29 fresh awards have been made subsequently in 1978-79.

The sub-Committee of the UGC Review Committee at its meeting held on 5th February, 1979 suggested that the scheme of retired teachers be discontinued in its present form and made an integral part of the scheme of support for research in view of the fact that emphasis in the scheme of retired teachers is now on research programmes. In pursuance of the above decision of the Sub-Committee of the UGC Review Committee, the Commission appointed a Committee consisting of the following members to workout the modalities of the new scheme:-

1. Prof. M.V.Mathur
Director, NSC, New Delhi.
2. Prof. A.N.Bose,
Vice-Chancellor
Jadavpur University, Calcutta.
3. Prof. A.R.Desai
Vice-Chancellor,
South Gujarat University, Surat.
4. Prof. T.N. Madan
Member-Secretary,
ICSSR, New Delhi.

p.t.o.

5. Prof. C.V. Subramanian,
Department of Botany,
Madras University, Madras.
6. Prof. Mrinal Miri,
Deptt. of Philosophy,
North Eastern Hill University, Shillong.

The committee met in the Office of the University Grants Commission on 14th May, 1979 and made the following specific recommendations with regard to the involvement of the retired teachers under the various schemes of the UGC :-

1. Preparation of University Level - Books by Indian Authors: The General approach of the scheme for involving retired teachers may be the same as indicated in guidelines of the UGC on the scheme. The retired teachers may formulate a project which could be completed in two years. The honorarium may be the same as in the case of other teachers participating in this scheme. The proposals received from retired teachers for participation in this scheme may be considered by the appropriate committee of the UGC.
2. Educational Innovations: The duration of the project may be upto three years and the honorarium etc. may be the same as in the case of projects of support of research. The proposals received from the retired teachers may be considered by the committee of the UGC or subject panels.
3. Support for Research to Retired Teachers: The general procedure for proposals by retired teachers from universities and colleges may be the same as in the scheme for support of research to the other university college teachers. They may be paid a suitable honorarium with a contingency grant. The value of the honorarium/contingency grant may be fixed in consultation with the CSIR and ICAR etc., The proposals made by the retired teachers may be considered by the subject panels like other research projects.

The Committee suggested that the value of the honorarium/contingency grant etc., may be fixed in consultation

: 3 :

with the CSIR and ICAR etc. for support for research to retired teachers. Accordingly, both these organisations have been requested to indicate the criteria of honorarium/contingency grant etc., being adopted by them for support for research to retired persons but the requisite information is still awaited from these organisations.

The minutes of the Committee are enclosed Appendix-II

The matter is placed before the Commission for consideration.

US (RF)/DS (A)

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UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI.

RULES FOR THE SCHEME OF THE "UTILISATION OF
SERVICES OF OUTSTANDING RETIRED TEACHERS".

The scheme is intended to assist universities and colleges to avail of the services of retired teachers of outstanding merit who are still active for research and teaching with emphasis on research.

ELIGIBILITY

Teachers with an outstanding record of research in a university, college or institution of higher learning (recognised under the UGC Act) are eligible for participation in the scheme after their retirement from service. Outstanding teachers who have shown evidence of contribution to growth of scholarship in the discipline concerned are also eligible to apply.

VALUE

An honorarium of Rs 9000/- a year will be paid to the teacher selected under the scheme through the institution where he works. A sum of Rs 2,000/- a year will be available for contingency expenditure connected with his work under this scheme. Grants under this scheme are payable in addition to any pension earned by the teacher on retirement. The institution where the teacher works may also pay from its own funds, if it desires, an additional honorarium upto a maximum of Rs 6,000/- (Rupees six thousand only) a year with the approval of the University Grants Commission.

CONDITIONS OF AWARD

1) The awardee will devote 3-6 hours a week to 'contact work' with students (teaching, seminars, guidance or research) besides his study and research under the scheme. Those selected under the second category are expected to devote 8-10 hours a week to teaching/seminars. Selected teachers may also take up book writing project with the approval of the University Grants Commission provided the work is of a creative nature and expected to make a distinct contribution to the growth of knowledge. The host institution will be required to provide adequate facilities such as laboratory, library, etc. to the awardee.

2) The participants in the scheme will not accept any other full time or part time paid assignment during the tenure of the award.

(c) The award to a teacher under the scheme would be made for a period of ~~three~~ years initially. The University Grants Commission may grant extension upto a maximum of two years subject to the age limit of 68 years on the basis of an assessment of the contribution made by the teacher during his initial tenure under the scheme and the research work proposed to be done.

The Commission reserves the right, however, to curtail the tenure of a teacher under the scheme at any time, if the contribution by a teacher is not significant, or his association with the University/College is not considered in the best interests of the Institution.

(d) If an awardee needs any special library or laboratory facility not available at the institution where he works, he may send a proposal through the institution concerned for consideration of the Commission. The proposal should be in the nature of a research project and this will be examined by the UGC subject panel concerned on the merit of each case.

(e) The teacher selected under the scheme is to be treated as supernumerary and in no case a substitute or replacement for a person doing normal teaching and research in the University Department/College.

(f) The University/College may give a suitable designation to the participants under the scheme but they should not be designated as 'UGC Professor' or 'Emeritus Professor'.

(g) The participants under the scheme are requested to submit to the University Grants Commission through the Institution concerned six monthly reports of the work done by them.

(5) PAYMENT

The grant in respect of the award will be paid in advance to the University or Institution concerned on yearly basis for disbursement in the first week of every month.

6. SELECTION

The selection of the teachers under the scheme will be made by the Commission on the recommendations of a Committee appointed by the Commission for considering the nominations received from the universities. A person not selected may not be nominated again during the same academic year.

7. NOMINATION FOR THE AWARD.

Nominations of teachers for participation under the scheme may be made by the Vice-Chancellor of University in consultation with the Dean of the Faculty concerned and also the Head of the Department. In the case of a head of department who is due to retire, the recommendation may be made in consultation with the Dean only.

In the case of College teachers, the nomination may be made by the Vice-Chancellor in consultation with the Principal of the College. A college teacher who should have demonstrable and measurable evidence of good teaching, research/scholarship, publications; his contribution to the cultural life of the institution where he was working; his reputation as a teacher and the moral influence exerted by him on the members of the academic community including students. Universities are expected to nominate teachers for participation under the scheme only in such cases where teaching and research in the subjects concerned will be definitely strengthened if the services of such a teacher are available. Alongwith the nominations five copies of the bio-data of the teacher publications, plan of work and complete information on proforma 'A' should be sent to the Secretary, University Grants Commission, Bahadur Shah Zafar Marg, New Delhi-110002.

UNIVERSITY GRANTS COMMISSION

MINUTES OF THE MEETING OF THE COMMITTEE APPOINTED
BY THE UGC TO WORK OUT THE MODALITIES OF THE SCHEME
FOR SUPPORT OF RESEARCH BY RETIRED TEACHERS FROM
UNIVERSITIES AND COLLEGES:

The Committee met in the office of the University Grants Commission on 14th May, 1979 when the following were present:

1. Professor Satish Chandra, Chairman, UGC.
2. Professor B. Ramachandra Rao, Vice-Chairman, UGC.
3. Prof. M.V. Mathur, Director, National Staff College
4. Prof. A.N. Bose, Vice-Chancellor, Jadavpur University, Calcutta
5. Prof. A.R. Dessai, Vice-Chancellor, South Gujarat Univ, Surat
6. Prof. T.N. Madan, Member-Secretary, ICSSR, New Delhi.

Professor C.V. Subramaniam and Prof. Mrinal Meri could not attend the meeting.

The meeting was also attended by Dr. D. Shankar Narayan, Additional Secretary, UGC, Dr. M.L. Mehta, Deputy Secretary, UGC and Shri M.R. Gupta, Under Secretary, UGC.

The Chairman informed the members of the committee that the Commission has decided that the scheme of utilisation of services of outstanding retired teachers, in its present form be discontinued. It may be possible that proposals from retired teachers may, however, be considered under other scheme of UGC, such as, support for Research or Book Writing or for undertaking programmes on Educational Innovations. The retired teachers could participate under any of these schemes and may also be required to devote some time to teaching and contact with students.

The committee noted that the University Grants Commission had been implementing since 1961-62 the scheme for the utilisation of services of retired teachers under which universities, colleges and approved institutions were assisted to avail of the services of teachers of outstanding merit who have crossed the normal age of retirement but who are otherwise fit to continue their teaching and research work. Under the scheme the total placement available is 300 against which 248 teachers were working under this scheme as on 1st January, 1979 and that 29 fresh awards have been made subsequently in 1978-79.

The committee also noted that the UGC has a scheme of providing financial assistance for writing of quality books for universities and colleges. The scheme involves outstanding teachers, researchers

and scholars in the universities, colleges and other institutions of higher learning and research to take a lead in the preparation of high quality books for use at the university level. The objective of the scheme is to support the preparation of high quality books, monographs and reference material for use in universities and colleges. The Commission invites outstanding teachers and scholars to write university level books. Such authors are given a lump sum of Rs. 10,000/- for undertaking the writing of a book as approved by the Commission within a period of three years.

The committee further noted that the University Grants Commission provides support for Research work by teachers in the universities and colleges with facilities for postgraduate studies and research to enable them to take up well defined research projects in specific areas in Humanities, Social Sciences and Sciences etc. The research projects could be of fundamental or applied nature and priority should be given to research projects that have a direct relevance to the problems of the community. The Commission has advised the universities that research projects be formulated on well defined topics keeping in view the facilities already available in the institution. The plan of work of the project should be drawn up in such a way that the research work can be brought to successful completion within the specified period. The Commission provides assistance to universities and colleges for short-term and long-term research projects, on the advice of the subject panels concerned.

The committee further noted that the Commission has been assisting the universities to promote the fabrication of equipment by indigenous sources and identify the specific items of equipment which could be designed or fabricated by indigenous sources. Several research projects involving instrumentation development have been approved by the UGC to be taken up in the university departments.

There is also a scheme of restructuring of course under which the colleges are being assisted in introducing restructured courses. The committee noted that the Commission's scheme of Restructuring of courses has two important aspects viz., (i) to make first degree courses more relevant to the rural environment and to the developmental needs of the community and (ii) to link education with field work, practical experience and productivity.

The matter was discussed at great length and finally the committee made the following conclusions:-

The outstanding teachers who are due to retire or have retired may also send proposals through the University concerned to the UGC for the following schemes: (i) Support for Research; (ii) University Level Books by Indian Authors, and (iii) programmes on Educational Innovations.

The schemes may be limited to Humanities, Social Sciences, Sciences, Engineering and Technology but excluding Agriculture

and Medical Sciences subjects.

The programmes for Educational Innovations may include fabrication of equipment and teaching aids, curriculum development activities, extension programme, activities relating to SOSIP and COHSSP Programmes and other creative educational activities etc.

Under these schemes, the selected teachers will devote three to four hours a week to 'Contact Work' with students which will include teaching, seminars, guidance of research besides the work of the retired teacher connected with his project. The participants in the schemes will not accept any other full-time or part-time paid assignment during the tenure of the project.

The host institution will be required to provide institutional support in the form of adequate facilities such as laboratory, library etc. to the selected teachers. The selected teacher will be assisted for a period of three years initially and no teacher beyond the age of 65 years will be eligible to participate in the programmes. The teacher selected under the scheme is to be treated as supernumerary and in no case a substitute or replacement for a person doing normal work in the department or colleges.

The committee made the following specific observations with regard to the involvement of the retired teachers under the above mentioned schemes of the UGC.

1. Preparation of University Level-Books by Indian Authors: The general approach of the scheme for involving retired teachers may be the same as indicated in the guidelines of the UGC on the scheme. The retired teachers may formulate a project which could be completed in two years. The honorarium may be the same as in the case of other teachers participating in this scheme. The proposals received from retired teachers for participation in this scheme may be considered by the appropriate committee of the UGC.

2. Educational Innovations:- The duration of the project may be upto three years and the honorarium etc. may be the same as in the case of projects of support of research. The proposals received from the retired teachers may be considered by the committee of the UGC or subject panels.

3. Support for Research to Retired Teachers:- The general procedure for proposals by retired teachers from universities and colleges may be the same as in the scheme for support of research to the other university/college teachers. They may be paid a suitable honorarium with a contingency grant. The value of honorarium/contingency grant may be fixed in consultation with the CSIR and ICAR etc. The proposals made by the retired teachers may be considered by the subject panels like other research projects.

University Grants Commission
Bahadur Shah Zafar Marg
New Delhi.

Supplementary information for Item No. 2.05

Meeting:

Date 26th October '79.

Extracts of information received from CSIR and ICAR regarding the honorarium, contingent grant, fellowship grant etc. paid to "Emeritus Scientists".

Council of Scientific and Industrial Research (CSIR)

Honorarium and Grants: An Emeritus Scientist will be paid a monthly honorarium of Rs. 1000 for the duration of his tenure. Besides, the scientist may also be provided with a contingent grant of Rs. 2000 and assistance of a research fellow (JRF or SRF).

Indian Council for Agricultural Research(ICAR).

Terms and conditions governing the grants to the Emeritus Scientists.

(a) General terms and conditions

The schedule of terms and conditions governing grant-in-aid from the Council will mutatis-mutandis apply to the grants to the Emeritus Scientists.

(b) Special terms and conditions.

(1) The Emeritus Scientist shall be entitled to the following research grant:-

(i) An honorarium of Rs. 750/- p.m. in addition to pension/ provident fund that he may draw. The honorarium paid to the Emeritus Scientist shall be subject to income tax.

(ii) Contingent grant upto Rs. 5000/- per annum subject to actual expenditure to cover expenditure on purchase of equipment and apparatus, books and stationery and part-time ministerial help, if any, and tours within the country. Tours in connection with the work may be undertaken by the Meritus Scientist only when absolutely necessary strictly within overall ceiling of the contingent grant. Single rail fare of the 1st Class and road mileage from the residence to the railway station and vis-versa will be admissible for such tours. No daily allowance will be admissible while on tours.

(iii) The Scientists requiring additional grant for essential work relating to Research may indicate such requirements clearly in their applications. The Standing Committee shall consider such requests on the merits of each case.

Senior
(iv) Grant of Rs. 3000/- or Rs. 4000/- per annum for *Senior* Junior or Senior Research Fellow as the case may be. The rate of Junior Fellowship/ Senior Fellowship will be Rs. 300/- 400/- annum. The Research Fellow has to be appointed on a fixed month salary and he will not be entitled to D.A. or any other allowance. The Council may be kept informed of the name, age, qualification and fixed monthly salary of the Research Fellow, so appointed. Retired persons should not be appointed as Research Fellows. The Research Fellow will not be an employee of the Council. He not be entitled to travelling allowance or any other grant.

Junior
or
Senior

also

SECTION 3

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979.

- Item No. 3.01 To consider a reference received from the Ministry of Education & Social Welfare for the comments of the UGC on paras 29 to 37 of the report of the Tripartite meeting on Conditions of Work & Employment of Professional Workers, organised by the International Labour Organisation at Geneva from November 22 to November 30, 1977.

The Government of India, Ministry of Education and Social Welfare (Department of Education) has forwarded extracts from the report of the Tripartite Meeting on Conditions of Work & Employment of Professional Workers held at Geneva from November 22 to November 30, 1977 received by them from the Ministry of Labour with a request that compendium of Principles and Good Practices suggested by the Tripartite Meeting may be examined by the UGC and the comments with regard to paras 29 to 37 of the report be sent on the following lines to enable them to send their considered comments to the Ministry of Labour:

- (i) Parawise comments on the compendium indicating how far the existing law and practice meet its requirements, and
- (ii) Suggestions about the practicability or otherwise of giving effect to the principles laid down in the Compendium.

Extracts of paras 29 to 37 of the Report of the Tripartite Meeting are reproduced below:-

Education & Training

Para 29: Co-operation among public authorities, educational and training institutes and employers, and workers and their organisations should be developed to ensure the educational and training systems taken fully into account the requirements of working life and that young persons who undertake a course of training have the best possible

chances of finding employment corresponding to their qualifications and aspirations.

30. Education and training for professional level employment should provide a basis for continuous-adjustment and development throughout the worker's career. It should seek to provide every individual not only with the specialised technical knowledge necessary for a given job but also with a body of general knowledge sufficiently broad and deep to enable him to understand and to influence, individually or collectively, the working and social environment, to discharge his responsibilities within the undertaking and in society and to adapt to changing situations.
31. Professional workers should have access to appropriate continuing education facilities to maintain their qualifications, to improve them with a view to career advancement and to adapt them to developments in the scientific and technical fields and to economic and structural change.
32. Employers, the State and training bodies should consult together and jointly provide programmes of continuing education for professional workers. These programmes should be discussed with the appropriate organisations representing professional workers.
33. These programmes should provide in particular an opportunity for:-
 - (a) an introduction to the undertaking, its objectives, its working methods and conditions of work, and training designed to supplement initial education and training;
 - (b) the updating of knowledge and skills in the light of relevant developments particularly in science and technology in the occupation concerned;
 - (c) the acquisition of the skills and qualifications required to advance to higher level work or to discharge managerial or executive functions;

(d) the acquisition wherever possible of new qualifications to facilitate changes of job in the light of employment opportunities within the undertaking.

34. These programmes should be so designed as to make professional workers fully aware of their human as well as technical responsibilities and, in particular:-

(a) to foster the abilities and attitudes required for leading, advising and motivating other persons; while respecting their personality and human rights including the right to be organised, and for developing sound industrial relations;

(b) to develop a concern for satisfactory working conditions and for the safety and welfare of workers.

35. These programmes should take into account the aptitudes and professional interests of professional workers as well as the needs of the undertaking.

36. When professional workers participate in training programmes described above they should be assured of an equivalent income throughout the period of training. Where appropriate, they should be allowed educational leave in accordance with national practice and the period of such leave should be treated as a period of actual work for purposes of determining rights deriving from the employment relationship.

37. Professional workers should have access to training activities organised outside the training programmes of the undertaking. For this purpose, paid educational leave might be granted in accordance with the paid Educational Leave Convention (No.140) and Recommendation (No.143), 1974"

The matter is placed before the Commission for consideration.

US (CP)/DS (CP)

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CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:
Dated: 26th October, 1979.

Item No. 3.02 To consider a reference received from the Government of India, Ministry of Education & Social Welfare regarding the views of the Commission on the draft scheme drawn up for financial assistance to institutions to carry out studies of the problems of educational administration in India.

The Govt. of India, Ministry of Education & Social Welfare has forwarded a copy of the draft scheme drawn up for financial assistance to institutions to carry out studies of the problems of educational administration in India. A copy of the draft scheme is enclosed (Annexure).

It has been stated by the Ministry of Education that this scheme was discussed in a preliminary meeting of representatives of the Planning Commission, National Staff College and the different Bureaux in the Ministry and that the following points will also be kept in view while administering the scheme:

- (1) The Ministry, before formulating topics, will invite topics from reputed research institutions, State Departments of Education, State Governments, University Departments of Education and Boards of Secondary Education. The topics will then be finalised in a meeting which will be attended by the representative of the Planning Commission, the concerned Bureaux in the Ministry UGC, NCERT & National Staff College.
- (2) Proposals received from the various organisations for setting up studies will in the first instance be examined by the National Staff College which will make available their remarks and observations on the proposed study.

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- (3) The views of the concerned Bureaux and or autonomous organisation will also be obtained, where necessary.
- (4) The application received in response will be scrutinised by a committee. This committee will have representatives of National Staff College, UGC, NCERT, Directorate of Adult Education, Planning Commission and the concerned Bureaux in the Ministry. Two or three reputed educationists will also be nominated to the committee.

The Ministry of Education has requested for the suggestions of the UGC in regard to the above scheme and also the application form to enable the Ministry to finalise the scheme.

The matter is placed before the Commission for consideration..

US 1(CP)/DS (CF)

SIX

Scheme for study of problems arising out of
formulation, review and implementation of
Educational Policies, Planning and Management

The Objective

The Government of India propose to assist organisations and institutions to undertake studies of problems connected with the implementation of educational policies, programmes and plans. The emphasis of such studies will be in the areas of planning and management of educational systems. For this purpose, the Govt. would invite research proposals from research institutions, State Education Departments and other organisations which are associated with formulation and implementation of educational plan and policies or their evaluation.

2. Eligibility

The following categories of educational and research institutions/organisations will be eligible for assistance:

- i) Universities including deemed universities.
- ii) Institutions of Higher Learning.
- iii) Postgraduate professional and research institutions of repute affiliated to universities or otherwise recognised by the Central or State Governments.
- iv) Voluntary organisations of repute conducting research and innovations in the field of education.
- v) SCERTS, SIES, Departments and institutions of State Governments.
- vi) Boards of Secondary Education.
- vii) Association of Indian Universities, COBSE, and similar organisations.

3.(a) The Ministry will circulate the list of topics on which they will invite proposals for such studies. The Institutions will also be free to suggest topic for research study which in their opinion will satisfy the criterion laid down by the Govt. The proposals will be scrutinised and finalised by a Committee in the Ministry.

3(b) Autonomous organisations eligible for taking up assignments under this scheme should be non-profit making and should be set up either under a statute of the Central or State Legislature or be registered under the Societies Registration Act. In case of voluntary organisations registered under the Societies Registration Act, they should have been in existence for a period not less than five years on the date of approval of the proposal.

3(c) Any institution or organisation desirous of taking up such studies will have to comply with the following manner of submitting their proposals:-

- i) A detailed note on the proposal giving sufficient justification for taking up these studies and details of the study proposed.
- ii) Sufficient information about the project staff including the project director.
- iii) The extent of contribution proposed by the institution towards the study as indicated in column 16 of application.

4. Pattern of assistance.

The Government of India will bear the expenses on the following approved items of expenditure:-

- a) Honorary and allowances for staff,
- b) Stationery and Printing,
- c) Equipment,
- d) Travelling allowance for staff,
- e) Computer work,
- f) Books, periodicals, journals etc. and
- g) Contingency expenses including postage.

The Government of India would expect that the participating Government/Institution would meet some portion of the expenditure. The actual quantum of such contribution would be decided by the Government of India in each case on its merits based on the proposals received.

∅.t.o.

5. Conditions of assistance

- (i) The Institution undertaking the project will be required to maintain a separate account in respect of the project expenses even though some of the expenditure may be common with that incurred by the institution on other items.
- (ii) The Department/Institution undertaking the project will be open for inspection by an officer of the Ministry of Education or the State Government.
- (iii) The accounts of the project shall also be open to check by the Comptroller & Auditor General of India or his nominee at his discretion.
- (iv) The institution shall maintain record of all assets acquired wholly or substantially out of the Government grant and maintain a register of such assets in the prescribed proforma. Such assets shall not be disposed of, encumbered or utilized for other purposes without prior sanction of the Government of India.
- (v) The Department/Institution will be required to submit progress report of the scheme every three months. At the end of the project, they are required to submit a Statement of audited accounts along with a Utilization Certificate stating that the funds have been utilized for the purpose for which they were sanctioned.
- (vi) The project report will be submitted to the Ministry of Education as soon as they are ready. The copyright in respect of report will vest in the Government of India. In case, the institution or the author desires to publish the report, prior permission of the Government will be necessary.
- (vii) The decision of the Secretary to the Government of India in the Ministry of Education on the question whether there has been breach or violation of any of the terms and condition mentioned herein as well as in the sanction letters shall be final and binding on the grantee.

6. Duration of studies and extent of assistance

The studies should be short in nature. The institutions or the agencies taking up such projects would be required to complete them normally within six months subject to the grant of extension by the Government upto one or more years in exceptional cases.

Normally assistance for the project should not exceed Rs.50,000. The assistance can be released in appropriate instalments.

Application form appended.

Appendix

Proposals for study of Problems connected with
Formulation, review and implementation of educational
policies, Programme and plans.

1. a) Name of the Organisation :
- b) Mailing Address :
2. Title of the Project :
3. a) Status of the Organisation : Govt. organisation or Department
Voluntary Organisation University
Deemed University
Any Other Statutory Organisation
-
(To be stated specifically)
- b) Name of the parent body, if any, to which attached. :
4. Nature of functions of the Organisation. : Teaching
Examining
Research
Funding other organisations
5. Manner in which organisation was established. : Act of Parliament
Act of State Legislature.
Registered under Societies
Registration Act 1860.
Govt. Department.
6. a) In case established under Act of Parliament/
State Legislature, the Name of the Statute, No.
of Act and year. :
- b) In case established under Societies Regis-
tration Act, the place,
registration No. and
date of registration :
7. If Govt. organisation, date and the name, and the
Govt. Deptt. to which it is attached. :
8. a) Whether organisation has a source of income :
b) Whether it runs on no profit no loss basis. :

9. Brief history of the organisation, its objectives and activities
(Please attach sheet if necessary)
10. Whether organisation has any previous experience in the field mentioned in column 2 ? If so, details thereof.
11. Justification for taking up the study mentioned in column 2. (Please attach a separate sheet in quadruplicate)
12. Details of the Project
(Please attach separate sheet in quadruplicate)
13. Project Staff
 - a) a) Name of the Project Director.
 - b) Position held by the Project Director in the organisation mentioned in column 1 and elsewhere, at present.
 - c) Major positions held by Project Director Previously.
 - d) Curriculum Vitae of the Project Director (to be attached)
 - e) Field of Specialisation of project Director.
 - f) Projects completed by Project Director previously and Organisations for which undertaken.
 - g) List of Publications in last 3 years (to be attached)
 - h) Names of other projects in hand of the project Director and names of their commissioning agencies.

14. Estimated time in which project will be completed.
15. Estimates of Expenditure on project. Rs.

a) Honorarium for Staff:

(No. of persons to be employed, designation, quantum of honourarium to each, duration of employment to be specified).

b) Stationery and printing:

c) Postage and Telephones :

d) Equipment :

e) Travelling allowance :

f) Computer work :

g) Books, Periodicals :

h) Contingencies :

Total :

16. The extent of contribution by the Organisation to the study in terms of staff and others including financial support (May be quantified in financial terms)

17. a) Is the organisation willing to maintain separate accounts in respect of receipt and expenditure connected with Project?

18. b) Is the organisation willing to inspection of the project work and accounts by an officer of Central/State Govt./C&A.G?

c) Is the organisation willing to maintaining record of all assets, if any, acquired wholly or substantially out of Project Grant and to obtain prior sanction of the Govt. of India if it is encumbered, disposed or utilised for their purposes.

d) Is the organisation willing to give periodical progress report as desired by Govt. of India.?

18. Additional information if any:

19. List of papers to be attached.

a) Memorandum of Association and Rules/Constitution.

b) Composition of Board of Governors/Executive or Governing Body.

c) Latest available annual report.

d) Audited accounts for the last 3 years.

. e) Any other papers.

Place :
Date :

()
Signature of authorised
Person.
Tele No.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated: 26th October, 1979

Item No.3.03 To consider a reference received from the Government of India, Ministry of Education & Social Welfare regarding the Selection Committee for recruitment of Principals in the colleges administered by the Minority Communities.

The Commission at its meeting held on the 25th of May, 1979 (Item No.2.03) considered the views of the Ministry of Education & Social Welfare on the representation made by the All-India Association of Christian Higher Education, New Delhi in regard to the rights of Minority Institutions under the constitution of India in respect of appointment of teachers. The Commission was of the view that in view of the advice given by the Law Ministry, the constitution of the Selection Committee for appointment of teachers for minority colleges be as follows:

(I) 4 nominees of the managing committee which amongst others may include the following:-

(i) Chairman, Governing Body of the college and /or his nominees;

(ii) Principal of the college;

(iii) Head of the college department concerned;

(II) A nominee of the Vice-Chancellor

(III) Two experts to be nominated by the college out of the panel of experts approved by the University.

It was also agreed that the Vice-Chancellor may call for the records of any selection and if considered necessary refer the matter to the Selection Committee for its reconsideration.

The views of the Commission were communicated to the Government of India, Ministry of Education & Social Welfare with a request that if the above views of the Commission are acceptable to the Govt. of India, they may convey the same to the State Governments .

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The Government of India, Ministry of Education and Social Welfare has now requested to clarify whether the Commission has also considered the matter relating to the Selection Committee for recruitment of Principals in the colleges administered by the minority communities. It may be stated in this connection that the Commission had not considered the question of constitution of selection Committee for appointment of Principals of such colleges. However, the Sen Committee in its report (Part-II) on Governance of Universities & Colleges "pertaining to teachers" had suggested the following composition of the Selection Committee for the post of Principals of colleges:

- (i) Chairman of the Governing Body
- (ii) One member of the Governing Body
- (iii) Two nominees of the Vice-Chancellor
- (iv) One expert from a panel prepared by the Director-in-Charge of Higher Education in the State.

The recommendation as above made by the sen Committee is a general recommendation and not specifically for minority institutions.

The matter is placed before the Commission for consideration.

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CONFIDENTIAL

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 3.04: To consider a reference from the Ministry of Education and Social Welfare regarding the introduction of Vocational Courses as a part of the regular general education programme of 2 years degree courses in the colleges located in small towns.

The Government of India, Ministry of Education and Social Welfare (Department of Education) has forwarded the following extract from the draft of a record of discussion which was held in the office of the Member (Education), Planning Commission on 27.7.1979 with the Education Secretary and other officers of the Ministry regarding the introduction of vocational courses as a part of the regular general education programme of two year degree course in the colleges which are located in small towns:

"Discussing further, the Member, Planning Commission suggested that steps might be taken by the Ministry to introduce vocational courses as a part of the regular general education programme of two-year degree course in the colleges, which are located in small towns. He pointed out that the economy of the small towns should be studied and based on local surveys and facilities available for special vocational courses may be offered along with the academic courses for B.A./B.Sc. students, who should have a choice of offering a vocational course along with academic courses. It was pointed out by the Education Secretary that this may not be desirable, in view of the fact that the national policy suggest very strongly the vocationalisation courses at the higher secondary stage, which will take time to pick up and any introduction of vocational courses at B.A./B.Sc. stage will have a backlash effect of slowing down the process of vocationalisation at the secondary stage. He pointed out further that the policy is to see that less students go in for higher education. By introducing vocational

contd...

courses in the college, we will be going counter to this policy. However, during the discussion, the Member, Planning Commission pointed out that a pilot project may be taken up by the Ministry with about 50 colleges located in small towns where a trial may be given to the idea of a mix of academic and vocational courses for the students of those areas."

Para 3.03 of the Development of Higher Education in India. A policy frame, as approved by the Commission earlier is reproduced below in this regard:

3.03 The Undergraduate Stage: A major programme of reform of higher education is the restructuring of courses at the undergraduate stage to make them more relevant and significant, not only to the students but also to the nation as a whole by assisting social transformation and national development. It is absolutely essential that every undergraduate student should be given a grounding in four important areas: (1) a set of foundation courses which are designed to create an awareness of areas such as Indian History and Culture; history of the freedom struggle in India and other parts of the world; social and economic life in India, including concepts and processes of development; the scientific method including the role of science and technology in development; alternative value systems and societies based thereon; Cultures of Asia and Africa (selected countries) and Gandhian thought; (2) a set of core courses which will give the student an opportunity to acquire a broad familiarity with some chosen disciplines, including a study of one or more of them in depth; (3) some applied studies projects/field activity which will form an integral activity of the course and will be carried out in the final year; and (4) involvement in a programme of national or social service for the first two years. This will provide a rounded and richer education. To get the full advantage of this reform, several important measures will have to be adopted. For instance, the courses should be diversified, especially to cover newly emergent and inter-disciplinary areas; a greater freedom should be allowed to the student, through the adoption of the semester system, to choose the courses best suited to his interests and capability; unit courses and modern and dynamic methods of learning and study should be adopted; and examination reform should be carried out with vigour and determination.

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It may also be mentioned in this connection that the University Grants Commission has a scheme of restructuring of courses. It has two important aspects viz. (a) to make the first degree course more relevant to the verbal environment and to the development needs of the community and (b) to link education with work/field/practical examination and productivity by introducing students to relevant application areas of the subject:

The Commission is of the view that special attention needs to be given to the orientation of the existing courses towards rural problems without creating a completely different channel for such studies. The courses are to be reoriented in such a manner that a student can apply his theoretical knowledge to the problems of the region through field work, project work, extension etc. In other words, the existing conventional courses may be integrated with concrete problems and the courses related to the development of the region. The key concept underlying restructuring of courses is to remodel the existing conventional three subject courses at the first degree level by a courses comprising two of the existing subjects together with a third subject being oriented towards field/practical work or having a bearing and direct relevance to the local/regional needs and requirements.

The scheme of restructuring of courses is primarily meant for the colleges in the rural and backward areas, and in order to enable a good number of colleges in these areas to participate under this scheme the stipulation regarding minimum enrolment and minimum number of teachers as laid down by the Commission in respect of Rs. five lakh scheme for the development of affiliated colleges will not be insisted upon while examining proposals for restructuring of courses.

While the Commission would like all universities to participate in this scheme, 155 colleges were identified initially to try out the restructured new combination of courses. The colleges have been selected generally ~~existing~~ in the vicinity of agricultural universities/krishi vigyan kendras, so that these agricultural universities/krishi vigyan kendras can render useful assistance to the colleges in drawing up the syllabi for the new papers/subjects with a practical/rural/field orientation. The universities were requested to add the names of some more colleges to this list if they

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they find them suitable for inclusion under the scheme and accordingly 32 more colleges were included in the list.

The UGC is willing to support the programme by providing assistance in the form of grants for the purchase of books and journals and appointment of core staff on the merit of each proposal. Assistance to the colleges towards restructuring of courses is limited to Rs. one lakh per annum for recurring as well as non-recurring expenditure colleges have been advised not to diversify this programme by introducing too many courses. Instead, to begin with, a college may consider to start one course in the Social Sciences and one in sciences.

A number of courses have been suggested in the illustrative list sent to the universities. The new subjects like Horticulture, Fisheries, Applied Nutrition and Public Health, soil Science, Fertilizers, Dairy Science, Plant protection, Agricultural Marketing, Farm Management, Community Development, Rural Banking, Rural Industrialisation, etc. will be offered alongwith other traditional subjects at the first degree level.

The Commission has already circulated the guidelines to all the Universities and selected colleges and invited proposals from them for financial support.

The Vice-Chancellors of the Universities and the Principals of the colleges concerned have been requested to expedite the formulation of their proposals. The scheme has been implemented in 22 colleges and one university. The proposals of 24 colleges are being processed.

The Ministry of Education has requested for the comments of the University Grants Commission on the above proposal.

The matter is placed before the Commission for Consideration.

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University Grants Commission

Meeting:

Dated: 26th October, 79

Item No. 3.05: To consider a reference received from the Government of India, Ministry of Education & SW regarding development of Sports and Physical education among the tribal students as formulated by MP Government in consultation with the National Institute of Sports, Patiala

The Government of India, Ministry of Education and SW have forwarded a copy of the scheme of development of sports and physical education among the tribal students formulated by the Government of Madhya Pradesh in consultation with the National Institute of Sports, Patiala (Annex.) and invited the attention of the UGC particularly to the portion of the scheme relating to the programme of development of games and sports at the college level. They have requested for the views and comments of the UGC on this programme and also the extent to which financial assistance could be available for this programme from the UGC under the NSO or other schemes of UGC.

In December, 1969, the Commission agreed to provide assistance to universities and colleges for construction of gymnasium, development of play fields and for purchase of accessories on a sharing basis as indicated below out of the earmarked funds placed at its disposal by the Government of India, Ministry of Education & SW under the National Sports Organisation programme:

	<u>Cost</u>	<u>UGC Share</u>
	Rs.	
a) <u>Gymnasium</u>		
i) For a University (120' x 90')	2,50,000	75%
ii) For a college with enrolment of 1500 or more (100' x 50') (Excluding PUC, Pre-Engg. etc.)	1,50,000	75%
iii) For small colleges	75,000	75%

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b) Play fields

i) Universities	Rs. 15,000	75% or Rs. 11,250/- whichever is less
ii) Colleges	Rs. 10,000	75% or Rs. 7,500/- whichever is less

The UGC had sometime back appointed a Working Group on students welfare programmes in the universities and colleges and as recommended by the Working Group, the UGC at its meeting held on 31-1-77 agreed to provide financial assistance to universities and colleges for the development of play fields and purchase of accessories for games and sports on the following sharing basis:-

	<u>Allocation</u>	<u>UGC Contribution</u>
a) University	Rs. 15,000/-	Rs. 11,250/-
b) College	Rs. 10,000/-	Rs. 7,500/-

The assistance for the above scheme would be provided outside the Fifth Five Year Plan allocation of the universities/Rs.5 lakh scheme in the case of colleges. It was also agreed that such institutions as have already been received assistance from the Commission for the above purpose under the UGC programme, would not be eligible for fresh assistance during the Fifth Five Year Plan.

The Commission's assistance under this programme is not available for the purchase/acquisition of land and may be utilised only for the improvement of play fields/courts/pitches required for games and sports conducted by the institutions. If necessary, a part of the grant could be utilised for the purchase of equipment/accessories for such games and sports excluding day-to-day consumable articles like shuttle cocks, cricket balls, tennis balls etc.

With regard to construction of gymnasium, the Commission had agreed to provide assistance for the purpose to universities and colleges having a direct enrolment of 1500 and above excluding FUC, pre-engineering etc. The assistance to be provided by the Commission would be on 75:25 sharing basis outside the plan allocation of the university/Rs.5 lakh scheme. The above decision of the Commission was communicated to all the universities (except agricultural universities). The Universities concerned were also requested to bring this to the notice

of the colleges affiliated to it which are included in the list maintained under Section 2(f) of the UGC Act. The universities were also requested to plan the construction of gymnasium keeping in view the actual requirements and the guidelines laid down for gymnasiums in the 'Playing Field Manual' published by the National Institute of Sports, Patiala.

The Commission at its meeting held in December, 1977 considered the recommendations of the Working Group on students welfare programme in their meeting held on October 24, 1977 and agreed that assistance may be provided for improvement/development of play fields in the universities and colleges irrespective of the fact whether they were assisted in the Fourth Plan for this purpose. The Commission also agreed that the requirements of minimum enrolment of students for construction of gymnasium may be lowered from 1500 to 1000. The above decision of the Commission was communicated to all the universities except agricultural universities. The universities were also requested to bring this to the notice of the colleges affiliated to them and having an enrolment of 1000 and above excluding PUC/pre-engineering etc.

In this connection, it may also be mentioned that the UGC at its meeting held on April 27, 1979 (Item No.9) considered the recommendations of the meeting of the Executive Committee of the All India Council of Sports in Colleges and Universities and for proper utilisation of facilities available under the National Organisation programme. The Commission noted that at present, large numbers of students are not able to participate in games and sports and desired that the heads of the education institutions be requested to take greater interest so that a larger number of students can participate in such activities particularly in field and outdoor games. The Commission was also of the view that funding for the development of sports and games in the universities/colleges should be channelised through the UGC and for this purpose adequate allocation may have to be made specifically in the next plan allocation of the Commission. It was agreed that this question may be further discussed with the Ministry of Education & SW.

The first part of the decision of the Commission is being communicated to the universities concerned. With regard to the Commission's view about the funding for the development of sports and games in the universities/colleges, the matter is yet to be discussed with the Ministry of Education and SW.

The proposal of the Ministry of Education & SW is placed before the Commission for consideration.

MINISTRY OF EDUCATION

Shri BD Sharma, Commissioner for Tribal Development, Madhya Pradesh Government, Shri RL Anand, Director, National Institute of Sports, Shri AS Talwar, DS(SP) and I had discussions about the scheme prepared by the Madhya Pradesh Government for promotion of physical education and sports in tribal areas.

2. Shri BD Sharma explained the main features of the scheme. The programme of development of games and sports is envisaged on the following lines:

Primary Schools:

Government of Madhya Pradesh have decided that there will be 5 days of formal instruction and one day in a week in the case of primary schools in tribal areas, will be exclusively devoted to games and sports. The primary schools in a compact area have been grouped into clusters. The sports day is called the 'milan day'. All the children in a group of schools will meet in one of the schools in rotation, on the sports day of every week to take part in various programmes and competitions arranged by the teachers. One of the teachers in one of the primary schools in the cluster, who is interested in sports and physical education programmes, will be designated to provide the leadership and training for the programme.

Middle Schools:

At the middle school level, the Government of Madhya Pradesh will be identifying one middle school in each block which will be specially equipped for sports and physical education. About 20-25 tribal boys in the block areas who possess talent for sports and physical education will be placed in a hostel attached to the school. The hostel will be run by the State Government and the students will be entitled to a monthly stipend of Rs.60. They will also be given an additional stipend at the rate of Rs.30 per student per month. A physical education teacher will be posted to the school and he will be attending to the programmes of a sports and physical education in respect of these students.

High Schools:

At the high school level, one school will be selected in each integrated tribal development block. About 20-25 talented students in the block area will be identified and placed in a hostel attached to the school. They will also be eligible for monthly stipend of Rs.60/- plus a special allowance of Rs.60/- per month.

College level:

At the college level, four regional centres are proposed to be established where about 150 boys can be trained together, and coached to enable them to develop the talents to take part in national and international tournaments. The training at this level will be of a very high order. It is proposed to identify for this purpose four colleges in the tribal areas of Madhya Pradesh. These have been tentatively decided as Jagdalpur, Alirajpur, Bagija and Mandla. The colleges in these areas will be developed if necessary with the assistance of the University Grants Commission so that they possess the infrastructure and sports facilities for undertaking high level coaching and training programmes. About 150 students would be attached to each of these regional centres and will be placed in a hostel attached to these colleges. These students will be allowed to specialise in selected sports activities based on assessment of the potentialities and the equipment in that centre.

Inputs:

The State Government at the primary school level will be providing the teachers and also meet the cost involved in training programmes for the teachers. At the middle school level, the Madhya Pradesh Government will provide the physical education teachers in the identified schools. They will also undertake to meet the cost of training. At the high school level and the regional centres while the Madhya Pradesh Government will make the necessary efforts to provide the infrastructure facilities like buildings, site and some portion of the equipment, they would be requiring the assistance of the Central Government and the National Institute of Sports to support them in their efforts to undertake the coaching programmes. They would also require the assistance of the Sports Division of the Ministry and the University Grants Commission to provide support for raising the standard of facilities in the four regional centres so that high level training programmes could be organised. The Madhya Pradesh Government would also require the guidance and assistance of the Lakshmbai National College of Physical Education supported by the National Institute of Sports to undertake training programmes of the physical education teachers, assist the State Government in the selection of students, identification of equipment and facilities, supervision of the training programmes and broad support to the programme of development of physical education and sports among the tribal students. The national Institute of Sports have already taken action to recruit coaches in various disciplines for being posted in the centres attached to high schools and at the regional level. The National Institute of Sports will be taking action soon to actually post the

coaches already recruited. The NIS will also through the Regional Coaching Centre at Bhopal and with the collaboration of sports Directorate of State Government assist in the identification of talented students for being placed in the hostels. ^{placed} The NIS in collaboration with the LNCPE and State Government and physical education colleges in the state arrange for training programmes for the teachers at the primary and middle school levels. The assistance of LNCPE will be required to draw up the syllabus and curriculum for this training programme and resource persons and supporting staff for undertaking the actual training programme.

The Madhya Pradesh Government requires financial assistance and expert guidance to develop the facilities at the four regional centres and in the high schools. It may be necessary for the Sports Division to frame a scheme for assisting the Madhya Pradesh Government for this purpose. The Ministry will also explore in consultation with the U.G.C., assistance from the National Sports Programme.

The LNCPE located in Gwalior would be an ideal position to collaborate fully with the State Government in this programme of development of sports and physical programmes for the rest of the country and in the process LNCPE and NIS may gain valuable experience and expertise in developing programme of this nature and magnitude. The LNCPE authorities will be requested to collaborate with the State Government authorities already in developing guidance and administering this programme. The Director of Sports, Madhya Pradesh and an expert to be nominated by the National Institute of Sports will be immediately requested to visit the four regional centres to ascertain the physical facilities already available there and indicating the nature and extent of sports infrastructure to be developed there.

Sd/- PK Umashankar
31.7.1979

CONFIDENTIAL

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 3.06 To consider a reference received from the Government of India, Ministry of Education and Social Welfare regarding the question of revision of scales of pay of library staff and Directors of Physical Education in the universities and colleges in the country.

The UGC at its meeting held on April 27, 1979 (Item No. 15(b)) considered the report of the sub-committee appointed by the Commission regarding further revision of scales of pay of library staff and Directors of Physical Education in the universities and colleges in the country. A copy of the note placed before the Commission is enclosed (Annexure-I).

The Commission agreed to the upgrading of the scales of pay of library staff and the Director/Instructors of Physical Education in Universities and colleges generally and that they should be implemented immediately in the Central Universities. However, at the instance of the Education Secretary who felt that it may have wider implications, it was decided that the matter may be further discussed as a specific case with the Government of India.

The Commission at its meeting held on May 25, 1979 while confirming the minutes of the meeting of the Commission held on April 27, 1979 agreed that the resolution adopted under item No. 15(b) of the above minutes may be read as follows:-

"The Commission agreed "in principle" to the upgrading of the scales of pay of the library staff and the Director/Instructors of Physical Education in Universities as recommended by the Committee. However, at the instance of the Education Secretary who felt that it might have wider implications, it was decided that the matter be further discussed with the Government of India.

The recommendations regarding Librarian and the Directors/Instructors of Physical Education in colleges may be brought up again".

The above resolution of the Commission was communicated to the Government of India, Ministry of Education and Social Welfare and as the matter required further discussion, the Ministry of Education was requested to intimate the date and time of discussion for the purpose. It has since been intimated by the Ministry of Education and Social Welfare that the question of revision of pay scales of library staff and Directors of Physical Education in Universities and Colleges in the country has been carefully considered and that the Government is, however, of the view that there is no justification for reconsidering the decision taken in the matter earlier and communicated to the Commission vide Ministry's letter No.F.1-41/74(UI) dated January 7, 1977. A copy of the letter No.F.1-41/74-UI dated January 7, 1977 issued by the Ministry of Education and Social Welfare in this regard is enclosed (Annexure-II).

The matter is placed before the Commission for consideration.

Annexure I to Item No. 3.06

Copy of the note placed before the Commission
in its meeting held on April 27, 1979 Vide
Item No. 15(b))

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The Ministry of Education had sought the views of the Commission on the representation received by them from the Indian College Library Association, Delhi, regarding parity in the scales of pay of Librarian and Directors of Physical Education with that of the teaching staff. It was decided that this may be referred to a committee consisting of the following:-

1. Chairman,
U.G.C.
2. Vice-Chairman
U.G.C.
3. Dr. A.R. Kidwai
4. Professor M.V. Mathur
Director
National Staff College for Educational
Planners & Administrators
New Delhi
5. Shri J.A. Kalyanakrishnan
Financial Adviser
Ministry of Finance
(Education Unit)
New Delhi
6. Shri S.N. Pandita
Joint Secretary
Ministry of Education
New Delhi

The Committee met on April 11, 1979 to consider this and a copy of the report is enclosed ~~(attached)~~

The Committee was of the view that since the scheme of revision of scales of pay initiated by the Government of India had ended on 31st March, 1979 upto which period the Government of India were committed to meet through grants parts of the additional cost, the present recommendations being made by the committee would be for upgrading the existing revised scales.

P.T.O.

The committee has accordingly recommended the following upgradation of the scales:

LIBRARY STAFF

<u>Designation</u>	<u>Universities</u>	
	<u>Existing</u>	<u>Upgraded</u>
Librarian	Rs. 1500-2000	Rs. 1500-2500
Dy. Librarian	Rs. 1100-1600	Rs. 1200-1900
Asstt. Librarian	Rs. 700-1300	Rs. 700-1600
	<u>Colleges</u>	
Librarian	Rs. 550-900	Rs. 700-1300 Assessment-1600
	Rs. 700-1100	
	Rs. 700-1300	

DIRECTORS OF PHYSICAL EDUCATION

	<u>Universities</u>	
	<u>Existing</u>	<u>Upgraded</u>
	Rs. 700-1300	Rs. 700-1600
	<u>Colleges</u>	
	Rs. 700-1300	Rs. 700-1300- Assessment-1600
	Rs. 700-1100	
	Rs. 550-900	

The upgraded scales should be made admissible only in such existing staff who possess the qualifications prescribed by Government of India w.e.f. 1.4.1966.

In the case of the Directors of Physical Education whose scale was revised from Rs. 250-400- to Rs. 425-700, they may be placed in the upgraded scale of Rs. 700-1300 assessment-1600, if they possess the following qualifications:

A post-graduate diploma or certificate or a degree in physical Education.

In case they do not possess this, they would be eligible to be placed in the up-graded scale from the date they obtain this qualification.

The Committee has also made the following recommendations regarding minimum qualifications for future recruitment of the staff in the libraries and that of Director/Instructors of Physical Education.

Assistant Librarian in the Universities/College Librarian

- i) Good academic record with at least a high second class Master's degree in a subject other than Library Science;
- ii) Master's degree in Library Science with first or high second class.

The Committee has further recommended that the Panel on Library Science may be requested to suggest the minimum qualifications for future recruitment for the posts of Dy. Librarian and Librarian.

Directors of Physical Education in Universities/Colleges.

- I. A Master's degree in Physical Education (high 2nd class) with diploma in Sports coaching from a recognised institution.

Or

A Master's degree in Physical Education (high 2nd class) with a record of having represented his university at the Inter-University level/State in the National Championship.

- II. Experience in organising games and sports (as exemplified in handling of about half a dozen teams in a year in his institution and their participation in University/Inter-collegiate tournaments) and ability to encourage mass participation in games and sports.

The matter is placed before the Commission for consideration.

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Appendix to Annex. I

A meeting of the committee appointed to consider references from the Ministry of Education arising out of revision of scales of pay of the Library staff and D.P.Es. in the Universities and Colleges was held on April 11, 1979 at 3.30 P.M. in the UGC. The following were present:-

1. Chairman, UGC
2. Vice-Chairman, UGC
3. Dr. A.R. Kidwai
4. Shri S.N. Pandita
5. Shri R.K. Chhabra

Professor M.V. Mathur and Shri J.A. Kalyanakrishnan could not attend the meeting.

Library Staff

A. Background

It was noted that consequent upon the recommendation of the committee set up by the UGC the Commission had recommended the following revised scales for the Library staff w.e.f. 1.1.1973.

Universities

<u>Designation</u>	<u>Pre-revised</u>	<u>Revised</u>
Librarian	Rs. 1100-1600	Rs. 1500-60-1800- 1600-2000.
Dy. Librarian	Rs. 700-1200	Rs. 1100-50-1600
Asstt. Librarian	Rs. 400-950	Rs. 700-40-1100- 50-1300

It was further agreed that subject to fulfilment of certain qualifications the revised scale of the Librarian could also be Rs. 1500-60-1800-100-2000-125/2-2500.

College Libraries

<u>Pre-revised</u>	<u>Revised</u>
Rs. 300-600	Rs. 550-25-750- EE-30-900
Rs. 400-800	Rs. 700-40-1100
Rs. 400-950	Rs. 700-40-1100- 50-1300

The above recommendations had been accepted by the Government of India.

The matter had at the suggestion of Ministry of Education again been considered consequent upon several representations received by the Government of India, and the following recommendations had been made that the Deputy Librarian and Assistant Librarian who possess the qualifications that were suggested may be placed in the revised scale of Rs. 1200-1900 and Rs. 700-1600 respectively;

Library staff would not be placed in the revised scale which were being

The Ministry of Education had again suggested that the Commission might re-examine the matter in the light of the fact that (i) most of the existing/linked with qualifications and (ii) there was demand for maintaining parity with the revised scales for corresponding teaching posts.

B. The Committee considered afresh the reference from the Ministry of Education and re-examined the role librarians are expected to play in the universities and colleges in the context of new methods of communication and the explosion of knowledge. The Committee agreed to recommend as follows:-

(a) Since the scheme of revision of scales of pay initiated by the Government of India has ended on 31.3.1979, upto which period the Government of India were committed to meet through grants part of the additional cost, the present recommendations would be for upgrading the existing revised scales.

(b) The upgraded scales may be as follows:-

Universities

<u>Designation</u>	<u>Existing</u>	<u>Up-graded</u>
Librarian	Rs. 1500-2000	Rs. 1500-2500
Dy. Librarian	Rs. 1100-1600	Rs. 1200-1900
Asstt. Librarian	Rs. 700-1300	Rs. 700-1600

Colleges

Librarian	Rs. 550-900	
	Rs. 700-1100	Rs. 700-1300-
	Rs. 700-1300	Assessment-1

The upgraded scales should be made admissible only to such existing staff who possess the qualifications prescribed by the Government of India w.e.f. 1.1.1966.

(c) For future, recruitment of the Assistant Librarian in the Universities and college Librarian in the scales suggested above the minimum qualifications should be as follows:-

(i) Good academic record with at least a high second class Master's degree in a subject other than Library Sciences;

..... (ii) Master's degree in Library Science with first or high second class.

(d) The Panel on Library Science may be requested to suggest the minimum qualifications for future recruitment for the posts of Dy. Librarian and Librarian.

..... 4...

DIRECTORS/INSTRUCTORS OF PHYSICAL EDUCATION

A. Background

The Commission had recommended that the scale of pay of Directors/Instructors of Physical Education in the universities and colleges may be revised as follows w.e.f. 1.1.1973.

<u>Existing</u>		<u>Revised</u>
Rs. 400-950	X	
Rs. 400-800	X	Rs. 700-40-1100-50-1300
Rs. 300-600	X	

It had further recommended that:-

- (i) for appointment to the post of Directors/Instructors of Physical Education in Universities and Colleges, the person selected should have the following qualifications:

bachelor's degree with at least a second class postgraduate diploma in physical education ;

OR

at least second class bachelors degree in physical education with diploma in sports coaching from a recognised institution;

OR

a master's degree in physical education

- (ii) The existing incumbents who do not possess the qualifications as indicated above may, while being placed in the revised scale, be required to attain these qualifications within a period of five years from the date of placement in the revised scale and if they are unable to do so, they would not be allowed to draw further increments in the revised scale until such period they fulfil these qualifications.
- (iii) The Director/Instructor of Physical Education in Colleges who were in the scale of Rs. 250-400 be placed in the revised scale of Rs. 425-700.
- (iv) In the case of a few universities where the Director/Instructors of Physical Education who were already placed in the scale of Rs. 700-1250 the revised scale suggested was Rs. 1100-1600.

The Government of India had agreed to the revised scales as follows:

<u>Pre-revised</u>	<u>Revised</u>
Rs. 700-1250	Rs. 1100-50-1600
Rs. 400-950	Rs. 700-1300
Rs. 400-800	Rs. 700-40-1100
Rs. 300-660	Rs. 550-900
Rs. 250-400	Rs. 425-700

(As in the case of Librarians the matter was again considered by the Commission and it was recommended that Directors/Instructors in the Universities and colleges who possess the qualifications suggested may be placed in the revised scale of Rs. 700-40-1100-50-1300-Assessment-50-1600)

B. Committee's Recommendations :

(a) The Committee has further reexamined this and in view of the role of Physical Education personnel in orienting the students towards game and sports, and towards physical fitness, the Committee agreed to recommend that the revised scales for the Director/Instructors of Physical Education may be upgraded as follows:

Universities

<u>Existing</u>	<u>Upgraded</u>
Rs. 700-1300	Rs. 700-1600

Colleges

Rs. 700-1300	Y	
Rs. 700-1100	Y	Rs. 700-1300-assessment-1600
Rs. 550-900	Y	

The upgraded scales should be made admissible only to such existing staff who possess the qualifications prescribed by Government of India w.e.f. 1.4.1966.

(b) In the case of the D.P.Es whose scale was revised from Rs. 250-400 to Rs. 425-700, they may be placed in the upgraded scale of Rs. 700-1300-Assessment-1600, if they possess the following qualifications.

A postgraduate diploma or certificate or a degree in Physical Education.

In case they do not possess this, they would be eligible to be placed in the up-graded scale from the date they obtain this qualification.

(c) The Committee recommended that for future recruitment of DPEs in Universities and Colleges the minimum qualifications may be as follows:-

I. A Master 's degree in Physical Education (High 2nd Class) with diploma in Sports coaching from a recognised institution.

OR

A Master's degree in Physical Education(high 2nd class) with a record of having represented his university at the Inter-University level/State in the National Championship.

II. Experience in organising games and sports (as exemplified in handling of about half a dozen teams in a year in his institution and their participation in University/Inter-collegiate tournaments) and ability to encourage mass participation in games and sports.

Annexure EI to Item No.3.06

No.F. 1-41/74-U.1.
Government of India
Ministry of Education & Social Welfare
(Department of Education)

New Delhi, the 7th January, 1977

To

The Secretary
Education Department,
Government of

Subject: Revision of scales of pay of Librarians and
Directors/Instructors of Physical Education in
Universities and Colleges.

Sir,

I am directed to say that in the Ministry's letter No.F. 1-40/74-U.1 dated 2.11.1974, the State Governments were requested to consider the scheme of revision of scales of pay of University and College teachers for acceptance and implementation. In that letter, it was mentioned that the question of revision of scales of pay of Librarians and Directors/Instructors of Physical Education was under consideration and that a separate communication would follow.

2. It has now been decided to revised the scale of pay of Librarians and Directors/Instructors of Physical Education in Central Universities and in other institutions : fully financed by the Central Government with effect from 1.1.1973, the date from which the revised scales of pay have been sanctioned to the teachers in these institutions. A copy of the letter addressed to the University Grants Commission together with its enclosures is attached (Appendix).

3. The Government of India would be prepared to assist the State Governments, who wish to adopt these revised scales of pay for Librarians and Directors/Instructors of Physical Education in the Universities and Colleges in the States, to the extent of 80% of the additional expenditure involved in giving effect to the revised scales of pay subject to the conditions mentioned in para 3 of this Ministry's above referred letter dated 2.11.1974. The State Government, after taking local conditions into consideration, may also decide in their discretion, to introduce new scales of pay, different from those adopted by the Central Universities, from January 1, 1973, or a later date.

p.t.o.

All other terms and conditions for the introduction of the revised scales of pay of Librarians/Directors/Instructors of Physical Education will be the same as contained in the Ministry's above referred letter dated 2.11.1971 and its enclosures.

4. In case the State Government are willing to implement the revised scales of pay as indicated above, full details of the proposals indicating the pay scales as also the manner and conditions of implementation, financial implications etc. may kindly be furnished to this Ministry for examination.

5. The Government of India have also accepted the recommendation of the University Grants Commission that in the case of college teachers formerly designated as Senior Lecturers/Readers in the scale of pay of Rs. 700-1100 pay may be fixed in the revised scale of Rs. 700-1600, at the stage of Rs. 1100/- or in accordance with the pay fixation formula communicated vide this Ministry's above referred letter dated 2nd November, 1974, whichever is more. This modification in the formula for fixation of pay of Senior Lecturers/Readers will be operative with effect from January 1, 1973, or the date from which the State Government has accepted the scheme of revision of pay scales for teachers.

6. It is requested that the revised scales of pay for Librarians and Directors/Instructors of Physical Education as also the modification in the formula for fixation of pay of Senior Lecturers/Readers in colleges may kindly be considered by the State Government for acceptance and proposals sent to this Ministry for consideration and sanction of Central Assistance.

7. The receipt of this letter may kindly be acknowledged.

Yours faithfully,

Sd/-

(Triyogi Narain)

Deputy Secretary to the Govt. of India

APPENDIX

No. F. 1-41/74(U.1)
Government of India
Ministry of Education & Social Welfare
(Department of Education)

New Delhi, the 7th January, 1977

To

The Secretary,
University Grants Commission,
New Delhi.

Subject: Revision of scales of pay of Librarians and Directors,
Instructors of Physical Education in Central
Universities.

Sir,

I am directed to say that while communicating the revised scales of pay of teachers in Central Universities vide this Ministry's letter No. F. 1-40/74-U.1 dated 2.11.1974, the Commission was informed that the question of revision of scales of pay of Librarians and Directors/Instructors of Physical Education was under consideration of the Government. It was also mentioned that consequent upon the revision of pay scales, there will be no 'Selection Grade' for lecturers in Delhi Colleges and that separate orders would be issued with regard to the fixation of salary of the existing lecturers in the Selection Grade in the revised scale of pay of Rs. 700-1600.

2. The Government of India, on the recommendations of the University Grants Commission, have decided to revise the scales of pay of Librarians and Directors/Instructors of Physical Education in Central Universities and in the college of Delhi University (either maintained by the University or receiving maintenance grants from the University Grants Commission) as shown in the enclosure to this letter.

3. It has also been decided that in the case of Lecturers formerly in the Selection Grade in the Colleges in Delhi, pay may be fixed in the revised scale of pay of Rs. 700-1600 at the stage of Rs. 1100/- or in accordance with the pay fixation formula communicated vide this Ministry's letter No. F. 1-40/74-U.1 dated November 2, 1974, whichever is more.

p.t.o.

4. The revised scales of pay of Librarians and Physical Education Personnel and the modification in the formula for fixation of pay of lecturers in the Selection Grade will be operative with effect from January 1, 1973 as in the case of teachers in these institutions and will be subject to the relevant conditions stipulated in the letter referred to above. The Universities may be advised to amend the relevant Statutes/Ordinances, wherever necessary.

5. It is requested that necessary action to place these personnel in the revised scales of pay may be taken and the expenditure met from the funds already placed at the disposal of the Commission.

6. The receipt of this letter may kindly be acknowledged.

.....Yours faithfully,

Sd/-

(Triyogi Narain)

Deputy Secretary to the Govt. of India

Copy to Registrars of all Central Universities.

Sd/-

(Triyogi Narain)

Deputy Secretary to the Govt. of India

Enclosure

Enclosure to the Ministry of Education and Social Welfare letter No. F. 1-41/74-U.1 dated January 7, 1977 regarding Revision of Scales of pay of Librarians and Directors/Instructors of Physical Education in Central Universities.

Name of the Post	Existing scale of pay	Proposed Revised scale
	Rs.	Rs.

I. LIBRARY STAFF

a) Universities

i) Librarian	1100-1600	i) 1500-60-1800-100-2000-125/2-2500 ii) 1500-60-1800-100-2000
ii) Deputy Librarian	700-1250	1100-50-1600
iii) Asstt. Librarian	400-950	700-40-1100-50-1300
iv) Documentation Officer	i) 700-1250 ii) 400-950	1100-50-1600 700-40-1100-50-1300

b) Colleges

Librarian	i) 400-950 ii) 400-800 iii) 300-600	700-40-1100-50-1300 700-40-1100 550-25-750-EE-30-900
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II. DIRECTORS/INSTRUCTORS OF PHYSICAL EDUCATION IN UNIVERSITIES AND COLLEGES

Director/Instructor of Physical Education	i) 700-1250 ii) 400-950 iii) 400-800 iv) 300-600 v) 250-400	1100-50-1600 700-40-1100-50-1300 700-40-1100 550-25-750-EE-30-900 425-15-500-EE-15-300-20-700
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Note: The scale of pay of Rs. 1500-2500 for the Librarian will be admissible only in case a University decided to appoint a scholar of standing in any of the disciplines, as University Librarian. For eligibility to this scale of pay, the essential qualifications would be:

- i) Good academic record with first or high second class Master's degree in a subject

other than Library Science with a Doctorate degree or equivalent published work of high standard and preferably with experience of guiding research and with knowledge/experience of Library Services and management.

- ii) At least ten years' experience of teaching post-graduate classes and research; or of research in an independent capacity in an organisation of higher learning and research or in a responsible post in a library for advanced students and research workers.

Such existing University Librarians who fulfil the above qualifications would also be eligible to the scale of pay of Rs. 1500-2500.

CONFIDENTIAL

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 3.07: To consider a reference from the Ministry of Education and Social Welfare regarding the loss incurred by Visva-Bharati in running its Refectories.

Background:

The Visva-Bharati is running a university Refectory under its direct control and this had led to a certain amount of accumulated loss which was treated as a charge to the block grant of the University. The University had been informed in November, 1959 that the Refectory should be run on a self-supporting basis and no more liabilities should be undertaken by the University on this account. The University entrusted the boarding arrangements to private caterers with the approval of the Executive Council from 1-7-1958 but due to the disapproval by the then Acharya late Pt. Jawaharlal Nehru, the University reverted to its original arrangement of running the Refectory under the direct control of the University from 1960-61 and the University had fixed charges of Rs.50/- p.m. for two meals - break-fast and afternoon tiffin and another light refreshment at 9 a.m. to the students. During 1962-63 it was possible for the university to run the Refectory without any loss. From 1963-64 onwards upto 31-3-1966 the Refectory had incurred a total loss of Rs.33,331.16.

In April, 1965 the boarding charges were enhanced from Rs.50/- to Rs.60/- p.m. though this increase had not kept pace with the rise in prices and the Refectory was still running at a loss.

The Commission at its meeting held on 5th October 1956 (Item No.16) accepted the proposal of the Visva-Bharati to charge the accumulated losses upto 1965-66 in respect of the Refectory to the revenue account of the University on the definite understanding that in future no such deficit would be incurred by the university and that it would see that the Refectory is run on a self-supporting basis.

Subsequently, when the accounts of the Visva-Bharati for the year 1974-75 were audited, the audit authorities included a para in its Inspection Report for the year 1974-75 (~~Annexure-I~~).

p.t.o.

The main point brought about in the audit para related to the three Refectories under the management of Visva-Bharati, that during 1970-71 to 1974-75 the total accumulated loss of 2 of the 3 Refectories came to Rs.5.4 lakhs, the loss for 1974-75 alone being Rs.2.73 lakhs though the university authorities had decided that the Refectories should be run on a "no profit and no loss basis". It was also pointed out that in respect of the two Refectories where there has been loss they were previously managed by the students and the university took them over only from 1st February 1971 and receipt and payment account were only being maintained in these two cases and the usual income and expenditure account to ascertain the financial position was not being maintained. As a result the factors for excess expenditure could not be identified. It has also been pointed out that there had been recurring losses in the Refectory with the rising trend in prices without any corresponding increase in the rates for boarding charges and the decision of the university authorities to enhance the refectory charges to Rs.72/- p.m. as against Rs.55/- p.m. w.e.f. 1-1-1975 could not be implemented with retrospective effect as decided (from 1-1-1972) and this has been indicated as the reason for recurring losses as the decision for revising the boarding charges could not be implemented due to the residing students refusing to accept the revised kitchen charges. The effect of increasing the boarding charges from Rs.55/- p.m. to Rs.64/- p.m. from 1-1-1972 and Rs.72/- p.m. from 1-7-1975 has, therefore, had no effect of eliminating the losses. The matter was brought to the notice of the University and the Government of India for taking such remedial measures as may be deemed to be necessary.

The observations of the audit were brought to the notice of the Visva-Bharati who has indicated in its reply the reasons for the heavy losses (Annexure-II). The main reasons identified by the sub-committee appointed by the university for the heavy losses are as below:

At the current level of prices and the food stuff and edible oil, the rate fixed for two principal meals of non-vegetarian type for adults is absolutely unrealistic (The rate fixed has been indicated as Rs.85/- now). The inevitability of substantial loss in running the Refectories has been highlighted by the sub-committee. Wastage of food-stuff and pilferage of food-stuff and the other reasons in. In view of this, the sub-committee has recommended to the university authorities that messing system should be introduced "on a no profit and no loss basis" and the students must be advised to pay for whatever they consume. The sub-committee has further advised that the UGC would not agree to bear the losses incurred by the university in running the kitchen and the Government of India may be approached for funds to cover the losses already incurred.

The Visva-Bharati had accordingly vide its letter dated June 11, 1979 (Annexure. III) taken up this question with the Government for specified grant for covering the loss of the refectories. It was pointed by the University that the accumulated loss during 1968-69 and 1977-78 was as Rs. 9.49 lakhs as detailed below:-

<u>Year</u>	<u>Loss</u>
1968-69	Rs 19,113.38
1970-71	;Rs 4,197.82
1971-72	Rs 20,804.84
1972-73	Rs 60,853.69
1973-74	Rs 1,92,852.01
1974-75	Rs 3,11,642.01
1975-76	Rs 1,66,821.33
1976-77	Rs 46,532.30
1977-78	Rs 1,31,997.33

Rs 9,54,814.71

Less profit of 1969-70 - Rs. 5,647.74

Net loss upto 31.3.1978 -Rs 9,49,166.97

The Government was also informed that the accumulated losses for 1978-79 is being compiled and the same would also be intimated later. It was also confirmed that the rates for food-stuff charged to the students were Rs. 55/- p.m. initially fixed in 1971 and was raised to Rs. 72/- from 1975 and Rs. 85/- v.e.f. 1976 as the price for two principal meals of non-vegetarian type.

The Ministry of Education which had considered the request of Visva-Bharati for a special grant to meet the reported loss of about Rs. 10 lakhs in running the Refectories, has informed University Grants Commission as below:-

"This Ministry has no provision for making a grant to the Visva-Bharati to meet the deficit. The matter may it is suggested, be placed for consideration of the UGC and the deficit caused on account of subsidy towards messes may, if possible, be written off as there does not seem to be any other way out to meet the situation".

The matter is placed before the Commission for its consideration.

Extract from the Inspection Report on the accounts of the Visva Bharati University, Santiniketan for the year 1974-75.

PARA:12:- Recurring loss in the refectories.

At present there are 3 refectories under the management of the Visva Bharati University viz. Palli-Bhavan (School) refectory and General refectory at Santiniketan and one refectory attached with Palli Sikhsha Sadan at Sriniketan. Of the 3 refectories, Palli Bhavan refectory was being managed by the University, while the management of the other two refectories, all along managed by the students themselves, was taken over by the University authorities w.e.f. 1.2.71. The expenditure on the salary of cooks, helpers and other contingent staff for these refectories is not in full out of grants received by the University from the University Grants Commission and the direction of the Karma Samity in this regard was to run the refectories on 'no loss-no profit' basis.

While, for the refectories at Santiniketan the University authorities prepared Income and Expenditure Account in addition to Receipts and Payment Account, was being prepared for the refectories at Sriniketan only. Receipt and Payment Account was being prepared despite the necessity of preparing Income and Expenditure Account to ascertain the actual financial position having been stressed in the previous Inspection Reports. Though the direction of the Karma Samity was to run the refectories on 'no loss-no profit basis, all the 3 refectories had been running at a recurring loss for several years- the general refectory and the refectory at Sriniketan since 1970-71. and the Palli Bhavan refectory since 1971-72. The amount of annual loss of the 2 refectories at Santiniketan as per Income and Expenditure Account prepared by the University steeply rose from Rs. 17.7 thousand in 1970-71 to Rs. 272.9 thousand in 1974-75 and the total accumulated loss of these two refectories upto 31st, March, 1975, amounted to Rs. 540.6 thousand as detailed below:-

	(Rupees in thousands)
1970-71	17.7
1971-72	13.4
1972-73	58.8
1973-74	177.8
1974-75	272.9
	<u>540.6</u>

p.t.o.

Although due to non-preparation of Income and Expenditure Account in respect of the refectory at Sriniketan, the actual amount of annual loss sustained by it was not ascertainable, the accumulated amount of excess expenditure over receipts upto 31st March, 1975 as reflected in the Balance Sheet of Palli Siksha Sadan stood at Rs. 63.2 thousand. The reason for the recurring loss in the refectories was the rising trend of prices of the food staff without any corresponding increase in the rates for boarding charges. From 1.2.71 the day from which the management of all the 3 refectories was taken over by the University the rate of boarding charges in force was Rs. 55/- p.m. excepting in the case of Palli Bhavan refectory the rate of which was Rs. 90/- p.m. (including milk and tiffin). In view of the recurring loss in the refectories it was decided by the Karma Samity as per its resolution No.5 dated 9.1.72 to increase the rate of refectory charges from Rs. 55/- to Rs. 64/- p.m. w.e.f. 1.1.72. But this decision was not, however, implemented by the University Authorities. Again the Karma Samity in March, 1975 decided to enhance the refectory charges to Rs. 72/- p.m. with retrospective effect from 1.1.75 vide Resolution 23 dated 23.3.75 which was however implemented w.e.f. 1.7.75 by the University. According to the University the reason for non-implementation of the decision of the Karma Samity enhancing the refectory charges from Rs. 55/- p.m. to Rs. 64/- p.m. w.e.f. 1.1.72 and realisation of such charges @ Rs. 72/- p.m. from 1.7.75 instead of from 1.1.75, as already decided by the Karma Samity as per its resolution referred to above, are as under:-

"The decision for revision could not be implemented due to volatile situation prevailing in the State and also due to students residence to accept the revised Kitchen charges".

In view of very heavy amount of recurring loss in the refectories and as the decision of the Karma Samity was to run the refectories at 'no-loss-no-profit basis' the entire position is brought to the notice of the Karma Samity and the Govt. of India for taking such remedial measures as may be deemed necessary.

Annexure-II to Item No. 3.07

Copy of the letter No. G/G-22/20 dated September 22, 1978 received from Shri P.K. Das Gupta, Registrar, Visva Bharati address ed to Sri V.M. Seth, Under Secretary, UGC.

I am directed to acknowledge the receipt of your letter No. F.6-6/76(D-5c) dated August 7, 1978 on the loss in the University refectories. The sub-committee which was constituted to find out the reasons for the heavy loss in the refectories and to suggest ways and means as to how these deficits could be met and from what sources met and from what sources met on August 28, 1978. The findings of the Committee are as follows:

At the current level of prices for food-stuff and edible oil, the rate of Rs. 85/- fixed for two principal meals of the non-vegetarian type for adults is absolutely unrealistic. It is inevitable that the University would incur substantial loss in running the refectories unless the charges are raised in consonance with the market price.

Wastage of food-stuff by the students is also a factor which contributes to the loss in the refectories. The loss on this account would not have been there if there was an awareness among the resident students taking their meals from the refectories to avoid wastage of food-stuff. The boarders are under the impression that their inability is limited to pay of Rs. 85/- only per month for two principal meals. This naturally tends to induce in them a feeling of indifference and no effort is therefore made by them to avoid wastage in the refectories. Instances are there that some students insist on their being served food much in excess of their ability to consume. This results in unnecessary wastage. What is still more deplorable is that some students even go to the extent of offering free food to unauthorised persons whose services they utilise as errand boys. The kitchen staff are incapable of putting any resistance to such demands because of fear of reprisals. This is no doubt an unfortunate state of affairs, but the University administration has not been able to do any-thing to counter such moves.

Another factor which has contributed to some extent to the loss in running the refectories is pilferage of food-stuff. Each kitchen is provided with one Manager and one Assistant Manager. It is not possible for such a limited number of peopl

to keep constant watch on the stores and the cooked food. Very recently, a minor girl of one of the helpers in a refectory was caught red handed while removing a substantial quantity of food from the kitchen in a surreptitious manner. The Administrative Officer detected this and the helper who was involved in this incident was immediately suspended from service. It is certain that such cases of pilferage occur everyday and the University has not the adequate machinery to detect them.

Such being the situation, the Sub-committee is of the opinion that the University administration should introduce at the earliest opportunity messing system in all the refectories, asking the resident students to run their own messing on "no profit no loss" basis. This is the only way to impress upon the students that they must pay for whatever they consume. This is an imperative need, because the University cannot go on subsidizing the kitchen for an indefinite period.

The Sub-Committee was given to understand that the University has no separate fund from which the accumulated deficit in running the University kitchen can be met. It was also pointed out that the University Grants Commission would not agree to bear the loss incurred by the University in running the kitchen at a loss. The Sub-Committee, therefore, recommends that the Ministry of Education be approached for funds to cover the loss already incurred.

The University has decided to introduce messing system in all the refectories, excepting the Patha-Bhavana refectory and the one which caters for the female students, with effect from October 1, 1978. It is, therefore, expected that there would be no further loss in running the refectories.

Annexure-III to Item No.3.07

Copy of letter No. G/G-22-20 dated June 11, 1979 received from Shri P.K. Das Gupta, Registrar, Visva-Bharati addressed to Shri M.N.Sinha, Deputy Secretary to the Government of India, Ministry of Education & S.W., New Delhi.

The Audit Inspection Report in respect of the accounts of the University for the year 1974-75 contained a paragraph on the recurring loss in the University refectories. A copy of the Audit Inspection Report is enclosed for your ready reference. Even before the Audit pointed out this loss, the University had been trying in all seriousness to raise the kitchen charges to a level which would ensure running of the refectories on no profit and no loss basis. The persistent resistance from the students to accept the revised kitchen charges and also the political situation obtaining in the State in the early seventies stood in the way of the University administration taking a strong stand to implement the revised kitchen charges contemplated by it, with the result that there was no alternative than to run the University refectories at a considerable loss. The Executive Council of the University which was fully aware of the problem constituted a Sub-Committee to find out the reasons for the heavy loss in the refectories and to suggest ways and means as to how these deficits could be met and from what sources. The Sub-Committee met on August, 28, 1978. A copy of the findings of the Sub-Committee is also enclosed for your ready reference.

As you will find from the report of the Sub-Committee, at the level of prices of foodstuff and edible oil obtaining at different times, the rates of Rs. 55/- initially fixed in 1971 and which could be raised to Rs. 72/- from 1975 and to Rs. 85/- with effect from 1976 for two principal meals of the non-vegetarian type for adults was absolutely unrealistic. It was inevitable for the University to incur substantial loss in running the refectories as the charges could not be raised in consonance with the market prices.

Wastage of foodstuff by the students was also a factor which contributed to the loss in the refectories. The loss on this account would not have been there if there was an awareness among the resident students taking their meals from the refectories to avoid wastage of foodstuff. It is obvious that the boarders were under the impression that their liability was limited to payment of Rs. 85/- only p.m.

* please see Annex.I to Item

p.t.o.

@ Appendix.

for two principal meals. This naturally tended to induce in them a feeling of indifference and no effort was, therefore made by them to avoid wastage in the refectories. Instances are there that some students insisted on their being served food much in excess of their ability to consume. This resulted in unnecessary wastage. What was still more deplorable was that some students even went to the extent of offering free food to unauthorised persons whose services they utilised as errand boys. The kitchen staff were incapable of putting any resistance to such demands because of fear of reprisals. This was no doubt an unfortunate state of affairs, but the University administration was unable to do anything to counter such moves.

Another factor which contributed to some extent to the loss in running the refectories was pilferage of foodstuff. Each kitchen is provided with one Manager and one Asstt. Manager. It was not possible for such a limited number of people to keep constant watch on the stores and the cooked food.

Such being the situation, the sub-Committee was of the opinion that the University administration should introduce at the earliest opportunity messing system in all the refectories, excepting the one for the school students, asking the boarders to run their own messing. It appeared to the Sub-Committee that this was the only way to impress upon the students that they must pay for whatever they consume.

As you are already aware, the University took a definite stand to hand over the refectories to the students **latest by January, 1979**. As usual, there was a tremendous resistance from the students to this move and when the agitation launched by the students took the form of hunger strike until death, the Vice-Chancellor was compelled to tender his resignation. It appears that the resignation of the Vice-Chancellor acted as a shock treatment and the students immediately agreed to take over the management of the University refectories from February, 1979. The current position is that all the University refectories, excepting two-namely, Patha-Bhavana Refectory for school students where the University does not incur any loss and the General Refectory- have been taken over by the students. The boarders of the General Refectory have agreed to pay the kitchen charges at actual cost till they take over management of the kitchen. It will thus be observed that the University has at **last** been able to solve the very serious problem of recurring kitchen deficits which had been a constant source of anxiety since 1968.

As you know, the University has no separate fund from which the accumulated loss in running the University kitchens departmentally could be met. The University Grants Commission would not also agree to bear the loss incurred by the University in running the kitchens at a loss, because on an earlier occasion it had made its position clear while sanctioning a sum of Rs. 1,02,954.80p. in 1959-60 for meeting similar deficits in the past that no further assistance would be available from it in future. The sub-Committee's recommendation was, therefore, that the Ministry of Education be approached for a special grant to cover the loss already incurred by the University which amounts to Rs. 9,49,166.97 upto 1977-78. An year-wise break-up of loss sustained upto 1977-78 is given below:-

<u>Year</u>	<u>Loss</u>
1968-69	Rs. 19,113.38
1969-70	Rs. 4,197.82
1970-71	Rs. 24,397.82
1971-72	Rs. 20,804.84
1972-73	Rs. 60,853.69
1973-74	Rs. 1,92,852.01
1974-75	Rs. 3,11,642.01
1975-76	Rs. 1,66,821.33
1976-77	Rs. 46,532.30
1977-78	Rs. 1,31,997.33
	<hr/>
	Rs. 9,54,814.71
less profit of 1969-70	Rs. 5,647.74

Net loss upto 31.3.78 : Rs. - 9,49,166.97

The accounts for the year-1978-79 have not yet been compiled.

Loss, if any, during 1978-79 will be reported by about the middle of July, 1979.

In accordance with the recommendation of the Sub-Committee constituted by the Karma-Samiti(Executive Council), I am directed to requested you kindly to consider sympathetically the whole position and to sanction a special grant to the University to square up the loss incurred by it in running the University refectories in circumstances over which it had very little control. The decision of the Ministry may kindly be communicated at an early date.

Appendix

K.S. Resl. No. 85 dated 3/4.12.1978.

A meeting of the Sub-Committee which was constituted by the Upacharya in July, 1977 to find out the reasons for the heavy loss in the refectories and to suggest ways and means as to how these deficits could be met and from what sources was held in the Central Office on August 28, 1978 at 11.00 a.m.

Members Present.

Professor Biswanath Banerjee
Dr. Tannoy Bhattacharya, Vice-Principal, Siksh-Bhavana
Sri Ganesh Saha, Vice-Principal, Pali Siksha Sadana
Sri A.C.Dutta, Internal Audit Officer
Sri S.K.Pathak, Dean of Students' Welfare
Sri P.K.Das Gupta, Registrar.

Sro H.C.Deb, Finance Officer and Sri Haradhan Rakshit, Administrative Officer (Refectories) also attended the meeting on invitation.

The finding of the Sub-Committee as follows:

At the current level of prices for food-stuff and edible oil, the rate of Ps. 85/- fixed for two principal meals of the non-vegetarian type for adults is absolutely unrealistic. It is inevitable that the University would incur substantial loss in running the refectories unless the charges are raised in consonance with the market price.

Wastage of food-stuff by the students is also a factor which contributes to the loss in the refectories. The loss on this account would not have been there if there was an awareness among the resident student taking their meals from the refectories to avoid wastage of food-stuff. The boarders are under the impression that their liability is limited to pay of Rs. 85/- only per month for two principal meals. This naturally tends to induce in them a feeling of indifference and no effort is therefore made by them to avoid wastage in the refectories. Instances are there that some students insist on their being served food much in excess of their ability to consume. This results in unnecessary wastage. What is still more deplorable is that some students even go the extent of offering free food to unauthorised persons whose services they utilise as errand boys. The kitchen staff are incapable of putting any resistance to such demand because of fear of reprisals. This is no doubt an unfortunately state of affairs, but the University administration has not been able to do anything to counter such moves.

Another factor which has contributed to some extent to the loss in running the refectories is pilferage of food

Each kitchen is provided with one Manager and one Assistant Manager. It is not possible for such a limited number of people to keep constant watch on the stores and the cooked food. Very recently, a minor girl of one of the helpers in a refectory was caught red handed while removing a substantial quantity of food from the kitchen in a surreptitious manner. The Administrative Officer detected this and the helper who was involved in this incident was immediately suspended from service. It is certain that such cases of pilferage occur everyday and the University has not the adequate machinery to detect them.

Such being the situation, the Sub-Committee is of the opinion that the University administration should introduce at the earliest opportunity messing system in all the refectories, asking the resident students to run their own messing on "profit no loss" basis. This is the only way to impress upon the students that they must pay for whatever they consume. This is an imperative need, because the University cannot go on subsidising the kitchen for an indefinite period.

The sub-Committee was given to understand that the University has no separate fund from which the accumulated deficit in running the University kitchen can be met. It was also pointed out that the University Grants Commission, would not agree to bear the loss incurred by the University in running the kitchen at a loss. The Sub-Committee, therefore, recommends that the Ministry of Education be approached for funds to cover the loss already incurred.

The Sub-Committee was told that the University Administration has decided to introduce messing system in all the refectories excepting the Patha-Bhavana refectory and the one which caters for the female students with effect from October 1, 1978. It was, therefore, expected that there would be no further loss in running the refectories. If a grant could be obtained from the Ministry of Education to cover the current loss, no further problem of similar nature would crop up in future.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979

Item No. 3.08 : To consider a reference from the Government of India, Department of Social Welfare regarding recommendations made by the National Conference on Women and Development held from 19-21 May, 1979 in New Delhi to discuss the vital issues for improving the status of women in the country.

... The Government of India, Department of Social Welfare . . . has forwarded to the Commission the following recommendation made by the National Conference on Women and Development held from 19-21, May, 1979 in New Delhi to discuss the vital issues for improving the status of women in the country:

"One of India's biggest assets in working out strategies for women's development is the large number of highly educated women in institutions and in the academic profession. Women institutions particularly those at higher levels, must accept their special responsibility to promote the education and development of the masses of women who remain outside the formal educational system. Such a role can be played by involving their faculty, students and professional abilities in support of the efforts of women's groups in rural and urban areas, to develop their economic, educational and health status. These institutions can play the role of active intermediaries between women needing various services and inputs and agencies offering such services and inputs. The conference urges the Government to invite these institutions to assist in this endeavour and provide needed support to selected institutions which accepts the task of playing this catalytic, intermediary role.

" The intention behind the above recommendation is to involve women's institutions, particularly those at the higher level for promoting the education and development of masses of women who have no access to formal education system."

The Department of Culture has requested to let them know the support which such institutions/

p.t.o.

: 2 :

faculties/staff etc. can expect from the University Grants Commission if they are involved in such endeavours.

A list of women's colleges participating in the National Adult Education and Extension Programme is enclosed (Annexure).

The matter is placed before the Commission for consideration.

SLK

Annexure to Item No. 3.08

UNIVERSITY GRANTS COMMISSION

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List of Women's colleges participating in the
National Adult Education and Extension Programme

<u>S.No.</u>	<u>Name of the college</u>	<u>Name of University</u>
1	2	3
1.	Maharaja's College for Women, Vizianagram	Andhra University
2.	Chintalepati Satyavati Devi St. Theresa's College for Women Eluru(AP)	-do-
3.	Maharani Laxmibai Girls College Bhopal .	Bhopal University
4.	Govt. Girls Degree College TT Nagar Bhopal.	-do-
5.	Arya Kanya Mahavidyalaya Jhansi	Bundelkhand University
6.	Little Flower College, Guruvayur	Calicut University
7.	Janki Devi Mahila Mahavidyalaya, Poorvi Marg, New Delhi.	Delhi University.
8.	Sardar Vallabh Bhai Arts College, Ahmedabad.	Gujarat University
9.	Smt. Sadguna C.U. Arts College, for Girls Ahmedabad.380001.	-do-
10.	Hawabagh Women's College, Jabalpur.	Jabalpur University
11.	Govt. M.H. College of Home Science for Women, Jabalpur.	-do-
12.	Acharya Narendra Deo Mahapalika Mahila Mahavidyalaya, Kanpur.	Kanpur University.
13.	Jauhari Devi Girls Degree College, Kanpur	-do-

14.	Assumption College, Changanacherry.	Kerala University
15.	St. Teresa's College Ernakulam	-do-
16.	Maharana Pratap College (for women Mandi Dabwali) (Sirsa)	Kurukshetra University
17.	Auxillum College, Vellore.	Madras University.
18.	Sri G.V.G.Visalakshi College for Women, Udumalpet	Madras University
19.	Sri Avinashilingam Home Science College for Women, Coimbatore-11	-do-
20.	Ethiraj College for Women, Madras.	-do-
21.	Sitalakshmi Ramaswami College, Tiruchirapalli.	-do-
22.	South Indian Educational Trust Women's College, Madras.	-do-
23.	Stella Maris College Madras.	-do-
24.	Sri Sarda College for Women Salem-4	-do-
25.	Arignar Anna Govt. Arts College (Women) Wallajapet	-do-
26.	Quaid-E.Millet Govt. Arts College, for Women, Mount Road, Madras.	-do-
27.	Seethalakshmi Achi College for Women, Pallattur Ramnad.	Kamraj Madurai University.
28.	Holy cross College, Rechnagar, Nagercoil-2	-do-
29.	The Standard Fire Works Rajaratnam College for Women Sivaksi. (Ramanathapuram).	-do-
30.	St. Mary's College, Tuticorin	-do-

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| 31. | Sarah Tucker College,
Perumalpuram, Palayamkottai,
Tirunelveli-7. | Kamraj Madurai
University. |
| 32. | M.V.Muthiah Pillai Govt. Arts
College for Women,
Dindigul | -do- |
| 33. | Rani Annadurai Govt. Arts College,
for Women, Tirunelveli. | -do- |
| 34. | Sree Meenakshi Govt. College,
for Women, Madurai | -do- |
| 35. | The Ramkrishna Paramhansa
Mahavidyalaya, Osmanabad. | Marathwada Universit |
| 36. | Govt. College of Education
Aurangabad. | -do- |
| 37. | Matru Sewa Sangh Institute of
Social Work, Nagpur. | Nagpur University. |
| 38. | S.S.Girls College,
Gondia. | -do- |
| 39. | Govt. College of Edmation
Akola. | -do- |
| 40. | Ramgarhia Girls College,
Miller Ganj, Ludhiana. | Panjab University |
| 41. | Nirmala College,
Hinoo, Ranchi. | Ranchi University. |
| 42. | Mahila Mahavidyalaya Sanstha
Vasahat Pratap Road,
Raopura, Baroda. | SNDT Women's
University. |
| 43. | Vile Parle Mahila Sangh's Lions
Juhu Nandlal Jalan Mahila
Mahavidyalaya, Paranje | -do- |
| 44. | Smt. N.C.Gandhi & Smt. Bhanumati
Vadilal Gandhi Mahila Arts and
Commerce College, Diamond Chowk
Bhavanagar. | -do- |
| 45. | Meera Girls' College,
Udaipur. | Udaipur University. |
| 46. | D.Mahila Mahavidyalaya
Agra (AGRA) | Agra University. |

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| 46. Smt. B.D. Jain Girls
College, Agra Cantt. | Agra University |
| 47. Sri Ramaswamy Das
Agarwal Kanya
Mahavidyalaya, Mathura | -do- |
| 48. Baikunthi Devi Kanya
Mahavidyalaya, Agra. | -do- |
| 49. DEI Women's Training
College, Dayalbagh, Agra. | -do- |

SECTION 4

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : October 26, 1979

Item No.4.01: To consider the recommendations of the Standing Advisory Committee for the Centres of Advanced Study Programme and Special Assistance to selected university departments in Science subject.

A meeting of the Standing Advisory Committee for the Centres of Advanced Study Programme and Special Assistance to selected university departments in Science subjects was held in the office of the University Grants Commission on August 6, 1979. A copy of the minutes of the meeting is appended (Appendix-I).

The recommendations made by the Standing Committee are as follows and are for consideration of the Commission. A copy of the agenda note placed before the Standing Committee and a complete set of the reports of 19 DSAs and 2 CAs is being sent separately as Annexure-I.

1. The standing committee agreed with the recommendations of the Assessment Committee in regard to up-gradation of the 4 departments of special assistance into centres of advanced study: (a) Botany Department, Banaras Hindu University (b) Botany Department, Calcutta University (c) Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore and (d) Department of Metallurgy, Banaras Hindu University.
2. The Standing Committee accepted the recommendations of the assessment committees in regard to the continued assistance of the University Grants Commission for the following departments of special assistance:
 - i) Botany, Andhra University
 - ii) Zoology, Banaras Hindu University
 - iii) Chemistry: Department of Pure Chemistry, Calcutta University
 - iv) Chemistry: Department of Chemistry, Poona University
 - v) Chemistry: Department, Rajasthan University
 - vi) Chemistry Department, Osmania University

- vii) Chemistry Department, Punjab University
- viii) Bio-Chemistry Department, M.S. University of Baroda.
- ix) Bio-Chemistry Department, Lucknow University
- x) Physics Department, Andhra University
- xi) Geology Department, Jadavpur University
- xii) Statistics Department, Poona University

As regards Geology Department, Andhra University that the report of the Assessment Committee where only one expert could visit may be referred to Prof. A.K. Saha of Presidency College, Calcutta and his comments obtained before finalising the decision.

3. The Standing Committee concurred with the recommendations of the Assessment Committee in regard to discontinuance of UGC assistance to the following three departments of special assistance (w.e.f. 1.4.1979):-

- i) Physical Chemistry, Madras University
- ii) Physics Department, Allahabad University
- iii) Botany Department, Punjab University

4(a) The Standing Committee accepted the recommendations that the Bio-Chemistry Department of Indian Institute of Science, Bangalore may continue to receive UGC assistance as a centre of advanced study, and has recommended that as a special case, the Commission may provide assistance beyond the normal ceiling, in view of the urgent needs, as recommended by the assessment committee.

(b) The Standing Committee also accepted the recommendation that the CAS in Mathematics, Madras University may also continue as centres of advanced study, but the UGC assistance in this case may be offered for a period of 2 years within which time there should be a further assessment.

5. The Standing Committee accepted the recommendations of the Science Panels in regard to providing assistance to the following 5 departments under special assistance programme:-

- i) Physics, Punjab University, Chandigarh
- ii) Physics, Poona University
- iii) Physics, Indian Institute of Science, Bangalore

- iv) Mathematics (Applied Mathematics) Bangalore University
- v) Chemistry (Solid State and Structural Chemistry Unit) I.I.Sc. Bangalore.

5. As regards departmental research support for the 4 Physics Departments (Sardar Patel University, Aligarh Muslim University, Calcutta University and Madras University) the Committee noted the recommendations of the Physics Panel and reiterated its view that the departmental support proposals, to be recommended by the Panels need not come before the Standing Committee for CAS/DSA and may be acted upon.

6. The other recommendations made by the Standing Committee are given below:-

- i) Proposals being sent by some of the Centres of advanced study de-recognised earlier may be considered de novo by the concerned Panels in the first instance without prejudice but in the light of their present stature and performance.
- ii) The UGC has to impress upon the university departments that at least two meetings of the advisory committees should be held every year.
- iii) Suitable guidelines for the Advisory Committees may be laid down. The UGC nominees may also send to the UGC, independent unbiased views or reports, wherever considered essential. Some statutory provision should be made to in the University acts to recognise the role of the Advisory Committee, without undermining the autonomy of the University.
- iv) Under CAS/DSA attempts should be made as far as possible to take at least 50% of the staff from persons who are not trained in the same department.
- v) It would be useful to prepare in advance a calander of meetings for the advisory committee for every such department. The Advisory Committee should also discuss development programmes and problems with the research fellows.
- vi) In the case of the departments brought under the scheme during 1972-73 and for which assistance had been provided upto 31.3.1979, further assistance may be

provided upto the end of the VI Plan period i.e. upto 31.3.1983 and assessment of the departments should be done in the penultimate year of the Plan period. This raises the question of takeover of the recurring liability by the State Governments from 31.3.1984 on the basis of the Finance Commission's recommendations. This may be sorted out by the UGC. The Committee was of the view that it would be better to synchronise UGC assistance to the departments under the scheme with the plan period. Since these departments have functioned already as DSAs for about seven years, an evaluation could be made when they complete 10 years so that such of the departments which have done well could be considered for elevation as CAS for the next five years.

The manner in which Assessment/Evaluation Committee for to D.S.As. and C.A.Ss. are constituted is given in the note attached (Appendix-II).

The financial implications of the above recommendations of D.S.A./C.A.S. Standing Committee are given in Appendix-III.

The recommendations of the Standing Committee are placed before the Commission.

Minutes of the meeting of the Standing Advisory Committee for the Centres of Advanced Study Programme and Special Assistance to selected University Departments in Science subjects held on August 6, 1979.

1.0 A meeting of the Standing Advisory Committee for the CAS and DSA to selected departments was held on August 6, 1979, in the office of the University Grants Commission. The following were present:-

1. Professor Satish Chandra
Chairman
U.G.C.
2. Professor B. Ramachandra Rao
Vice-Chairman
U.G.C. Chairman
3. Professor Rais Ahmed
Vice-Chancellor
Kashmir University Member
4. Professor J.N. Bhar
Institute of Radio Physics &
Electronics
Calcutta University
Calcutta "
5. Professor R.P. Bambah
Centre for Advanced Study
in Mathematics
Panjab University
Chandigarh "
6. Professor M.S. Kanungo
Department of Zoology
Banaras Hindu University "
7. Professor A. Sriramdas
Head
Department of Geology
Andhra University
Waltair "
8. Professor A.R. Vasudeva Murty
Department of Inorganic & Physical
Chemistry
Indian Institute of Science
Bangalore "

9. Professor R.C. Mehrotra Member
Vice-Chancellor
Delhi University
Delhi
10. Dr. D. Shankar Narayan Member-
Additional Secretary Secretary
U.G.C.

Professor C.V. Subramanian and Professor S. Krishna-
swamy could not attend the meeting.

Shri R.K. Chhabra, Secretary, Shri I.C. Menon, Joint
Secretary, Shri A.G. Deshmukh, Deputy Secretary, Dr. C.P.
Srivastava, Education Officer and Shri K.N. Bhatnagar,
Education Officer of the UGC also attended the meeting.

1.1 Welcoming the members, Professor B.R. Rao, gave a
resume of the developments after the last meeting held
on the 8th March, 1977. Professor Rao mentioned that
there has been significant progress in the implementation
of the programme initiated in 1963. It is now necessary
that the departments which have completed 15 years as CAS
should be able to stand on their own feet. The Commission
however, is exploring the possibility of providing some
assistance to such centres out of the non-plan funds in
the context of the resources position. It has been
decided that assistance to be given for future activities
would be related to specific well-defined programmes which
may be considered on merit and keeping in view the sugges-
tions made by the Evaluation Committees for such Centres
of advanced study.

1.2 Professor Satish Chandra, Chairman, UGC stated that
this being one of the key programmes pertaining to rais-
ing of standards in higher education and research, the
Commission envisages a fundamental approach in case of
Science, Social Sciences etc. There has been periodic
evaluation of the performance of these departments as a
result of which some centres were de-recognised while the
others continued to receive the the UGC support for the
programmes. At the present meeting also there are some
cases for de-recognition as per recommendations of the
Assessment Committees. He added that while such hard
decisions have to be taken in some cases based on objective
criteria, it is necessary that all aspects involved in
the de-recognition of any department are examined
thoroughly so that no motives are attributed to indivi-
duals, the Assessment Committee or the Commission by the

concerned departments. In order to ensure this, he suggested that in future at least 3 experts on the Assessment Committee should visit each department and 5 names may be suggested for membership of such committees. He also added that as we have only one member visiting on the committee for assessment of some of the departments, the opinion of a second expert on the report may be obtained and the recommendations may be considered by the Standing Committee. In case of difference of opinion between the 2 experts, it would be necessary to obtain the view of two more experts in the field as a safeguard.

1.3 The Chairman then drew attention of the members to the financial strains on the Commission which may slow down the progress and the process of development achieved in the course of the past 15 years. It is understood that the Central Govt. is considering allocation of additional resources to the State Governments for development of higher education but a clear picture in this regard is not available. It is not known whether the State Govts. would be required to raise additional resources or be given direct support by the Central Govt. Nor is it clear whether the State Govts. would utilise the amount for development of teaching and research in existing institutions or will divert funds for setting up of new institutions.

1.4 It is, however, the considered view of the Commission that about 1/3 to 40% of the UGC funds are to be earmarked for specific quality oriented programmes such as CAS, DSA, COSIP, ULP, Support of Research etc. and whatever the quantum of funds at the disposal of the UGC every effort would be made in emphasising quality programmes which have a significant impact on raising the standards of higher education and research.

1.5 It was stated that functioning of the Advisory Committee of CAS/DSA is of importance. Coming to some specific issues and discussions thereof, the Standing Committee expressed its concern that in many departments Advisory Committees have not been meeting at regular intervals. It is an index of the work of the Centre/Department. The Committee is of the view that the UGC has to impress upon the university departments that at least 2 meetings of the advisory committee should be held every year. Advisory Committee must be told clearly of their functions/objectives. Guidelines for Advisory Committees must be laid down. The two UGC nominees may

also send to the UGC independent unbiased views where considered essential. Some members expressed their concern as to the effectiveness of the Advisory Committee and the role of the two external experts. It was agreed that some statutory provision would be made to the Advisory Committees without undermining the autonomy of the University so that right persons are selected. Just as in case of teacher fellowships wherein 50% are reserved for candidates from the other Universities, likewise for posts under CAS/DSA, attempts should be made as far as possible to take atleast 50% of the staff from persons who are not trained in the same Department. The difficulty lies in the fact that the Advisory Committee have no legal standing in relation to the University acts, statutes and ordinances. The Committee, suggested (a) that the UGC may take up this matter with the concerned universities in order that the decision of the Advisory Committee may be binding on the universities concerned. (b) it would also be useful to suggest to the universities that the experts on the advisory committee may automatically become members of the Selection Committees. (c) It should also be made obligatory on the part of the members of the Advisory Committee to send their comments and reports on the performance of the departments periodically and regularly (d) the UGC office should monitor performance of these departments in a continuing manner.

1.6 It is necessary to ensure that grants are generally released by the UGC on receipt of the reports of the Advisory Committee meetings. It will be useful to pre-prepare in advance a calendar of meetings for the advisory committees for every such department. The Advisory Committee members should also discuss development programmes and problems with the research fellows by spending an extra day and five seminars etc.

1.7 It was suggested that in the case of the departments brought under the scheme during 1972-73 and for which assistance has been provided upto 31-3-1979 further assistance may be provided upto the end of the 6th Plan period, that is upto 31.3.1983 and in such cases assessment of the departments should be done in the penultimate year of the plan period. This, however, raises the question of taking over of the recurring liability by the State Governments which starts from 31.3.1984 on the basis of the Finance Commission's recommendations. This question has to be sorted out by the Commission.

The Committee was of the view that it would be better to synchronise UGC assistance to the departments under the scheme with the plan period. Since these departments have functioned already as DSAs for about seven years, an evaluation could be made when they complete 10 years so that such of the departments which have done well could be elevated as CAS for next five years.

1.8 The Committee was of the view that departmental support for research projects may not come under purview of the Standing Committee in order to reduce operational or implementation delays. The recommendations of the panels may be considered by the Commission in the context of the resources available. This may, however, be reported to the Standing Committee from time to time.

1.9 After general discussions, the committee took up for consideration the agenda items.

Item No.1: The Committee noted the action taken by the Commission on the recommendations made by the Standing Committee at its last meeting held on 8.3.1977.

Item No.2: The Committee considered the reports of the Assessment Committee on the DSAs participating in this programme since 1972.

2.1 The Committee accepted the recommendations of the Assessment Committees in regard to the continued assistance of the UGC for the following DSAs.

- i) Botany : Andhra University, Waltair (subject to the appointment of a project leader as per recommendations in the Report).
- ii) Zoology: Banaras Hindu University (see under Remarks para 2.2)
- iii) Chemistry: Department of Pure Chemistry, Calcutta University.
- iv) Chemistry: Department of Chemistry, Poona University
- v) Chemistry: Department of Chemistry, Rajasthan University
- vi) Chemistry: Department of Chemistry, Osmania University.
- vii) Chemistry: Department of Chemistry, Panjab University
- viii) Bio-Chemistry: Lucknow University.

- ix) Bio-Chemistry: M.S. University of Baroda
(See para 2.2)
- x) Physics: Andhra University, Waltair
- xi) Geology: Jadavpur University
- xii) As regards the Geology Department of Andhra University, it is necessary that the report of the Assessment Committee of one expert may be sent to Prof. A.K. Saha, Presidency College, Calcutta, Convenor of the Geology Panel for discussion with Dr. Varadan and his comments obtained before settling the issue. This may be decided by the Vice-Chairman.
- xiii) Statistics: Department of Statistics, Poona University.

In regard to the above DSAs, the committee felt that the reports may be sent to the Vice-Chancellors of the Universities concerned with a view to obtaining their assurance that development of the departments would be in keeping with the recommendations in the reports. This is an essential pre-requisite in the case of all the departments.

The committee agreed with the recommendations of the assessment committees in regard to upgrading the following DSAs as CAS:

1. Botany Department, Banaras Hindu University
2. Botany Department, Calcutta University
3. Department of Inorganic and Physical Chemistry, I.I.Sc. Bangalore.
4. Department of Metallurgy, Banaras Hindu University

- xv) The Committee concurred with the recommendations of the Assessment Committee report in regard to discontinuance of UGC assistance to the three following departments of Special Assistance:

1. Physical Chemistry, Madras University
2. Botany Department, Panjab University
3. Physics Department, Allahabad University.

In the case of Physics Department, Allahabad University the committee could not visit the

Department because the Department had not submitted the Report inspite of several reminders as also due to the low degree of utilisation of the amounts given to the department and the unsatisfactory state of affairs in the department.

Remarks:

2.2 The Committee was of the view that in all the cases, the reports should be sent to the Vice-Chancellors and their assurance obtained regarding the implementation of the programme in the light of the specific points and suggestions made in the assessment committee reports. It was specifically stated that in the case of bio-chemistry department of M.S. University of Baroda, the assistance of the UGC should be made subject to the assurance of the State Govt. to take over the recurring liability which is over due in regard to the past commitments. As regards Zoology Department, Banaras Hindu University, the Vice-Chancellor may be requested to look into the management aspects in the department and to find a solution to the various problems referred to in the report, and taking into account the posts filled recently, the university be requested to send a revised programme in a balanced manner within Rs. 15 lakhs so that all the various active groups could develop harmoniously. The report may be sent to Banaras Hindu University without the financial recommendations of the Committee.

2.3 Financial support, wherever the Assessment Committee has specifically indicated the items for assistance may be considered by UGC as per norms within the ceiling assistance. Wherever such details are not indicated, the departments should be required to send the details of assistance in the light of the recommendations of the Assessment Committee which could then be finalised in consultation with the members of the Assessment Committee within the Specified ceilings.

2.4 As regards the departments recommended for up-gradation as CAS, a larger committee consisting of 5 members in the field(s) of specialisation may be constituted to discuss financial details with the departments concerned, before a final decision is taken by the Commission.

Item No. 3:

3.0 The Committee accepted the recommendations of the assessment committee that the Department of Bio-Chemistry

Indian Institute of Science, Bangalore and the Department of Mathematics (Ramanujan Institute of Advanced Study in Mathematics, Madras University may continue to receive assistance for CAS).

3.1 The committee felt that the assistance recommended for Bio-Chemistry department of the Indian Institute of Science, Bangalore is in excess of the prescribed norms. The Committee was not in favour of the request for additional space generally, but there was a justification in this instance as a special case. In this connection the committee noted that the department has not been allotted funds due under the V Plan development schemes. The Institute and UGC may consider ways by which the urgent needs of the department can be met. The Committee also felt that the Commission could consider giving grants over and above the normal ceiling as a special case.

3.2 The situation in the Centre of Advanced Study in Mathematics in Madras University needs immediate attention of the Vice-Chancellor. At this stage, the UGC assistance may be offered for a period of 2 years within which time there should be a further assessment. The Committee was not in favour of accepting the proposal for additional space. The committee felt that through rational reallocation of space it should be possible for the department to meet its genuine needs.

Item No. 4:

4.0 The Committee accepted recommendations of the science panels in regard to providing assistance to the following departments as DSAs.

1. Physics: Panjab University
2. Physics: Poona University, Poona
3. Physics: Institute of Science, Bangalore
4. Mathematics: University of Bangalore-Department of Applied Mathematics
5. Chemistry: Solid State Structural Chemistry, Indian Institute of Science, Bangalore.

5.1 As regards departmental research support for the 4 Physics departments (Universities of Sardar Patel, Aligarh Muslim University, Calcutta and Madras), the committee

nted the recommendations of the Physical Panel and reiterated its view that departmental support projects can be approved by the Commission on the recommendations of the Panel and need not come before the Standing Committee.

52 There was a discussion about the proposal being made by some of the derecognised Centres of Advanced Studies for reconsideration. The Committee felt that these cases may be considered denovo by the Panels in the first instance without prejudice but in the light of their present stature and performance.

53 The Committee felt that it would be necessary to have periodical joint meeting of the UGC Standing Committees on Science and Humanities and Social Sciences to assure co-ordinated development of the programmes under SR and HR so that the approach followed is also similar in both cases.

5.4 Before proposing a vote of thanks to the members the Vice-Chairman expressed his deep appreciation of the services rendered by the members of the Standing Committee in its deliberations. He said that the present Standing Committee which was constituted 3 years ago was now to be reconstituted. A new Standing Committee would be formed in the near future.

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Appendix II to Item No. 4.01

The manner in which the Assessment/Evaluation Committees are appointed for DSAs. & CASs are as under:-

"For the constitution of Assessment Committee generally one Expert is taken out of the members of the Department/Centres. Advisory Committees who functions as an outside Expert in the field and the other Expert is taken out of the Experts who first visited the Department/Centres; the Experts are chosen from the major area(s) of specialisation identified wherever necessary additional expert is also included in the Committee". (The terms of reference of the Evaluation Committees are given in the note placed before the Committee, which alongwith the reports has been sent separately).

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Appendix III to Item No. 4.01

Financial implications of the recommendations of the D.S.A./C.A.S. Standing Committee (1979-80 to 1984-85) in respect of DSA/CAS evaluation and new DSAs recommended by the Panels and Standing Committees.

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No. of DSAs recommended for financial assistance to be continued.	12	
Ceiling available per DSA for 5 years.	upto Rs. 15,00,000 (R & NR)	
Total amount for 12 D.S.A. for 5 years	Rs. 15,00,000 x 12 =	Rs. 1,80,00,000/- (approx.)
No. of D.S.A. to be upgraded as C.A.S. on the basis of evaluation done.	4	
C.A.S. to continue to receive UGC assistance for next 5 years	1	5
Ceiling available per C.A.S. for 5 years.	upto Rs. 20,00,000 (R & NR)	
Total amount for 5 C.A.S. year	Rs. 20,00,000 x 5 =	Rs. 1,00,00,000/-
C.A.S. in Mathematics of Madras University to continue to receive UGC financial assistance for 2 years and then to be reviewed.	Rs. 8,00,000 (R & NR)	Rs. 8,00,000/-

Grand Total for DSAs & CASs.	<u>2,88,00,000/-</u>
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No. of Departments under Special Assistance as recommended by Science Panels.	5	
Ceiling available per Deptt.	Rs. 15,00,000/-	
Total amount for 5 Deptts.	Rs. 75,00,000/-	Rs. 75,00,000/-
	Estimate (Total for 5 years)	<u>Rs. 3,63,00,000/-</u>

(Requirements during the VI Plan i.e. upto 31.3.1983 will be about Rs. 1.50 crores only)

UNIVERSITY GRANTS COMMISSION
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1

Meeting of the standing Advisory Committee for the Centres of Advanced Study and Programme of Special Assistance to selected departments.

Meeting:

Dated: 6.8. 1979.

Item No. 1: To note the action taken by the Commission on the recommendations made by the Standing Committee at its last meeting held on 8.3.1977 and the present position of the Programme.

3-10 / The last meeting of the Standing Committee was held on 8th March, 1977. The minutes of the meeting are attached as Annexure.1. These minutes were considered by the Commission at its meeting held on 21.3.1977, and the Commission generally accepted the recommendations of the Standing Committee and decided that the Visiting Committees may be sent to the departments recommended by the Standing Committee to assess the suitability and requirements of the departments for participating in the programme of Special Assistance to selected departments. The Commission also agreed that the proposals be invited from the departments recommended by the Standing Committee for departmental research support.

As decided by the Commission Expert Committees were constituted to visit 14 departments recommended for Special Assistance Programme. The reports of these Committees were considered by the Commission and 12 out of these were included under this programme. The Department of Physics, Rajasthan University, Jaipur, was approved the Departmental Research Support as recommended by the Committee. For the Department of Zoology, Panjab University, the consideration of inviting department to participate in this programme would be taken up after appointments of professors in this department have been finalized.

Out of 19 departments recommended for the departmental research supports, the Committees have visited 14 Departments and these Departments have been provided departmental research support. The visits of the Committee are being arranged in case of two departments. The panels have reconsidered the recommendations and decided that the Department of Zoology Vikram University and Department of Geography Mysore University may not be considered in view of changed circumstances. The detailed proposal from Department of Geology, Aligarh Muslim University has not so far been received.

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: 2 :

The ceiling assistance to be provided to the departments for the V Plan period under these programmes as approved by the Commission is as follows:-

- | | | |
|------|----------------------------------|-------------|
| 1) | Centres of Advanced Study | Rs.20 lakhs |
| ii) | Department of Special Assistance | Rs.15 lakhs |
| iii) | Departmental Research Supports. | Rs.10 lakhs |

The Commission has agreed to provide 5 additional teachers fellows of one year duration to these departments. The teachers from universities could also be considered under this additional quota. However, the Commission decided that it would not pay the salary to the substitutes in case the teacher fellow is from a university department.

The grants upto the ceiling assistance have been provided to the Centres of Advanced Study. It has been decided that the assistance may be made available upto 31.3.1981, after which the recurring assistance is to be taken over by the concerned State Governments/Universities. In case of Centres of Advanced Study in the Central Universities the recurring assistance is available upto 31.3.1979 after which it is to be merged into block grant. In the case of Departments of Special Assistance approved in the V Plan it was decided that the recurring and non-recurring assistance may be provided upto the end of Sixth Plan period and after which the concerned State Government should take over the recurring liability.

The Commission has considered the question of assistance to be provided to the Centres of Advanced Study which have completed 15 years of existence i.e. those working as Centres of Advanced Study since 1963-64. The Commission felt that as a result of substantial assistance provided over 15 years period, these Centres would be having necessary infrastructure and staff to attract assistance for major research programmes and it may not be necessary to provide general development grants as a part of Centres of Advanced Study programme. These Centres of Advanced Study could be provided assistance during the Sixth Plan period for well defined programmes which could be completed in 5 years period. The concerned CAS have been informed.

1.11-14 /

A list of CAS/DSA is attached as annexure.II.

3

Annexure I to Item No. I

Proceeding of the Standing Advisory Committee for the programme of Centres of Advanced Study and Special Assistance to Selected Departments in Science subjects.

A meeting of the Standing Advisory Committee for the programme of centres of Advanced Study and Special Assistance to selected departments in science subjects was held on 8th March, 1977. The list of members present at the meeting is given in Annexure. The Chairman, U.G.C. Secretary, UGC and also Dr. Jagdish Shankar, Director S.R.C., Shri A.G. Deshmukh and Dr. P.A. Khan attended the meeting.

The Chairman, UGC, welcomed the members to the meeting and after taking note of the action taken on the recommendations made by the Standing Committee at its last meeting held on 25th October, 1975 initiated a discussion on the general approach for purposes of identifying departments to participating in the programme of CAS/Department of Special Assistance. He mentioned that, since the last meeting of the Committee the individual subject panels had deliberated upon the question of identifying appropriate departments which could participate in these programmes and their recommendations have now become available for consideration by the Standing Committee and subsequently by the University Grants Commission. He drew the attention of the Standing Committee to the following in particular:-

1. Identification of departments, on the advice of the subject panels, for participation in the programme of centres of Advanced Study/ Department of Special Assistance should be done once in each plan period at the beginning. Exceptional cases could, however, be considered wherever necessary.
2. Generally, no department would straight away be recognised to participate as a Centre of Advanced Study. All departments would initially participate under the Special Assistance Programme for a period of about 5 years and their work would be evaluated before the assistance is continued either under the Special Assistance Programme or they are brought under the Centres of Advanced Study Programme.

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- The Commission has also agreed to provide support in the form of departmental support to some selected departments to enable them to build up infrastructure facilities and consolidate their teaching and research activities in chosen area of importance so that some of these departments could later be considered to participate under the programme of special assistance to Selected Departments.
- In view of the fact that the newly established Central universities would received substantial grants for their establishment and development it may not be appropriate to consider the claims of such departments to participate in either departmental support or in the Special Assistance Programme in the initial 10 years period.
- In the matter of selection of departments under the Special Assistance Programme it would be desirable to take into account to the extent possible, without sacrificing the standards, a geographical spread of such departments in different regions of the country and participation by larger number of universities. Generally, a University may not have more than 3 such departments in science subjects participating in these Special Assistance Programmes (CAS/DSA).
- In view of the nature of expenditure involved and the resources available it may not be possible to support during the Fifth Plan period more than 15 departments in science subjects under the Special Assistance Programme. However, keeping in view the need for encouraging inter-disciplinary areas it may be possible to add another 2 or 3 departments particularly in inter-disciplinary or multi-disciplinary subjects of academic and economic importance.
- In the matter of identifying departments to be given departmental support to build their infrastructure etc., the total number of departments to be supported in a plan period should be with specific reference to the number of departments that may ultimately be brought under the special Assistance Programme at the beginning of the next plan period. Generally, the number of departments provided departmental support may be about twice the number of departments identified for special assistance.

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The recommendations to be made by the Standing Committee would be considered by the Commission at its meeting to be held in March, 1977 and thereafter action would be initiated to send out expert committees to the departments concerned so that a final decision regarding the support to be made available to these selected departments could be taken before the beginning of the next academic year.

In the general discussion that followed the members of the Standing Committee generally were in agreement with the above approach and the Commission's concern for maintaining adequate standards and helping departments in different regions and in different subjects to establish strong and viable schools of teaching and research in individual subjects thereby setting the pace for development by the rest of the University system.

Item No. 2:

To consider the recommendations made by various Science Panels regarding departments to be invited to participate in the Programme of Special Assistance to the Selected Departments:

The Standing Committee considered the recommendations made by the different subject panels with regard to departments to be invited to participate in the Programme of Special Assistance (DSA) and Departments which may be provided support for major research programme (ISA). The Committee also took into account the relative strength of the different departments, the major thrust areas of teaching and research in the departments concerned and their value, regional distribution and the observations made by the Fifth Plan Visiting Committees as well as the normal assistance available to these departments under the Fifth Plan Development Programme. On the basis of the discussions the Standing Committee recommended that the following departments may be invited to participate in the Programme of Special Assistance to Selected Departments.

(D.S.A.)

A. Physics

- i) University of Roorkee
- ii) Rajasthan University

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B. Chemistry

- 1) Allahabad University
- ii) Sardar Patel University.

C. Botany

- i) Patna University.
- ii) Lucknow University.

D. Zoology

- i) Calcutta University
- ii) Marathwada University
- iii) Punjab University.

E. Biological Sciences

- i) Madurai University.

F. Geology and Geophysics

- i) Roorkee University.
- ii) Mysore University.

G. Geography

- i) Osmania University
- ii) Aligarh Muslim University.

H. In the case of Mathematics and Statistics the recommendations of the Panel may be awaited.

I. The Commission may also recognise one or two departments in the emerging inter-disciplinary areas such as material science for support under the Special Assistance Programme. The recommendations in these regards could be made in due course by the concerned panels i.e. Physics and Chemistry.

The Standing Committee also, keeping in view of the recommendation of the Panels agreed to recommend that departments support for major research programme to be undertaken may be given to the

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following Departments:-

I. Physics.

- i) Banaras Hindu University.
- ii) Andhra University-Nuclear Physics Department.

II. Chemistry

- i) Jadavpur University
- ii) Kurukshetra- B.N. Chakravarty University.

III. Botany

- i) Kalyani University
- ii) Allahabad University.
- iii) Sardar Patel University.

IV. Zoology

- i) Vikram University.
- ii) Marine Biology- Kerala University.

V. Biological Science

- i) Saurashtra University.

VI. Geology and Geophysics

- i) Aligarh Muslim University.
- ii) Presidency College- Calcutta.
- iii) Baroda University
- iv) Geology Department-Osmania University
- v) Patna University

VII. Geography

- i) Calcutta University.
- ii) Panjab University
- iii) Mysore University
- iv) Banaras Hindu University.

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: 6 :

Additional Departments for departmental support could be considered on the basis of recommendations to be made by the Panel keeping in view that the total number of departments in this category would not be more than 5 in any subject and would not be beyond 30-35 in all science subjects during the current Plan period

Item No. 3:

To consider the question of continuation of earlier teacher fellowship programme in the Centres of Advanced Study in addition to the fellowships under the Faculty Improvement Programme.

The Standing Committee noted that the teacher Fellowship Programme earlier taken up by Centre of Advanced Study prior to the Faculty Improvement Programme during the Fifth Plan period enabled both college and university teachers to spend an academic year at the Centres of Advanced Study for engaging themselves in advanced training and research and that it was required that at least 50% of such teachers came from other universities. The Standing Committee agreed with the view that the nature of nomination as well as financial benefits should be the same for all teacher fellows. However, since some of the Centres of Advanced Study were desirous of continuing the earlier Teacher Fellowship programme the Standing Committee recommended that in the case of departments, recognised as Centres of Advanced Study and Department of Special Assistance, the Commission may allow them to have an additional intake of 5 Teacher Fellows who may come from both university as well as college departments. The total number should generally not exceed 15 from both programmes.

Item No. 4:

To consider the question of providing annual allocations to the departments selected under special assistance programme for organising seminars/symposium etc.

The Standing Committee recommended that departments participating under the Special Assistance programme may be provided with a annual recurring grant of Rs.10,000/-

to enable them to organise seminars/symposia as and when necessary keeping in view the contributions which the department can make to such symposia in consultation with its advisory committee.

Item No. 5:

To consider a suggestion received from Professor M.S. Kanungo regarding work load of teachers in the Centres of Advanced Study/Special Assistance to selected departments.

The Standing Committee discussed the desirability of having differential work load for persons recruited under the Special Assistance Programme and was unanimously of the view that this may not be desirable since in the case of such departments the actual staff strength is not based upon the workload but exceeds a certain critical size. Any adjustments that may become necessary could be done within the department keeping in view the teaching and research potential and activities of different Faculty members.

The Standing Committee considered the question of the number of meetings it may have and felt that while it may not be possible to lay down the exact number the Committee could meet as and when required depending upon the extent of business to be transacted by it. In view of the fact that the work in respect of the departments now recommended would take considerable time and additional recommendations from the panels may not be immediately available the Committee could meet sometime at the beginning of 1978. It could then also consider the question of the evaluation of the existing departments in the Special Assistance Programme. The meeting ended with a vote of thanks to the Chair.

List of Members of the reconstituted Standing Committee for the Programmes of (1) Centres of Advanced Study (2) Special Assistance to Selected Departments in Science.

1. Professor Satish Chandra,
Vice-Chairman,
University Grants Commission. General Secretary
2. Professor Rais Ahmed,
Director,
N.C.E.R.T., New Delhi. Chairman
3. Professor J.N. Bhar, Head
Centre of Advanced Study in Radio Physics
and Electronics,
University of Calcutta,
Calcutta.
4. Professor G.V. Subramanian, Head
Centre of Advanced Study in Botany,
University of Madras,
Madras.
5. Professor R.P. Bambah,
Centre of Advanced Study in Mathematics,
Panjab University,
Chandigarh.
6. Professor M.S. Kamungo,
Department of Zoology,
Banaras Hindu University,
Varanasi.
7. Professor A. Sri Ram Das,
Head of the Department of Geology,
Andhra University,
Waltair.
8. Professor A.R. Vasudeva Murthy,
Department of Physical & Inorganic Chemistry,
Indian Institute of Science,
Bangalore.
9. Professor R.C. Mehrotra,
Vice-Chancellor,
University of Delhi,
Delhi.
10. Professor S. Krishnaswamy,
Head of the Department of Biological Sciences,
Madurai University,
Madurai.
11. Prof. B. Shankar Varma,
Additional Secretary,
University Grants Commission
New Delhi. Member Secretary

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Annexure II to Item No.1

List of Departments approved under
Special Assistance Programme in Science Subjects

<u>Sl. No.</u>	<u>Department</u>	<u>University.</u>
1.	Bio-Chemistry	1. Lucknow University
2.	-do-	2. M.S. University of Baroda
3.	Bio-Physics	1. Indian Institute of Science, Bangalore.
4.	Biological Sciences	1. Madurai Kamaraj University
5.	Botany	1. Andhra University
6.	-do-	2. Banaras Hindu University
7.	-do-	3. Calcutta University
8.	-do-	4. Lucknow University
9.	-do-	5. Panjab University
10.	-do-	6. Patna University
11.	Chemistry	1. Allahabad University
12.	-do (Inorganic & Physical)	2. Indian Institute of Science, Bangalore.
13.	-do (pure)	3. Calcutta University
14.	-do (Physical)	4. Madras University
15.	-do-	5. Osmania University
16.	-do-	6. Panjab University
17.	-do-	7. Poona University,
18.	-do-	8. Rajasthan University
19.	-do-	9. Sardar Patel University
20.	Geography	1. Aligarh Muslim University
21.	-do-	2. Osmania University
22.	Geology	1. Andhra University
23.	-do-	2. Jadavpur University
24.	-do-	3. Mysore University
25.	Geology & Geophysics	1. Roorkee University
26.	Metallurgical Engineering	1. Banaras Hindu University
27.	Physics	1. Allahabad University
28.	-do-	2. Andhra University
29.	-do-	3. Roorkee University
30.	Statistics	1. Poona University
31.	Zoology	1. Banaras Hindu University
32.	-do-	2. Calcutta University
33.	-do-	3. Marathwada University

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List of Centres of Advanced Study
with areas of specialisation and
year of recognition.

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SCIENCE

No.	Subject	Area of Specialisation	Department	Year of recognition
1.	2.	3.	4.	5.
Physics		Theoretical Physics and Astrophysics.	Department of Physics & Astrophysics, Delhi University.	1963
		Radiophysics & Electronics	Institute of Radiophysics & Electronics Calcutta University.	1963
Chemistry		Chemistry of Textile Fibres and Dyes.	Department of Chemical Technology, Bombay University.	1963
		Chemistry of Natural Products	Department of Chemistry Delhi University.	1963
Botany		Plant Morphology and Embryology.	Department of Botany, University of Delhi.	1963
		Plant Pathology and Mycology.	Department of Botany, University of Madras.	1963
Zoology		Cell Biology and Endocrinology.	Department of Zoology, Delhi University.	1963
		Marine Biology.	Department of Marine Biology, Annamalai University.	1963
Geology.		Himalayan Geology and Palaeontology.	Department of Geology, Panjab University.	1963
Mathematics.		Pure Mathematics.	Department of Mathematics, Bombay University (in collaboration with the Tata Institute of Fundamental Research, Bombay).	1963
		Pure Mathematics.	Department of Mathematics, Panjab University.	1963
		Pure Mathematics.	Department of Mathematics University of Madras & Ramanujan Instt. of Mathematics, Madras.	1967

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1.	2.	3.	4.	5.
13.	Astronomy.	Experimental Astronomy	Department of Astronomy 1964 and Nizamia Observatory, Osmania University, Hyderabad.	
14.	Biochemistry.	Proteins, Lipids Vitamins.	Department of Biochemistry, 1968 Indian Institute of Science, Bangalore.	

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Meeting of the Standing Advisory Committee for the
Centres of Advanced Study and Programme of Special
Assistance to Selected Departments.

Meeting :

Dated : 6.8.1979

Item No.2 : To consider the reports of the Assessment Committees
to the Departments of Special Assistance participating
in this programme since 1972.

16-18 / The Assessment Committees were constituted to visit 20 Departments
of Special Assistance which have been assisted since 1972 to examine
their achievements and to recommend continuation of further support.
The terms of reference of the Assessment Committees are attached as
Annexure-I. Out of the 20 departments, the Department of Physics,
Allahabad University has not submitted the report inspite of repeated
reminders. The State Government has also not given any assurance
for taking over regarding assistance from 1.4.1979. In case of this
department. The other 19 Committee Reports have been finalized.
/ A statement giving main observations and recommendations is attached.

19-40 / The Committee may like to take a decision regarding these
recommendations for continuation of some departments under this
programme and upgrading of ⁴ departments to Centres of Advanced
Study as recommended by the concerned committees. In addition to
Allahabad, Physics Department, which may not be continued under
this programme, two more departments have not been recommended
for further support under this scheme.

UNIVERSITY GRANTS COMMISSION

General Terms of reference for the Assessment Committees for evaluation of the work of the Departments under the Special Assistance Programme.

The Assessment Committee will visit the department concerned and hold discussions with the university authorities, the staff of the department and other research workers as may be considered essential, with regard to the various academic training and research programmes undertaken by the department consequent upon the Department's selection for participating in the UGC programme of Special Assistance to Selected Departments.

1. The Committee would look into the organisational and Administrative aspects of the department particularly the aspects relating to measure of autonomy enjoyed by the department in implementing various programmes undertaken by them, within the existing university framework.
2. The Committee would examine the stage of development of the area of specialisation selected initially for special support and its impact on the total development of the Department.
3. The Committee would also examine the question relating to the Advisory Committees appointed for each department with regard to their composition, role and effectiveness in furthering the activities of the Department.

The Committee would examine the progress of utilisation of the grants approved earlier, appointments made against posts created, selection of research fellows etc.

Any other aspect with regard to the functioning of the department as may be considered essential by the Assessment Committee.

The Committee will report on the major achievement of the department since its selection for participation in this programme with special reference to research output, scholars trained, new techniques developed, new equipment fabricated, academic programmes initiated etc. The Committee may also point out the short falls and weaknesses, if any, and suggest remedial measures.

3. Based on the detailed and objective assessment of the progress achieved the Committee would give its report including specific recommendations regarding (a) the continuation of the department under this programme for further period of five years (b) the upgrading of this department for consideration as a Centre of Advanced Study and (c) discontinuation of the department from the Special Assistance Programme with effect from 1.4.1979.

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In case the Committee recommends that the department be provided further assistance either as a CAS or ISA, it would also look into future programmes of work in the next five years and the financial requirements for this purpose and include its suggestions in the report to be considered by the Commission.

The Department of Special Assistance and Centres of
Advanced Study - Assessment Committee's Recommendations

Department	University	Recommendations
Physics	Allahabad	The Department has not submitted the report and the Committee could not visit.
Botany	Andhra	To continue as ISA (P.20)
Geology	Andhra	To continue as ISA (P.21)
Physics	Andhra	To continue as ISA (P.22)
Botany	B.H.U.	Recommended for CAS (P.23)
Metallurgy	B.H.U.	Recommended for CAS (P.24)
Zoology	B.H.U.	To continue as D.S.A. (P.25)
Botany	Calcutta	Recommended for CAS (P.26)
Chemistry	Calcutta	To continue as D.S.A. (P.27)
Geology	Jadavpur	To continue as D.S.A. (P.28-29)
Bio-chemistry	Lucknow	To continue as D.S.A. (P.30)
Physical Chemistry	Madras	Not recommended for continuation (P.31)
Bio-chemistry	M.S. Baroda	To continue as D.S.A. (P.32)
Chemistry	Osmania	To continue as D.S.A. (P.33)
Botany	Panjab	Not recommended for continuation (P.34-35)
Chemistry	Panjab	To continue as D.S.A. (P.36)
Chemistry	Poona	-do- (P.37)
Statistics	Poona	-do- (P.38)
Chemistry	Rajasthan	-do- (P.39)
Inorganic & Physical Chemistry	I.I.Sc., Bangalore.	Recommended for C.A.S. (P.40)

Centres of Advanced Study

Bio-chemistry	I. I. Sc., Bangalore	To continue as C.A.S. (P.44)
Mathematics	Madras	-do- (P.45)

Department of Botany, Andhra University ~~Chair.~~

Members of the Assessment Committee:

- 1. Professor P.N. Bhaduri could not visit
B.O. Krichi Viswa Vidyalaya
Kalyani
- 2. Professor M.S. Chennaveerajah,
Karnatak University
Dharwar.

Date of the visit of Committee : 21st to 23rd December, 1978

Main Observations:

The assessment of the department of Botany amply substantiates that the department has built up a very competent group of staff and research students actively contributing in the field of cytogenetics. The group has grown to a viable size which promises for further development and promotion of excellence. This has been possible in a large measure by the sanction of Special Assistance by the Commission and the excellent traditions and team spirit developed by the workers of Cytogenetic group.

While commending about the large output of work by this group and regarding excellence of some of the works, the Committee would like to point out that it has not noticed new ideas or new line of research that have emerged which could place their centre as the founder of a new line of investigation. It is, therefore, suggested that instead of expanding and diffusing the research works, more concentration should be given in intensive research work that would reveal new basic knowledge in the field of cytogenetics.

Recommendations:

The Committee would like to recommend to the Commission that the department may be provided continued support under this scheme in next plan period. The department may organise the research programmes as per suggestions given. The progress of the department may be assessed after this period and decision regarding upgrading this department could be taken depending upon the achievements.

Members of the Assessment Committee:

1. Professor Sourindranath Sen could not visit
Department of Geology
Calcutta University
Calcutta
2. Mr. V.K.S. Varadan
Geological Survey of India
Calcutta

Date of the visit of the Committee : 23-12-1973

Main Observations:

The overall impression gained in the course of discussion and visit to the laboratories is that the faculty members, research scholars and students are all very earnest and there is a high degree of competence, purposefulness and dedication in the way they attend to their studies. The Department seems to be receiving excellent all round administrative support.

There are also indications of certain trends and tendencies which are not very healthy. The Geology Department seems to be totally inbred. There does not appear to be adequate awareness of the extreme importance of geophysical investigations in geological studies particularly in the area of marine geology.

Recommendations:

In the light of the progress achieved by the Department there is ample justification for continuation of the Department under the Special Assistance Programme for a further period of five years. It is felt that the Department should be upgraded as a Centre of Advanced Studies in Marine Geology in the larger national interest. If vigorous steps are taken from now, it should be possible to realise this objective in a matter of two to three years.

Department of Physics : Andhra University

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Member of the Assessment Committee:

1. Professor J.N. Bhar
Osaka University
2. Professor C.S.G.K. Setty could not visit
Delhi University

Date of the visit of the Committee : 21-12-1979

Main Observations:

The proposed list of topics for research programmes to be pursued is quite extensive. For a university department to implement such an extensive programme is a formidable task and would result in diluting the standard of research. The activities should be confined to a limited number of selected topics and concentrated efforts be made to carry on high standard research work in these areas within the available resources.

The proposal includes a teaching M.Sc. (Tech.) course in Space Sciences and Technology in addition to the M.Sc. (Tech.) course in Electronics. The committee feels that the existing courses may continue and be strengthened. If possible the two existing courses may be merged into one M.Sc.(Tech.) in Electronics and Space Science course.

Recommendations:

The Committee after examining the achievements of the department during last seven years came to conclusion that this department has utilised the assistance provided by the Commission well and has been able to achieve the objectives of the programme. The committee would like to recommend to the Commission that the department be provided further assistance under this programme for next five years. The question of upgrading the department as a Centre of Advanced Study could be considered after evaluating the work done in next five years.

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Department of Botany : Benaras Hindu University

Members of the Assessment Committee:

1. Professor T.V. Desikachary,
Madras University.
2. Professor B.B. Biswas,
Bose Institute,
Calcutta.

Date of the visit of Committee : 15th February, 1979

Main Observations:

The department has made significant contributions during the period and the research output both in training and research papers published is very creditable indeed.

This is one of the leading centres for algological studies and for the past nearly five decades and the present contributions add creditably to that reputation.

In the field of Ecology one is equally impressed by their significant contributions for more than two decades and during the period under consideration.

Recommendations:

The Committee after careful consideration and scrutiny of the achievements of the department came to the conclusion that the research activities of the department in general could be considered as excellent.

The department has acquired international recognition, in Algology and Ecology. In the other disciplines as well as the record of achievement is of a very high standard. It is a matter of great satisfaction to us that this department enjoys a reputation as a leading centre of research and teaching in Botany.

It is our considered opinion that the department and the scientific personnel deserve our praise and we strongly recommend to the Commission that this department may be granted the status of an Advanced Centre in Botany. In recommending this we are impressed by the contributions by the workers of the two major disciplines and therefore, recommend that this centre be one in Botany with emphasis on Algology and Ecology.

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Department of Metallurgical Engineering : Banaras
Hindu University

Members of the Assessment Committee

1. Dr. Brahm Prakash
Director
Vikram Sarabhai Space Centre
Trivandrum
2. Professor E.C. Subba Rao
Indian Institute of Technology
Kanpur

Date of the visit of Committee: 21st March, 1979

Main Observations:

The Committee formed the following impressions based on the visit to the various laboratories and detailed discussion with the faculty and research workers. The quality and quantity of research has gone up substantially as a result of the Special Assistance Programme provided to the Department. Several Masters and Ph.D. degrees have been awarded. The large number of outstanding publications both in India and abroad and a number of successful conferences that have been held on a variety of metallurgical topics in the Department is a testimony to the successful utilisation of the Special Assistance Programme. The Committee strongly feels that the Department of Metallurgical Engineering at Banaras Hindu University and in particular the Physical and Mechanical Metallurgy groups are amongst the best in the country and also comparable with some of the best groups in the world.

Recommendations:

1. A Centre for Advanced Studies be established at the Department of Metallurgical Engineering in the field of Physical and Mechanical Metallurgy.
2. The Committee would like to emphasise that the recommendations about creation of the Centre is based on the outstanding academic and research record of the Department. The Committee wishes to underline the fact that the Centre is in an engineering discipline where research costs are necessarily high compared to many other areas of academic research. Keeping in mind the tight resource position, the Committee took great pains to recommend a minimum programme that is essential to nurture and sustain a centre of excellence that has been created at this Institute with the support of U.G.C. The Committee strongly feels that any decrease in the proposed support would hamper the full blossoming of the promise held by the Department.

Department of Zoology : Banaras Hindu University

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Members of the Assessment Committee:

1. Professor G.K. Manna
Kalyani University
2. Professor S.S. Guraya
Panjab Agricultural University

Date of the visit of Committee : 22nd and 23rd March, 1979

Main Observations:

The committee has a feeling that a healthy team spirit is lacking for personal factors. The overall performance of the department is very good. The teachers have been able to obtain research grants from various other sources and carry out the research activities by using facilities available elsewhere.

In the past the Advisory Committee never met and the departmental staff was not generally consulted in implementing this programme. Therefore, it is extremely important to constitute the Advisory Committee as per Commission's guidelines with outside experts and representative of teachers and consult it for proper implementation. If it is possible some departmental committee could be constituted to solve problems in day to day working of the department. The tendency to develop independent facilities should be discouraged.

Recommendations:

The Committee after careful scrutiny of the research activities of the department felt that the overall progress of research is satisfactory in all the three major areas. The performance would have been much better if teachers working in certain areas like fish endocrinology, mammalian reproduction, insect endocrinology, Cell biology etc., which also pertain to these three identified areas have been associated with this programme.

The Committee would like to recommend that the department may be provided continued support under the special assistance programme in the VI Plan period.

Members of the Assessment Committee:

1. Professor H.Y. Mohan Ram
Department of Botany
University of Delhi
2. Professor R.P. Roy
Department of Botany
Patna University
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

Date of the visit of the Committee: 21st September, 1978

Main Observations:

On the basis of the material presented to the Committee and the evaluation done, the Committee is deeply appreciative of the outstanding work done by this department in the field of chromosome research during this period.

The staff of the department, besides contributing significantly to their research programmes which have gained both national and international recognition, have contributed effectively to the teaching programme at the postgraduate level by reforms in curriculum and examinations. The department enjoys some measure of autonomy in its teaching and examination programmes even within the framework of the Calcutta University system.

Recommendations:

On the basis of the evaluation of the contributions made by the department and considering its high quality of the academic leadership and excellent team work, the Assessment Committee is confident that this department would attain higher levels of research on chromosomes. The Committee, therefore, strongly recommends that the UGC continue its support and assistance to this department by elevating it as a Centre of Advanced Study.

Department of Pure Chemistry : Calcutta University

Members of the Assessment Committee:

1. Professor T.R. Govindaohari
Emeritus Scientist
Central Leather Research Institute
Madras
2. Professor A.B. Kulkarni
University of Bombay
Bombay
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

Date of the visit of the Committee : 22nd September, 1978

Main Observations:

The Committee noted that the Department has been able to effectively utilise the assistance made available to it by the U.G.C. and from the U.N.D.P. sources and as presented in the report, has made substantial progress, and, therefore, has contributed to the objectives of the U.G.C. Programme in recognisable measure.

Over the last six years, the Department has given due attention to the modernisation of the courses of study at the Postgraduate level and has introduced several useful areas of training including instrumentation techniques relevant to the fast emerging area in Physical Organic Chemistry and Chemistry of Natural Products.

The department has established collaborative research work with a number of universities and research institutions in India as well as abroad.

Recommendations:

The Committee, therefore, recommends that this department may be given continued support under the programme of special assistance to selected departments for another five years at the end of which, based on the evaluation to be made then, the question of upgrading the department into a centre of Advanced Study could be considered at that stage.

Department of Geological Sciences - Jadavpur University

Members of the Assessment Committee:

1. Professor M.N. Viswanathiah
Department of Geology
Mysore University
Mysore
2. Professor J.M. Chaudhury
Department of Geology
Gauhati University
Gauhati
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

Date of the visit of the Committee : 23rd September, 1978

Main Observations:

The Committee would like to mention that this department has merited the recognition and the financial assistance provided by the U.G.C. under the Special Assistance Programme. It has also utilised this assistance as well as the UNDP Assistance to upgrade substantially its quality of teaching and research activities, its interaction with other university departments and collaboration with other agencies and industries connected with geological sciences and is now recognised as one of the viable and active schools of teaching and research in geological sciences with particular reference to economic geology.

The staff of 22 persons, which includes three professors nine readers and ten lecturers, and a supporting technical staff of seven persons, has also taken up a number of sponsored research projects from the UGC, CSIR, ICSA, West Bengal Mineral Development Corporation and other agencies. The department has established collaborative arrangements with the Geological Survey of India, Department of Atomic Energy, Central Ground Water Board, Coal India Limited, Central Fuel Research Institute, Oil and Natural Gas Commission and other R & D Organisations concerned with Geological Sciences. It has also established collaborate arrangements with institutions abroad in Europe and U.S.A. This has also resulted in exchange of visits connected with the research programmes of mutual interest.

Recommendations:

The Committee notes with satisfaction that the department has earned the recognition and the support from the U.G.C. and has contributed to the programme in considerable measures. The Committee, therefore, has no hesitation in recommending to the

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Commission that the assistance under this programme may be continued for a further period of five years, enabling the department to further strengthen its teaching and research activities, interact with the neighbouring departments and R & D institutions and establish itself as a leading school for advanced training and research in geological sciences. Such an assistance and the support available from the normal development as well as from sponsored research projects should enable the department, over the next five years, to reach a stage to merit recognition as a Centre of Advanced Study in the next 5 years.

Members of the Assessment Committee:

1. Professor V. Jagannathan
National Chemical Laboratory
Poona
2. Professor C.S. Vaidyanathan
Indian Institute of Science
Bangalore
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

Date of the visit of the Committee : 23rd December, 1978

Main Observations:

The department has been able to establish considerable interaction with other laboratories in India and abroad and has collaborative research programmes with the Industrial Toxicology Research Centre and the Central Drug Research Institute at Lucknow in related fields.

A department participating in a special quality improvement programme like the D.S.A. or the C.A.S. should essentially aim at a long range research Programme in carefully chosen thrust areas, not more than one or two, and perform essentially at a post-doctoral level with the active research work being done by the academic staff members also.

The department should, therefore, in consultation with its staff members, and the Advisory Committee define such a core research activity for the next five years and utilise the resources likely to become available for fully supporting such a programme.

Recommendations:

The Committee, while recommending continued assistance to this department under the UGC's programme of Special Assistance for five more years, would like to suggest to the department that while making its proposals within the ceiling grant that may be indicated by the Commission as well as in normal development schemes the suggestions made above should be kept in view so that the limited resources could be well utilised and the department can establish itself as one of the major centres for research in the field of host-parasite Biochemistry.

Department of Physical Chemistry : Madras University

Members of the Visiting Committee:

1. Professor R.D. Patel,
Sardar Patel University
2. Professor A.B. Miswas,
Indian Institute of Technology,
Bombay.

Date of the visit of the Committee : 27th January, 1979

Main Observations:

The Commission has approved four major research scheme in the department. Out of these three projects are nearing completion. One project approved in 1976 has not yet been started for want of space. The Department has been provided two additional rooms in the same building but these have not yet been fitted with laboratory fittings and furniture and hence the problem of space.

Soon after the special assistance programme was approved, Professor Santappa took over as a Director, Central Leather Research Institute. Till July, 1977 he was working as a head of the Department in addition to Director C.L.R.I. He was not able to give full attention to the development of the department. The programme could not be implemented till February, 1975. Since 1976, M.Sc. course was started by Madras University. In view of some administrative and financial difficulties some part of assistance available under this programme was used for meeting the general needs of the department.

Professor Santappa has recently left the directorship of C.L.R.I. to take up the post of Vice-Chancellor, Sri Venkateswara University. Dr. Natarajan, other active research worker was transferred to University P.G. Centre. This has considerably weakened the Polymer Research Group in the department.

The committee noted that the UNDP/UNESCO evaluation mission has not recommended any further assistance to this department. The committee generally agreed with the comments made in the mission report that the research efforts of the department are still at an elementary level. The department has not been able to establish close links with C.L.R.I. would continue in the absence of Prof. Santappa. The UNESCO consultants have commended adversely about inbreeding in the department and also about standard of research publications.

Recommendations: It is also not clear how far present cooperation with industries and orient its programme to suit their needs

In the present conditions the committee recommends that the department be given departmental assistance or the polymer group could be supported by the Commission to undertake good research project.

Merging of the branches of chemistry in one department seems to be a cry in wilderness but if it occurs one can definitely think of continuation of present special assistance or even more.

Department of Biochemistry : M.S. University of Baroda

Members of the Assessment Committee:

1. Professor B.K. Bachhawat
Director
Indian Institute of Experimental Medicine
Calcutta.
2. Professor T.A.V. Subramanian
Vallabhabhai Patil Chest Institute
Delhi
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission.

Date of the visit of the Committee : 7th November, 1978

Main Observations:

The Committee, on the basis of the discussions and inspection of the facilities created with the aid of the special assistance programme and UNDP Support and the organisation of the working of the department would like to state that this department has justifiably earned the recognition as well as the support given by the UGC and has made substantial contributions to the objectives of the programme and to the development of the advanced teaching and research in the specific areas in biochemistry.

The Committee is happy to record that this department represents a good biochemical laboratory which is well kept, well maintained and has developed infrastructure facilities in relation to the ongoing programmes of teaching and research. The Committee cannot escape mentioning that all the scientific equipment is optimally utilised and available to everyone and well maintained. Similarly the animal house facilities are very well organised. The library services are effective.

Against the additional staff positions of one Professor, one Reader and two Research Associates, only appointments of the post of professor and Research Associates have been made. The post of a Reader as well as the resultant vacancy of a Reader owing to promotion of one of the staff members to the professor have not been filled. The State Government assurance for taking over the recurring expenditure on staff, both academic and technical supporting staff as well as for other recurring purposes has not been given in full.

Recommendations:

The Committee, on the basis of the evaluation, recommends continued support to this department for next 5 years under the Special Assistance Programme of the University Grants Commission and hopes that with the utilisation of the support available in the next five years, as indicated above, the department would have created facilities and programmes which may merit its recognition as a Centre of Advanced Study at the end of this period.

Department of Chemistry : Osmania University

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Members of the Assessment Committee:

1. Professor T.R. Govindachari
Emeritus Scientist
Central Leather Research Institute
Madras.
2. Professor L.R. Row
Special Officer
Andhra University
Postgraduate Centre,
Muzvid
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

Date of the visit of the Committee : 29th August, 1978

Main Observations:

The Committee was happy to note that in the matter of instruction in the application courses, the Department has obtained collaborative support from some of the industries in the city of Hyderabad, such as Indian Drugs and Pharmaceutical Limited, Indian Detonators etc. The Department has also established worthwhile links with other R & D Institutions in the city and in other parts of the country.

The Committee is happy to record that the quality of research done is also of good standard. Nevertheless, the Committee feels that in an area like Chemistry of Natural Products, Departments such as these, which have accumulated considerable data on structure and synthesis should now make serious efforts towards study of the dynamics of Organic synthesis and their Physiological activities, instead of extending work of a routine type to a large number of Plant families.

Recommendations:

On the basis of the evaluation of this Department with specific reference to the terms suggested by the UGC, the committee has come to the conclusion that the Department of Chemistry, Osmania University has made useful contributions to both teaching and research in Chemistry and, therefore, has earned its recognition and participation in the UGC programme of Special Assistance to selected departments. The Committee considers it most appropriate for UGC to continue to support this department for another five years under this programme from April, 1979 and hopes that the results accruing by it then may be such as to make it eligible to participate in the next level, as a Centre of Advanced Study.

Members of the Committee:

1. Professor C.V. Subramanian
Madras University
Madras
2. Professor V.L. Chopra
Indian Agricultural Research Institute
New Delhi
3. Professor S.P. Sen
Kalyani University
Kalyani
4. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission.

Date of the visit of the Committee : 31st January, 1979

Main Observations:

The Committee found that while the staff members in the three areas originally identified, namely Cytopogenetics, Mycology, Plant Physiology have continued to engage themselves in their teaching and research, there was an overall lack of coordinated development, organisation and leadership. This was due to the fact that all the three Professors in the department had retired more than one or two years ago.

The general atmosphere prevailing in the department is one of the very low inter-personal relationship and differences amongst groups of workers, which reflects on the level of academic performance. The post of Professor sanctioned under the Special Assistance Programme remained vacant all these years. The meetings of the Advisory Committee were also not convened after 1973.

The general feeling was that the special assistance programme whose basic objective was to promote a viable and sustained research effort and training programmes of high quality, had in this particular case and owing to the peculiar circumstances and events this department has to face had led to a situation where the overall impact has been minimum and in some respects, negative. Most members of the staff felt that in the environment that now prevailed within the department, and the uncertainty regarding appointments to post of Professors, it may be more appropriate for the department to submit research projects individually or in some groups, and to receive whatever support was possible and continue to engage themselves in their own research and training of their research students.

Recommendations:

The Committee does not recommend continuation of this department in the Special Assistance Programme. In the meanwhile individual research projects could be considered for support, on the advice of the panel. The general facilities of the department could be suggested wherever essential though the general developmental assistance available in a plan period. The position could, however, be reviewed after a lapse of 2 - 3 years, if necessary and when there are clear indication of a dynamic leadership and group effort to contribute significantly to teaching and research.

Department of Chemistry : Panjab University : Chandigarh

Members of the Assessment Committee:

1. Professor A.B. Biswas
Indian Institute of Technology
Bombay
2. Professor B.C. Haldar
Institute of Science
Bombay
3. Professor L.R. Row
Andhra University
P.G. Course
Muzvid

Date of visit of the Committee : 20th January, 1979

Main Observations:

The assistance was mainly utilized for inorganic section but the other branches have also developed good research groups.

The department would need strengthening in Theoretical Chemistry and Chemical Instrumentation as a first preference. The department would need services of a Electronic Engineer to keep the instruments in working order and also design and fabricate new gadgets and instruments. Also a course of chemical instrumentation including basic electronics may eventually be introduced in the curriculum.

Recommendations:

The committee would like to recommend to the Commission that the department be provided support under this scheme for a further period of five years for the integrated development of the entire department.

Members of the Assessment Committee:

1. Dr. Jagdish Shankar
Ex-Head
Chemistry Division
BARC - Bombay
2. Professor S.R. Mohanty
Head of the Department of Chemistry,
Utkal University

Date of the visit of the Committee : 28th October, 1978

Main Observations:

Meetings of the Advisory Committee have not been arranged. The Committee would like to stress that the Advisory Committee should meet regularly. The annual report of the department indicating details of teaching and research activities of the staff members should be placed before this committee for scrutiny. The advice of the committee should be taken for proper utilization of grants and planning of research programmes.

Recommendations:

The Committee after careful review of the teaching and research activities of the Department came to the conclusion that the department has reasonably successfully utilised the assistance provided by the Commission under this programme and would like to recommend that the department may be continued under this programme for a further period of 5 years.

Department of Statistics : Poona University

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Members to the Assessment Committee:

1. Professor R.P. Bambah
Panjab University
Chandigarh
2. Professor S.K. Mitra
Head
Indian Statistical Institute
New Delhi
3. Professor C.G. Khatri
Gujarat University
Ahmedabad

Date of the visit of the Committee : 29th September, 1978

Main Observations:

At present the activities of the Department seem to be primarily focused towards training students for M.A./M.Sc. programmes in Statistics and Biometry and for the M. Phil Programmes. Every week one research seminar is conducted where most of the time faculty members and occasionally invited speakers speak about their research work. To the committee, it appears that though this is a laudable feature, this alone may not be sufficient for the big push expected from the department. Now that the department is able to recruit competent and able researchers, it should identify some broad areas of research activities where the main emphasis should be placed by staff members.

Although the research activity has taken some time to build up the appointment of younger people at the readers' level in 1973-74 and their participation in guidance and research is expected to have an impact in the near future and the tempo of the research activities would be steadily building up.

Recommendations:

The Committee would like to recommend to the Commission that the department may be provided further assistance under the Special Assistance Programme for next five years. The progress of achievements could be further assessed after 5 years and the question of upgrading department as a Centre of Advanced Study could be considered on the basis of utilisation of this grant for strengthening the teaching and research programmes in probability and Statistical inference.

Department of Chemistry : Rajasthan University

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Members of the Assessment Committee:

1. Professor R.C. Paul
Vice-Chancellor
Panjab University
2. Professor A.K. De
Department of Chemistry
Viswa Bharati

Date of the visit of the Committee : 19th February, 1979

Main Observations:

The achievement of the department in terms of research output have been shown mainly by the school of Inorganic and Organo-metallic Chemistry which continues to be the focal point of the department. The schools of Organofluorine Chemistry and Electrochemistry have also shown good activity. The school of Electrochemistry has made significant contributions towards development of trace analysis methods by modern techniques such as anodic stripping voltammetry and should be encouraged with necessary laboratory facilities.

It may be noted that the Advisory Committee for the Special Assistance Programme met only once during last five years. This is a serious lacuna in the programme which must be corrected. Unless the Advisory Committee (with the external members) meets regularly, at least twice a year, the entire programme is not expected to run properly and effectively. The University should pay serious attention to this matter.

Recommendations:

After the consideration of the Progress Report (1972-78), departmental proposals and discussions with the faculty members of the department, the committee feels that the department has utilized the grants provided under this programme properly and would like to recommend to the Commission that the Special Assistance Programme be continued for a further period of 5 years with effect from 1.4.1979.

Members of the Assessment Committee:

1. Professor K.S.G. Doss
Former Director
Central Electrochemical Research Institute
Karaikudi
2. Professor A.B. Biswas
Indian Institute of Technology
Bombay
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

Date of the visit of the Committee : 30th September, 1978

Main Observations:

The department is one of the very active centres for industrially sponsored research programmes and collaborative research work with other R & D institutions in India as well as abroad.

In fact the major part of the support of research activity in this department is through such sponsored research programmes amounting to over Rs.35 lakhs in the past five years.

The Committee is happy to note that the research activities currently taken up by the department are in conformity with the directions provided by the growth of international science, the relevance in the national context and based on the competence and expertise and facilities available within the department.

Recommendations:

Based on the above assessment, the committee is happy to record that the department has well utilised and in fact earned the recognition and assistance from the U.G.C. and has made distinct contributions in its special areas and has taken up programmes in some of the new horizons in Chemistry. On the basis of its viability, facilities and the future plans of work, the Committee would like to recommend not only continued support to this department over the next five years under the Special Assistance Programme but also the possibility of upgrading it into a Centre of Advanced Study as well. One of the lacunae however, would be the absence of a regular Master's degree level programme of a high quality which could serve as a model to other institutions and which this department is capable of organising by utilising the high talent and expertise available in the department. If this could be set right, the department could certainly function as a Centre of Advanced Study and interact vigorously with other institutions also.

UNIVERSITY GRANTS COMMISSION
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Meeting of the Standing Advisory Committee for the
Centres of Advanced Study and Programme of Special Assistance
to selected departments.

Meeting: .

Dated: 6-8.1979.

Item No.3: To consider the reports of the Assessment
Committees to the two Centres of Advanced
Study participating in this programme since
1968-69.

The Assessment Committees were constituted to assess
the work done by the two Centres of Advanced Study i.e.
Centres of Advanced Study in Biochemistry . . Indian
Institute of Science, Bangalore and Ramajujun Institute
of Advanced Study, Madras. The terms of reference of
assessment committees are attached as Annexure-I.
The summary of the recommendations and main observation
is attached. Both the Committees have recommended
continuance of support to the Departments under the
Centres of Advanced Study programme during the VI plan
period.

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UNIVERSITY GRANTS COMMISSION

General Terms of reference for the Assessment Committees for evaluation of the work of the Centres of Advanced Study.

The Assessment Committee will visit the department concerned and hold discussions with the university authorities, the staff of the department and other research workers, as may be considered essential, with regard to the various academic training and research programmes undertaken by the department consequent upon the Department's selection for participating in the UGC programme of Centres of Advanced Study.

The Committee would look into the organisation and Administrative aspect of the department particularly the aspects relating to measure of autonomy enjoyed by the department in implementing various programmes undertaken by them, within the existing university framework.

The Committee would examine the stage of development of the area of specialization selected initially for special support and its impact on the total development of the Department.

The Committee would also examine the question relating to the advisory committees appointed for each department with regard to their composition, role and effectiveness in furthering the activities of the department such as (a) functioning of the department as an all India Centre with regard to recruitment of staff, students intake, and interaction with other departments in the subject concerned (b) new courses developed either at the Post B.Sc. or Post M.Sc. level, pre-Ph.D. programmes etc. in addition to the usual undergraduate and post-graduate programmes and (c) steps taken by the department to function as focal points of growth, development and modernization of the academic systems.

The Committee would examine the progress of utilisation of the grant approved earlier, appointments made against posts created, selection of research fellows etc.

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6. Any other aspect will regard to the functioning of the department as may be considered essential by the Assessment Committee.
7. The Committee will report on the major achievement of the department since its selection for participation in this programme with special reference to research output, scholars trained, new techniques developed, new equipment fabricated, academic programmes initiated etc. The Committee may also point out the short falls and weaknesses, if any, and suggest remedial measures.
8. Based on the detailed and objectives assessment of the progress achieved the committee would give its report including specific recommendations regarding (a) the continuation of the department under this programme and further period of five years. (b) discontinuation of the department from the Centre of Advanced Study Programme with effect from 1.4.1979.
9. In case the committee recommends that the department be provided further assistance as a C.A.S., it would also look into future programmes of work in the next five years and the financial requirements for this purpose and include its suggestions in the report to be considered by the Commission.

REPORT OF C.A.S. DEPARTMENT OF BIOCHEMISTRY
IN INDIAN INSTITUTE OF SCIENCE
BANGALORE

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1. V. Jaganadhai
2. B.K. Bacchiast
3. L.K. Ramachandran

Staff 8 p, 4 AAP, 6 Ast.P, 2 1 - 20

Students 125 Ph.D.(Input) 16-18 (Output) 48 (no of papers)

Areas of research (1) Lipids and membranes (2) Proteins and Enzym Mechanisms (3) Endocrinology and reproductive physiology (4) Molecular Biology (5) Developmental Biology.

Defects: The suggestion made that this department organise a high quality M.Sc. programme which will serve as a model has never been implemented.

Collaboration: IBCU with UK - Number of collaborative programmes with other Institutions in India and abroad.

Plan Points: Extensive equipment is available - Although the list of equipment is impressive, in view of the large number of scholars, the facilities are not adequate.

There are several absolute equipment which is of no use. Department undertakes industrial consultancy, particularly on problems of treatment of waste waters, effluents from industries.

Taken active part in Faculty Improvement Programme by enrolling teacher fellows.

Development assistance and non-plan assistance is meagre and Institute has not helped in this direction.

Recommendation: Small items of equipment - 10 lakhs
Replacement of absolute Equipment - 15 lakhs

Major equipment such as electron microscope (already available in school of material sciences)

Animal house - 1.5 lakhs

Average working expenses per Ph.D. student is estimated at Rs.6000/- per annum.

Working expense - 10 lakh per annum

Staff recommended - 1 R endocrinology and reproductive biology group.

Total requirement - 30 lakh - non-recurring
1.3 lakh- recurring

Total number of Ph.D. students should not exceed - 80- (100) :

(The number of visiting committee preferred lower No.7 Ph.D)

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Report on Ramamujan Institute of Advanced Study in Mathematics : Madras University

1. Professor R.P. Bambah
2. Professor U.N. Singh
3. Professor M.S. Narasimhan

Started as private Institute in 1950 with Dr. T. Vijayaraghavan Madras University has taken over in 1957.

Institute and Mathematics department merged in 1967 as CAS Department New Building in A.C. College in 1972.

- Courses - One year teacher training programme in 1968-69
 M.Sc. Courses form 1976 - 17 : M.Phil - 3
- Staff - 5 P, 5 R, 6 L, 1 RA = 17
- Ph.D. - Full time 20 out put 2 per annum
- Specialisation Analysis and Algebra
- Comments Teachers felt that the achievements could not be considered outstanding.

Although some have done good work, the department should have achieved much more.

C.A.S. Advisory Committee has not been functioning.
 No interaction among senior members of staff.
 M.Phil programme was not according to UGC guidelines.
 Committee recommends that M.Sc. admission should be 25.
 Library is in a bad shape and is not well - organised.
 The Institute may not diversify its fields of specialisation.
 It would not be desirable to go for applied mathematics programme.

Rating is that is a * GOOD *

Funds Non-recurring

- Building - 2 lakhs
- Books & Journals - 3 lakhs
- Equipment - Rs.50,000/-

Recurring

- Visiting Fellow - 50,000 p.a.
- Seminar Symposia - 15,000
- Publication - 10,000
- Travel - 10,000
- Books & Journals - 50,000
- Contingency - 20,000
- Fellowship - 4 SRF, 6 JRF per year
Scholarships - 8 p.a.

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Meeting of the Standing Advisory Committee for the Centres of Advanced Study and Programme of Special Assistance to Selected Departments.

Meeting :

Dated : 6.8.1979

Item No.4: To consider the recommendations made by the Science Panels for Departments to be included under this programme.

As per procedure for inviting new departments for participating in the Centres of Advanced Study/Special Assistance Programme various Science Panels were requested to recommend the Departments to be considered for this purpose. All the Panels have collected detailed information from various science departments in the prescribed proforma. This was tabulated and departmental profiles have been prepared. On the basis of these profiles, the Panel have recommended following departments for consideration under this programme. These recommendations are not in order of priority.

1. Physics Panel

For Special Assistance Programme

- 1. Panjab University
- 2. Poona University
- 3. Indian Institute of Science, Bangalore

All these are at present under Departmental Support Programme

For Departmental Research Support

- 1. Sarder Patel University.
(The committee has already visited the department and recommended the grants)
- 2. Aligarh Muslim University.
(For continuation of earlier departmental support programme and the Committee has yet to visit the department).
- 3. Calcutta University : Department of Pure Physics
- 4. Madras University
(Provided all the three Physics Departments agree to combine into one group)

2. Mathematics Panel

For Special Assistance Programme

- 1. Bangalore University (Applied Mathematics)

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: 2 :

3. Chemistry Panel
Special Assistance Programme

1. Indian Institute of Science, Bangalore
(The Department of Solid State and Structural
Chemistry, Headed by Professor C.N.R. Rao)
-

R E P O R T
of
ASSESSMENT COMMITTEE
'for'
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF BOTANY
PANJAB UNIVERSITY
CHANDI GARH

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002
1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Assessment Committee for the Department of
Botany, Panjab University, Chandigarh under the programme
of Special Assistance to Selected Departments.

In accordance with the policy of the University Grants Commission to evaluate, with the help of expert committee, the contributions towards teaching and research, made by the departments participating in the programme of Special Assistance to selected departments since 1972, a committee consisting of the following members was appointed to evaluate the work of the Department of Botany, Panjab University, Chandigarh:-

1. Professor C.V. Subramanian
Madras University
Madras.
2. Professor V.L. Chopra
Indian Agricultural Research Institute
New Delhi
3. Professor S.P. Sen
Kalyani University
Kalyani
4. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission
New Delhi

The Committee visited the Panjab University on 31st January, 1979. Professor S.P. Sen was unable to join the Committee. In accordance with the terms of reference, the members of the committee visited the various laboratories and discussed with the faculty members and other research workers, the work done in the past 6 years and also the ongoing programmes of teaching and research as detailed in the report submitted as well as the impact of the Special Assistance Programme to this department. The Committee also had a meeting with

Contd...2...

the Vice-Chancellor to discuss some of the problems regarding organisational aspects and the functioning of the department.

The Department of Botany, Panjab University was invited by the U.G.C. to participate in the programme of Special Assistance to selected departments with effect from 1st April, 1972 and was provided with a non-recurring grant of Rs.3.5 lakhs and an annual recurring grant of Rs.55,000/- for working expenses etc. and in addition expenditure on the appointment of 1 Professor, 2 Readers, 2 Research Associates-cum-Lecturers, 6 Research Fellows and 2 Technical supporting staff members.

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The selection of this department to participate in this programme was on the basis of a report of an Expert Committee of the UGC which visited the department during 1970-71. Keeping in view the viable group of research and the significant contributions made by the department in the fields of (a) Cytogenetics (b) Systematics of higher fungi and (c) Plant Physiology with particular reference to Physiology of flowering. This was invited to function as one of the major centres for training and research in the broad areas of Cryptogamic Botany. The Committee, at that time, had also considered the problem likely to arise owing to impending superannuation of Professor P.N. Mehra, the then Head of the Department. The University had assured that it would make suitable arrangements to see that Professor Mehra would continue to be actively associated with the academic programmes, at least in the initial stages of the participation of the department in this Special Assistance Programme.

The Committee was also assured that there should be no apprehension about leadership and coordinated efforts in the department, even after Professor Mehra's retirement.

During the visit of the present committee, the committee had discussions in depth, with regard to the academic contributions as well as the over all functioning of the department. The Committee found that while the staff members in the three areas originally identified, namely Cytogenetics, Mycology, Plant Physiology have continued to engage themselves in their teaching and research, there was an over-all lack of co-ordinated development, organisation and leadership. This was due to the fact that all the three Professors in the department had retired more than one or two years ago (although two of them continue to work in the department under the retired teachers programme) and there has been considerable delay in making the new appointments. The committee was informed that the selections to the three posts of Professors had been finalised and the persons were expected to join soon.

The committee would like to report on important aspects of research programmes of the Department. Despite several obstacles and teaching and difficulties arising out of administrative arrangements in the department, the individual research workers have continued to pursue their research programmes in the areas specified at the time of granting special assistance to this department. It has also initiated some new areas of work such as: (1) Ecological Studies on Mosses; (2) Physiological and Biochemical Studies on Ferns; (3) Reproductive Biology and genetic system in

Contd....4.....

Pteridophytes; (4) Studies on Nitrogen fixing Blue-green Algae.

A brief resume of the important lines of research in progress in the different areas is given below:-

I. Mycology & Plant Pathology:

i) Taxonomy:

The department of Botany is one of the main centres of investigation for taxonomy of fungi and it has one of the best herbaria in the country, and several contributions including monographs have been made by Prof. K.S. Thind and his colleagues, financed primarily by PL 480 and DST projects.

ii) Physiological Plant Pathology:

Some notable work has been done on (a) Powdery mildew - okra complex (b) Downy mildew - bajra complex (c) Net blotch - barley complex, (d) Helminthosporium turcicum - maize complex, (e) H avenae - oat complex.

II. Pteridology

- i) Systematics of ferns and taxonomic revision of fern genera have received subdued attention in spite of the urgent need of revised and updated pteridophyte Flora of India. Some checklists of ferns of some regions and revision of fern genera have been published. Taxonomic studies are being pursued.
- ii) Studies have been carried out on in vitro morphogenesis on some hetero and homosporous ferns (and liverworts & mosses). Of the many diverse morphogenetic problems, mainly five aspects have been studied, namely (i) Induction of apogamy, (ii) induction of apospory, (iii) in vitro completion of life-cycle, (iv) regeneration, (v) and callus induction and differentiation and these studies made by a large number of workers under the guidance of Prof P.N. Mehra culminated in the understanding of the control of differentiation. Professor Mehra (1975) on the basis of such original studies advanced the gene block hypothesis to explain the diversity in observations on differentiation. A large number of papers have been published on the subject.

- (iii) Cytotaxonomical investigations have been carried out on a large number of Himalayan ferns from various localities, viz. Darjeeling hills, Nainital, Simla and Kashmir Valley. Detailed morphological studies have been carried out on a few selected genera to study the taxonomical problems involved, using evidences from ecology, cytology, anatomy, morphology and developmental stages of the gametophytes.

III. Bryology:

- i) Systematic studies in the West Himalayan Mosses was undertaken and collections of over 3,000 specimens belonging to the Sphagnales, Andreaeales, Polytrichales, Buxbaumiales, Archidiales, Encalyptales, Fissidentales and Dicranales have been studied and new taxa described. In order to aid determination, keys to taxa down to the species level have been drawn. A monograph on the West Himalayan Mosses is in press.

8. Future Plan of work: The principal areas of future plan of work include:-

1. Mycology & Plant Pathology

- i) Taxonomy.
- ii) Physiology of Fungi
- iii) Trace-elements studies.
- iv) Host pathogen studies.
- v) Viruses; Host Pathogen studies, mainly from physiological point of view.

2. Bryology:

The following projects are proposed to be undertaken during the next 5 years:

- i) Systematic studies of mosses and Liverworks: This study shall be extended to the orders of Pottiales, Funariales and Splachnales.
- ii) Ecological Studies: Ecological studies in the West Himalayan mosses, presently in hand, will be continued.
- iii) Cytological studies: Cytological investigations representing 80% of the West Himalayan moss flora, uninvestigated or poorly investigated, will be continued.

iv) Morphogenetical studies and cytology of Liverworks will also be pursued ahead.

3. Pteridophytes:

- i) Morphogenetic studies on Pteridophytes, particularly induction of apogamy, apospory and production of haploids and polyploids for cytogenetic analyses.
- ii) Cytology and taxonomy of Indian ferns, particularly of Himalayas, with authentic voucher specimens.
- iii) Cytogenetic investigations in ferns involving hybridization, & Fluorochrome and Giemsa staining of Chromosomes
- iv) Genetic systems in pteridophytes which would include studies on reproductive biology, mating system and parameters of meiotic system.
- v) Physiological and biochemical studies on ferns; particularly fern gametophytes, and chemotaxonomy.
- vi) Morphology of Pteridophytes, particularly anatomy, spores, gametophytes and Embryology.
- vii) DNA and Nuclear Dry mass studies in Pteridophytes, estimation by feulgen photometry by M86 Vicker's Microdensitometer. Dr. Verma has used this apparatus while in Britain and has published results.

A number of major research projects supported from PL 480 funds have been implemented successfully, as also a number of other projects founded by CSIR, ICAR, UGC and other agencies. The results of the research work have been published in a number of important journals, both in India and abroad. The number of research papers published each year is as below:-

Year	1972	1973	1974	1975	1976	1977	1978	Total
Res. papers.	16	35	30	36	53	40	42	252

The average number of intake into the Hons. school is 30 but the number of students admitted to the M.Sc.(Hons) school has varied from 16 to 28. Eleven teacher fellows and 33 others were admitted to the M. Phil programme. The total number of Ph.D. degrees awarded in the department ranged from 1 to 9 during the period 1973-74 to 1977-78 as indicated below:-

Year	1973-74	1975	1976	1977	1978	Total
Ph.D's	9	5	1	6	9 plus 4 submitted	29 plus 4

Besides the research effort as outlined above, the staff of the department have participated in the departmental teaching programme at the B.Sc.(Hons) schools and for training of the M. Phil students under the Faculty Improvement Programme. Several of the staff members have received awards and distinction from professional societies and have attended important Conferences to present the results and their research work. The department also has had considerable interaction with Scientists from other Institutions in India and abroad, several of whom visited the Department and delivered series of lectures. The department, however, has organised no seminars during this period.

The department has almost fully utilised the grants made available to it under the Special Assistance Programme including appointment of staff positions except that the post of Professor was never filled during the past six years. In view of the specialised nature of the Hons. school most of the student

admissions particularly at the M.Sc. level are from panjab University only. Students from other universities find it difficult to obtain admission to the department. There is considerable inbreeding in this regard as well as in the recruitment of staff members. However, because of the position occupied by this department in the area of Cryptogamic Botany, the department has had active collaboration and interaction with other universities and R & D laboratories interested in this area. The infrastructure facilities of the department are adequate for the teaching and programmes undertaken by it. The department has developed one of the finest Botanical Gardens, required for its teaching and research purposes and has a well maintained herbarium collection.

The department has requested for considerable grants required to create facilities for the future plan of work. These include several items of sophisticated instruments, grants for field work, improvement of Botanical garden and opportunities for working in Institutions in India and abroad.

Observations and recommendations of the committee:

- a) On the basis of the discussions which the Committee had with the faculty members and subsequently with the Vice-Chancellor, the Committee is compelled to make the following observations with regard to the functioning of the department and based upon it, its well considered recommendation with regard to future assistance to this department.

b) As mentioned earlier, subsequent to the recognition of this department to participate in the UGC Special Assistance Programme, the Panjab University took a decision not only to reappoint Professor P.N. Mehra after his retirement at the age of 65 years, for a further period of five years but also allowed him to function as the Head of the Department. This decision apparently brought some discontent with other senior staff of the department and with the passage of time, to several events which have substantially affected the work of the department leading to the present state of affairs. The general atmosphere prevailing in the department is one of very low inter-personal relationship and differences amongst groups of workers, which has already affected the level of academic performance. The post of Professor sanctioned under the Special Assistance Programme remained vacant all these years. The meetings of the Advisory Committee were also not convened after 1973. The committee could, therefore, understand the conditions under which the present acting Chairman of the department had to function and present to the committee the work of the department. The discussion more than emphasised the individualistic attitude and inadequate and often internecine interaction amongst the staff members. In fact, the members of the committee received from several individual staff members, separate memoranda and their own curriculum vitae etc. each of them trying to emphasise his own

problems and his contributions to his subject, and, therefore seeking special consideration. The general feeling was that the special assistance programme, whose basic objective was to promote a viable and sustained research effort and training programmes of high quality had in this particular case and owing to the peculiar circumstances and events this department had to face, led to a situation where the over-all impact has been minimal and in some respects, negative. Most members of the staff felt that in the environment that now prevailed within the department, and the uncertainty regarding appointments to posts of Professors, it may be more appropriate for the department to submit research projects individually or in some groups, and to receive whatever support was possible and continue to engage themselves in their own research and training of their research students. Any effort to bring together research workers with similar interests and to create common facilities within the department may not be possible in a situation where the house was divided internally. The Committee felt rather sad that a department, which once occupied a leading position in our country, had over a period of five to six years, disintegrated owing to personal differences amongst staff members and that the university authorities have remained silent spectators to this state of affairs of the department.

- c) In view of these facts the committee does not recommend continuation of this department in the Special Assistance Programme. In the meanwhile individual research projects could be considered for support, on the advice of the panel. The general facilities of the department could be augmented wherever essential through the general developmental assistance available in a plan period. The position could, however, be reviewed after a lapse of 2-3 years, if necessary and when there are clear indications of a dynamic leadership and group effort to contribute significantly to teaching and research.
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REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF BOTANY
CALCUTTA UNIVERSITY
CALCUTTA

UNIVERSITY GRANTS COMMISSION
NEW DELHI -110002

1978-79

Report of the Assessment Committee appointed to evaluate the work done by the Department of Botany, Calcutta University under the UGC Programme of Special Assistance to Selected Departments.

An Expert Committee consisting of the following members was appointed by the University Grants Commission to evaluate the work done by the Department of Botany, Calcutta University since its inclusion from April, 1972 under the UGC Programme of Special Assistance to Selected Departments:

1. Professor H.Y. Mohan Ram,
Department of Botany,
University of Delhi.
2. Professor R.P. Roy,
Department of Botany,
Patna University.
3. Dr. D. Shankar Narayan,
Additional Secretary,
University Grants Commission.

The Committee visited the Calcutta University on 21st September, 1978 and went round the different laboratories and had discussions with the faculty members on the basis of the report made available by the department concerning teaching and research activities and contributions made since April 1972. The Committee also discussed the effective utilisation of the grants received by the department under the UGC's programme and its impact on the functioning of the department and its interaction with other departments in the country and development of major schools of research and advanced training in the area of specialization chosen for the purpose.

On the basis the material presented to the Committee and the evaluation done, the committee is deeply appreciative of the outstanding work done by this department in the field of chromosome research during this period.

By the time the department was chosen by the UGC in April 1972 to participate in the Special Assistance Programme, it had already made significant contributions to Botany and had an established position in Cytogenetics, particularly with reference to the study of dynamic aspects of chromosomes. The Special Assistance Programme enabled the department to procure several items of equipment, extend laboratory space and appoint additional staff and research workers, both pre-doctoral and post-doctoral. The department had, committed itself to strengthen the School of Chromosomes Research involving metabolism, differentiation, evolution, mutagenicity and chemical analysis through qualitative and quantitative methods: Chromosomal changes and development of techniques for their study in important and economically useful plants; and, biochemical and cytological analysis of genetic polymorphism in human beings. The establishment of the Tissue Culture Laboratory in 1976 has enabled the plant tissue culture work to be further strengthened and extended to species of medicinal value, study of genetic polymorphism and biogenesis of secondary.

The staff of the department, besides contributing significantly to their research programmes which have gained both national and

Contd....3...

international recognition, have contributed effectively to the teaching programme at the postgraduate level by reforms in curricula and examinations. The department enjoys some measure of autonomy in its teaching and examination programmes even within the framework of the Calcutta University system. The department has also given some attention to improving teaching at the undergraduate level in the colleges and has come forward with a proposal to take up a University Leadership Project under the College Science Improvement Programme with support from the UGC. The grants made available under the Special Assistance Programme for strengthening the chromosomes research group have made it possible for the other sections in the department to utilise the general Fifth Plan development grants for augmenting well-defined research programmes in the area of Mycology and Plant Pathology, Plant Physiology, Pharmacognosy, Palaeobotany etc.

The department has been organising short term courses and summer institutes and has established an annual certificate course in Chromosomes methodology for teacher fellows and research workers from other universities in the country. During the past five years, the department has also organised a Regional Conference on Teaching of Life Sciences, a Symposium on the Effects of Physical and Chemical Agents on Chromosomes, an International Seminar on Chromosomes in Evolution; a Workshop on Teaching of New Trends in Science Education at elementary level. Through these meetings the department has established links with other university departments, R & D institutes in the fields of Cell Biology and Chromosomes Research

Contd..... 4

and also interaction with schools and colleges. Through an Indo-British University Collaboration Programme, the department has taken up a major programme "Chromosomes Research in relation to variability, differentiation and reproduction in Eukaryota" with some universities in the United Kingdom.

The members of the department have participated in several International conferences, have lead delegations sponsored by the Indian National Science Academy, U.G.C. etc., and have worked in some of the leading laboratories in Europe, U.K., U.S.A. and other countries in the past five years. Professors A.K. and Archana Sharma have been the recipients of national and international award in recognition of their work. During the period, the department has been able to train 24 persons for the Ph.D. degree and 9 others for the award of D.Sc. degree in Cytogenetics.

Although the report as presented by the department lists a large number of research programmes, exceeding 100, in which the various faculty members and research fellows are engaged (This consists of nearly 105 research workers in the department of whom 57 including 25 post-doctoral workers are in the area of Chromosomes Research) - the major thrust areas can be grouped into: (a) Chromosomes in Evolution, (b) Chromosome Structure, (c) Chromosomes in Differentiation and (d) Chromosomes in Tissue Culture, (e) Study of Human Chromosomes and Genetic disorders. The findings of the various research investigations

is over 150 (since 1972) have been published technical papers, annual reviews and as invited chapters in books published abroad or within the country. In addition to the extensive work on Cyto-taxonomy which has contributed substantially to the classification and delimitation of taxa, the department has developed new techniques for studying Chromosome Structure and composition in different organs of the plant body.

In the coming ten years, the department proposes to augment its research endeavours on chromosomes in the following directions:

(1) Chromosome Structure:

Both Physical and Chemical methods of studying chromosome structure would be continued. With the equipment presently available and expected to be installed a multipronged approach would be adopted utilising light microscopy, electron microscopy, fluorometry, photometry isolation and culture techniques, to examine the extent of stability in structure and behaviour of chromosomes during development. A detailed analysis of chromosome from organ to organ in different biological systems (which had already been initiated) would be given special emphasis.

(2) Chromosomes in Cell, Tissue, Organ and Culture:

A considerable amount of data has already been obtained in this area. The focus of research be on:

- (a) Devising methods of obtaining clones with stable chromosome complement with gradual elimination of instability.
- (b) Rapid propagation of species of commercial and medicinal importance.

- (c) discovering suitable markers at the chromosomal, genetical or biochemical level for work on protoplast fusion.
- (e) studying the behaviour of chromomes and quantitative analysis of their constituents during sub-cultures.

(3) Chromosomes and Polymorphism:

Chromosomes and genetic polymorphism with associated biochemical parameters would be studied at both homo and heterozygotic level. Quantitative and ultrastructural studies will be carried out. The study will cover both normal and abnormal tissues.

(4) Chromosomal control of differentiation:

Involving analysis of chromosomes of differentiated tissues in vitro and in vivo through qualitative, quantitative and ultrastructural analysis in different biological systems.

(5) Chromosomes in relation to their functional segments:

Vis-a-Vis their relation to other cell organelles and the sequence complexity of nucleic acids, and proteins during normal and abnormal growth (including malignancy).

(6) Cytotaxy:

The role played by chromosomes in the evolution of plants has been extensively carried out in this laboratory with special reference to monocotyledons. Compared to gene mutations structure alterations have played a very important role. Ecological adaption in orchids has a chromosomal base. Work needs to be completed in respect of cyledons and vascular cyptogams on which considerable data has already been collected. Special emphasis will be given to analyse the differences in the population with reference to

their ecological requirements and chromosome constitution.

(7) Applications:

Viable mutants of crop plants would be developed coupled with mutagenesis and through in Vitro culture technique.

On the basis of the evaluation of the contributions made by the department & considering its well defined plan of future ^{work} the high quality of academic leadership and excellent team work, the Assessment Committee is confident that this department would attain higher levels of research on chromosomes. The committee, therefore, strongly recommends that the UGC continue its support and assistance to this department by elevating it as a Centre of Advanced Study. Only departments such as this with serious motivation for achieving academic excellence in carefully chosen areas of scientific importance and assured leadership, can contribute effectively. The department has amply justified its inclusion in the special assistance programme and has now reached a level of competence which makes it eminently suited for recognition as a Centre of Advanced Study by the UGC. Although the committee has briefly discussed the future requirements of facilities and personnel as presented by the department (see Appendix). The final decision about the utilisation of the grants could be made by the department within the ceiling grant to be made available by the UGC to a Centre of Advanced Study for a five year period.

The committee is grateful to Professor A.K. Sharma, his colleagues and the authorities of the Calcutta University for extending necessary facilities for its work.

Appendix

Budget (for next five years) for the proposed Centre of Advanced Study on Chromosome Research - Department of Botany, Calcutta University.

Recurring:	<u>Rs.</u>	<u>Rs.</u>
1. Building for extension of laboratories		300,000
2. Equipments:		
(a) One Packard Scintillation Counter	200,000	
(b) One Reichert, Univar, automated programming microscope	430,000	
(c) One Freeze Drier	100,000	
(d) Two Air Flow Chambers	60,000	
(e) Twelve Research Type Microscopes	200,000	
(f) Photographic equipments including enlarger with automatic control and focussing telescope etc , and microscopy.	100,000	
(g) One Xerox Photocopier	30,000	
(h) One preparative ultracentrifuge	200,000	
(i) Minor instruments	100,000	1,440,000
3. Books		200,000
4. Laboratory renovations, fittings for tissue culture laboratory, animal house, growth chamber, extension works etc.		200,000
		<hr/>
Balance c/d		Rs. 21,40,000
		<hr/>

Balance b/d 2,140,000

Recurring

(1) Staff:

(a) Two Professors	240,000	
(b) Four Readers	360,000	
(c) Three Lecturers	216,000	
(d) Two Research Associates	144,000	
(e) Three Senior Research Fellows(PA)	259,200	
(f) Six Junior Research Fellows(PA)	432,000	
..... (g) One Technical staff		
(Rs.700-1300)	60,000	
(h) One Office Assistant		
(Rs.180-500)	30,000	
(i) One Technical Assistant		
(Rs.125-333)	24,000	1,765,000
2. Working Expenses @ Rs.60,000 PA		300,000
3. Rare chemicals, photographic plates and films, emulsion, stripping films and other requisites for ultrastructural works @ Rs.40,000 PA		200,000
4. Journals @ Rs.25,000 PA		125,000
5. Field works @ Rs.20,000 PA		100,000
6. Seminar & Symposium @ Rs.20,000 PA		100,000
7. Visiting Professors @ Rs.20,000 PA		100,000
8. Travelling Expenses to attend national and international symposia @ Rs.30,000 PA		150,000

TOTAL: 4,980,200

R E P O R T

of

ASSESSMENT COMMITTEE

..... for

SPECIAL ASSISTANCE PROGRAMME

to

DEPARTMENT OF BOTANY

BANARAS HINDU UNIVERSITY

VARANASI

UNIVERSITY GRANTS COMMISSION

NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Committee on the Assessment of the work done under the Special Assistance Programme by the Department of Botany, Banaras Hindu University, Varanasi.

University Grants Commission in 1972 invited the Department of Botany, Banaras Hindu University, Varanasi to participate in the programme of Special Assistance to Selected Departments. As per general policy of the Commission the assistance was extended up to March, 1979.

An Expert Committee consisting of (i) Professor T.V. Desikachary, Madras University, (ii) Professor B.B. Biswas, Bose Institute, Calcutta (iii) Shri A.G. Deshmukh, Education Officer, University Grants Commission visited the Department on 15th February, 1979 for assessment of the work done since 1972. The Committee had detailed discussions with Professor H.D. Kumar, Head of the Department and other staff members. The Committee also met the Vice-Chancellor, Banaras Hindu University. The Committee went around the Department and examined the facilities available there.

The department of Botany, is one of the oldest and active school of training and research in Botany. The department has over last 60 years, a number of distinguished Botanists as staff members. The emphasis on research area has been shifting from time to time. The present emphasis in research is in ^{the} _{of} field phycology and ecology. The department offers B.Sc. pass and Honours courses in addition to M.Sc. courses. Facilities for advanced research have been provided in numbers of areas.

The present enrolment in the various courses is as follows:

<u>Course</u>	<u>Enrolment</u>		
	<u>1st year</u>	<u>2nd year</u>	<u>3rd year</u>
B.Sc. (Pass)	168	186	188
B.Sc. (Hons)	--	3	4
M.Sc.	27	17	-
Ph.D.	-	-	-- 125
Post-doctorates	-	-	-- 6

In addition the staff of this department participates in teaching of M.Sc. Biochemistry courses.

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University has recently revised all the courses and the new M.Sc. course would be effective in 1980. In the new course students can narrow down choice of specializations to a fewer courses.

The following extracts from the report of the Expert Committee which has recommended Special Assistance have been taken into account by this Committee.

"The Committee feels that until such time that proper co-ordination of the various sections in the department is brought about, it would serve no purpose to provide recognition and assistance to any one group under the programme of Centres of Advanced Study. On the other hand, as there exists viable schools with necessary potential, the Committee recommends that the University Grants Commission may provide substantial assistance for the growth of this department. so that on the basis of a common programme and inter-linking of the

activities of the different sections, it may be possible in the course of next five years or so to recognise a Centre of Advanced Study in this department. The assistance to be made available now should be used by the various groups on a common basis and the assistance should not be divided independently amongst the different sections functioning in the department."

The details of assistance provided under this programme is given in Annexure-1.

The main areas of specialization in Botany in which the research in the department is being carried out are as follows:-

I. Algology:

- (a) Physiology, Biochemistry, and Genetics of blue green aglae, cyanophages, and green algae.
- (b) Physiological and Biochemical studies on nitrogen fixation by blue green algae.
- (c) Cytotaxonomy of eucaryotic algae.

II. Ecology

- (a) Ecology of freshwater, Saline and alkaline habitats
- (b) Production, Conservation and Community ecology of grasslands and forests.
- (c) Air, Water and Soil pollution.
- (d) Weed and Agro-ecosystems.

III. Other disciplines:

- (a) Mycology, Plant Pathology and Soil microbiology.
- (b) Pteridophyte cytology and Genetics.
- (c) Anatomy, Physiology and Morphogenesis of Angiosperms.

As a result of these research activities about 70 students have received their doctorate degrees since 1972. Out of these 36 are in algology, 21 in ecology, 10 in mycology and plant pathology and 2 in pteridology. The number of research papers published is about 250. Many of these have been published in internationally reputed journals. The teachers have also contributed research papers, to a number of international conferences. The head quarters of the International Society for Tropical Ecology is located in the department. The journal of Tropical Ecology is published by this Society. The staff members have written about 25 books out of which about half are in Hindi. The department has organised a number of summer institutes for teachers and students. It has been the venue of several symposia.

Library

The departmental library has about 4,000 books and 700 back volumes of journals. It subscribes to 35 journals. The library of the Indian Botanical Society with 250 books and 4,000 volumes of journals is also housed in the department. The library of the International Society for tropical Ecology has 600 books and 2,000 journals.

The staff strength of the department is as follows:

Professors 3, Readers 7, Lecturers 9. In addition 2 posts of Professors 1 Reader and 2 Lecturers are vacant. There is great need for filling up these posts early. A greater part of the staff is concentrated in two groups, Algology (Professor 3, Readers 2, Lecturers 2) and Ecology (Professor 1 (Vacant) Reader 3 and Lecturers 4) Lecturers 3. This is well projected in the number of Ph.Ds. awarded during the period.

The department has 13 technical staff and 4 office staff. The major equipment available in the department includes (i) Plant growth chamber (ii) Beckman spectrophotometer (iii) Infrared analyser (iv) Spectroradiometer (v) Phytotron and (vi) X-ray diffraction unit (vii) Tisellius electrophoresis and (viii) GLC apparatus etc.

The department has made significant contributions during the period and the research output both in training and research papers published is very creditable indeed. Since the genetic recombination in blue green algae has been reported newly, this aspect has attracted a great deal of attention, in India and elsewhere. In this department this aspect is now being thoroughly pursued. Intergeneric transfer of streptomycin resistance in two genera of blue green algae, one a nitrogen fixer and another a non-fixer has been demonstrated. This line has great promise. Other aspects related to nitrogen fixation are pattern of heterocyst formation, morphological differentiation, bio-chemical aspects of formation, genetic basis of heterocyst differentiation and mutation studies. Transduction and lysogeny in blue green algae presently being pursued here have a great bearing on mutation induction mechanisms in blue greens. Production of new mutants aimed at using them in pollution control is the other interesting aspects which is being studied intensively in this department. Cytotaxonomy of algae is the other aspect where consistent attention has yielded good results. Representative members of many important groups of algae and more especially important members of the various orders

of the green algae have been studied and the results have proved to be of great significance, in the taxonomy of these algae. As an example one can cite the contribution of this laboratory on the cytotaxonomy of the Charophytes. The plan of attack is commendable as a pattern of systematic study of groups of plants and the possible contributions such studies can make to our knowledge. This is one of the leading centres for algological studies for the past nearly five decades and the present contributions add creditably to that reputation.

In the field of Ecology one is equally impressed by their significant contributions for more than two decades and during the period under consideration. The pioneering studies carried out in this department relate to both development and testing of techniques to study productivity, competition between different parameters, energy and nutrient cycles etc., both in grasslands and deciduous forests. Their findings have a great bearing on the better use and management of grasslands. They have successfully devised experimental techniques to quantify the conservation mechanics of grasslands. Studies on Indian grasslands revealed diverse patterns in nitrogen and phosphorus cycles in different climatic regions. Studies on phytotoxicity of pollution (cement dust pollution, SO_2 -pollution etc.) has revealed reliable indices for estimating the degree of pollution, both in industrial and urban areas. Attempts are made to identify plants resistant to some of the types of pollution with the hope that they can be implanted to the affected areas for colonization or afforestation.

The ecology group as now constituted consists of band of very capable and recognized researchers. Nevertheless, the appointment of a Professor is bound to anthuse them into greater strides.

The department staff have carried out many projects with national and international support. Since 1972, about 20 major projects supported by UGC, CSIR, etc. have been implemented in the department. At present 10 major projects are in operation. The department gets about Rs.1,50,000/-p.a. from the University budget for running the department. Only recently all the major equipments available in the department have been put together in a separate instruments room. This central facility in the department is now used by all the staff members as a common facility. The department has some access to sophisticated equipment available on the campus, in departments such as Zoology, Agriculture etc. There is need however, to share this in a greater degree. The committee observed that even in the department each group is trying to develop its own facilities separately without development of common facilities which could be used by all the groups. The earlier committee has made significant observations in this regard which are still valid though the recent attempts to reorientate the policy has been yielding good results. Further efforts should be made to strengthen the central facility by selecting the instruments of common use.

The Committee scrutinized the further plan of teaching and research activities as prepared by the department and

generally agreed with the plan proposed. The Committee after careful consideration and scrutiny of the achievements of the department came to the conclusion that the research activities of the department in general could be considered as excellent.

The department has acquired international recognition, in Algology and Ecology. In the other disciplines as well the record of achievement is of a very high standard. It is a matter of great satisfaction to us that this department enjoys a reputation as a leading centre of research and teaching in Botany. In recent years coördinated research efforts have been made to link Algology and Ecology. In the near future, it is hoped these two groups will start integrated studies in Aquatic and microbial ecology. The Committee would like to stress that in the next five years the department should identify its weak points and try to strengthen the areas so that the department would have a balanced all round development. In creating new posts, specializations which are not provided now should be given priority. The department needs strengthening in Plant Physiology, Biochemistry, Palaeobotany, Angiosperm Taxonomy, Vascular cryptogams etc. Out of six professorships, one may be allocated to other disciplines besides algology and ecology. In equipment, analytical instruments needed by all the groups should be given priority. Culture rooms for different works may be provided. On the other hand phytotron should be serviced and revived. A separate room for tracer work is recommended. Attempts should be made specially to keep the instruments in working condition. The old

instruments should be serviced before a new instrument of the same kind is commissioned for purchased.

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It is considered opinion that the department and the scientific personnel deserve our praise and we strongly recommend to the commission that this department may be granted the status of an Advanced Centre in Botany. In recommending this we are impressed by the contributions by the workers of the two major disciplines and therefore, recommend that this centre be one in Botany with emphasis on Algology and Ecology. The aid to the Centre may be in the form of fellowships, instrumentation, infrastructure assistance addition of working space, recurring expenditure etc.

The last aspect has been very often presented as a handicap, some of this can be partly remedied by a greater coordination and adoption of more economic and more pertinent ways of spending research fellowship contingency grants. This is an internal matter which we hope the teachers will solve themselves.

The Committee would like to suggest following assistance under DSA plan to the department during the next five years.

Non-Recurring

Building and furnitures	Rs.1,00,000/-
Equipment	Rs.5,00,000/-
Books and Journals	Rs.1,20,000/-
Vehicle	Rs. 80,000/-

... 10....

Recurring

Staff: 1) One Professor, (2) Three Readers, (3) Senior Fellows
Two per year and Junior Fellows Five per year.

Supporting-technical and other staff	Rs.30,000/-p.a.
Chemicals and spares etc.	Rs.50,000/-p.a.
Travel	Rs. 5,000/-p.a.
Publications	Rs.10,000/-p.a.
Seminars	Rs.10,000/-p.a.
Contingency	Rs.10,000/-p.a.
. . . . Servicing and maintenance	Rs.10,000/-p.a.

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Keeping in view the allocation to be made to department under
this programme and assistance available under plan development schemes,
this could be modified. It must be stressed here that this assistance
should be utilized for the development of the entire department,
Concerted attempts should be made to create the basic facilities
of research and training out of this grant. The Committee is
thankful to the Vice-Chancellor, Head of the Department and all members
of the staff for cooperation rendered for this review by the Committee.
We will leave here undiscussed any financial allocation that may be
made additionally available to the department should the commission
agree with our recommendation of the Centre of Advanced Study.

Annexure - I

Non-Recurring Grant:

<u>S.No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Books and Journals	Rs. 1 lakh
2.	Equipment	Rs. 3 lakh
3.	Any other	Rs. 1 lakh

Recurring Grant:

<u>Sl.No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Books	Rs.10,000/-p.a.
2.	Chemicals	Rs.20,000/-p.a.
3.	Contingencies	Rs. 5,000/-p.a.
4.	Visiting Fellowships	Rs.10,000/-p.a.
5.	Seminars	Rs.10,000/-p.a.
6.	Staff	<u>Post sanctioned</u>

A) Academic

i)	Professor	1
ii)	Reader	1
iii)	Lecturers/R.As	2

B) Research Fellows

i)	Senior	3
ii)	Junior	3 p.a.

c) Technical

i)	Sr. Tech. Asstt.	1
ii)	Mechanic	1
iii)	Semi Professional Asstt.	1

R E P O R T

of

ASSESSMENT COMMITTEE

.....
for

SPECIAL ASSISTANCE PROGRAMME

to

DEPARTMENT OF BOTANY

ANDHRA UNIVERSITY

WALT AIR

UNIVERSITY GRANTS COMMISSION
NEW DELHI - 110002

1978-79

The report of the Assessment Committee to the Department of Botany, Andhra University, Waltair for evaluating the work done under Special Assistance Programme.

The University Grants Commission in 1972 invited the Department of Botany, Andhra University to participate in the programme of Special Assistance to selected departments. As per general policy the assistance which was initially upto 1977 was extended upto March, 1979. For the assessment of work done by the department since 1972 an expert committee consisting of (i) Professor P.N. Bhaduri, B.C. Krishi Viswa-vidyalaya, Kalyani (ii) Professor M.S. Chennaveeraiah, Karnatak University, Dharwar was constituted. Professor Chennaveeraiah visited the department on 21st to 23rd December, 1978. He had detailed discussions with the Head of the Department and other staff members and examined the facilities available. Professor Bhaduri was unable to visit the department. He had, however, detailed discussions with Dr. D. Shankar Narayan, Additional Secretary, U.G.C. and scrutinised the information supplied by the department and the report of Professor Chennaveeraiah.

The Department of Botany, Andhra University is one of the oldest departments of Botany. The earlier committee has recommended the department for Special Assistance to develop teaching and research activities in the field of Plant Cytogenetics. The details of the assistance provided under this scheme and V Plan development grants is given in the Annexure-I. The department offers two years M.Sc. course with intake of 50 students. The specialization offered include following subjects (i) Acrobiology (ii) Applied Ecology

.....2.....

(iii) Biosystematics (iv) Cell-physiology (v) Cytochemistry
(vi) Cytogenetics (vii) Developmental Morphology of angiosperms
(viii) Genetics of Crop improvement (ix) Marine Botany (x) Plant
Pathology (xi) Radiation Genetics (xii) Reproductive Biology of crop
plants (xiii) Wood Anatomy.

Each student has to select four courses out of these. The staff of the department is 4 Professors, 6 Readers and 12 Lecturers. The department has four supporting staff. The department has produced 16 doctorates since 1972. At present about 50 research students are working for Ph.D. Out of these about 30 are in the area of cytogenetics. Since 1972, staff members of the department have published more than 180 papers. About 100 of these are in the field of cytogenetics.

Cytogenetic research in the department was started and initially developed by late Professor J. Venkateswarlu during the years 1950-70. The acquisition of the Experimental Farm in 1957 from Andhra Pradesh Government greatly enlarged the field facilities which enabled the department to take up genetic experiments and carry out its work in Cytogenetics of diverse crop plants including Sorghum, rice, maize and maize relatives, Pennisetum, Brassica, Raphanus, Solanaceae members, ornamental and medicinal plants. Facilities for research have been built up steadily and gradually both in terms of latest books and journals in the library and instrumentation in the laboratories. The viable and most active group has continued

pursuits in their respective lines of Cytogenetic research during the last six years taking full advantage of the special assistance provided by the University Grants Commission since the year 1972.

At present the cytogenetic group consists of 1 Professor, 3 Readers, 6 Lecturers including 2 members with additional charge of Herbarium and Farm maintenance and 35 research workers. A good number of students have obtained their Master's and Doctorate degree in the area of Cytogenetics prior to operation of Special Assistance Programme. During the last six years, 10 students have received their Ph.D. degree and 4 others have submitted their thesis. During the same period a total of 120 papers have been published by the cytogenetic group in national and international journals of repute.

A few researchers who received training in the department of Occupy high positions presently in the U.S.A. and elsewhere. Some have found their placements in Biology Section of Atomic Energy Establishment and many others are recruited to the recently introduced Agricultural Research Service under ICAR. The progress achieved may largely be attributed to the group of workers confining and concentrating on cytogenetic work. In doing so they have followed the original recommendations of the committee constituted by the UGC for appraisal of the stage of development of the department for sanction of Special Assistance Programme.

The details of work accomplished and work in progress in

the department are given below:-

1. The research is mainly on the cytogenetics of induced mutants in Sorghum, rice, Petunia, Pearl Millet, Peanut and sun flower.

In Sorghum and rice, besides the classical aspects of Cytogenetics, a major area of investigation involves the radiation sensitivity of inter-varietal hybrids in relation to parents. This led to the discovery of hybrid lines with increased responses to radiation and chemical mutagens both in the frequency of mutations and chromosomal aberrations. Induced high yielding mutants in IR 8 rice variety are at present under yield trials. It is proposed to extend this line of work to intersubspecific and interspecific hybrids with a view to generate and utilise the type of new variability not possible with pure varieties.

Cytogenetics of interchange heterozygotes, B-chromosomes, trisomics, autopolyploids, desynaptics and chlorophyll mutants in spinous Solanums, Physalis, Toma-to, Brassica, Oriental Maydeac including Coix and Chrysanthemum etc. are carried out in a meaningful manner.

Chromosomes banding work has been done in pennisetum and it is in progress in Chrysanthemum. Cell cycle studies in relation to desynapsis have been initiated in Pennisetum.

In Petunia, the study of gammaray irradiation and chemical treatments including EMS and colchicine results in the development

of 3n, 4n, 6n, 8n types, trisomics and double flower mutants and chimeral flower mutants. Some of these lines are almost sterile and need to be preserved and propagated by methods like vegetative propagation and tissue culture.

Gamma ray treated populations of tomato exhibited chromosomal aberrations. One such abnormality and sticky meiosis. The genetics of stickyness is being studied. Chrysanthemum populations exhibited spontaneous translocations and desynapsis. Their frequency increased when exposed to gamma irradiation.

Increased doses of B-chromosomes in Pennisetum RESULT IN DESYNAPSIS? AS ALSO THE ACTION OF RECESSIVE DESYNAPTIC mutants. The basic causes of desynapsis are intended to be studied by comparing cell cycle times, effect of B-chromosomes on DNA replication and RNA metabolism.

Chromosome banding studies to identify the chromosomes involved in translocation, trisomics and telocentrics are in progress. These stocks are being used in construction of linkage maps. A dwarf line having a 40% increased chlorophyll content has been isolated. Photosynthetic efficiency of this mutant with higher chlorophyll content (collaborating with physiologists) is planned for the coming years as also the study of the cytogenetics of the mutants. Genetics of both seedling and mature plant phenotypes has been studied in 15 lines and linkage studies have been initiated.

Pachytene chromosome morphology is analysed in coix. Induced Polyploidy, behaviour of polyploids in the progenies, inheritance of qualitative characters to serve as markers for intergeneric hybridization within the tribe Maydeae, occurrence and inheritance of apomixis, reversion to diploidy from tetraploidy, spontaneous chromosomal aberrations are some of the aspects that are studied in coix and other Maydeae are planned to be studied by comparison of chromosome morphology, pairing behaviour in hybrids, seed protein electrophoretic mobility and DNA estimations.

..... Studies in spinaceous Solanums have revealed that S. indicum var. multiflorum to be cytogenetically different from S. indicum that it deserves to be considered as a separate species. S. trilobatum, S. multiflorum on the one hand, and S. suratense, S. indicum and S. melangena on the other appear to be closely related groups, while S. torvum is distinct and is totally isolated from other spinous Solanums.

Chromosome evolution in Physalis is described based on the study of pachytene chromosome complements.

Cytogenetics of interspecific hybrids involving Brassica carpestris var. toria and B. nigra and of intergeneric hybrids of Raphanus and Brassica have yielded interesting results and further work is in progress.

Cytology of red algae Ceramium, Chondria, Wrangelia, Polysiphonia and Liagora have been studied in relation to their

members of the asiatic Maydeae, Phylogenetic relationships .. 7.... and Chromosome evolution in the genus Coix and other

chromosome number and morphology. Cytotaxonomy of these members is also dealt with. Further understanding of these phylogenetic relations needs studies on interspecific, hybridization, culturing and INA estimations.

2. The other areas of interest in the department include Embryology, Wood Anatomy, Plant Physiology, Plant Pathology, Phycology, Plant Taxonomy, Plant Geography and Floristics. These are smaller groups and have few workers only. However, their research is congrate with the work in the major field of Cytogenetics.

3. Under this programme, facilities have been improved substantially both for teaching of theory and for conducting practical work incytogenetics and related areas. The following elective courses have been introduced and are offered to M.Sc. students in the Fourth Semester.

a) Cytogenetics, b) Radiation Genetics, c) Genetics of Crop Improvement, d) Maizegenetics and Cytogenetics and e) Cytochemistry.

4. An all India high level Symposium - Researches in Plant Cytogenetics - was organised by the department from 9th to 12th February, 1978 utilising the funding made available by the Commission. About 70 participants from various Universities and Research Institutes in the country have participated and presented papers.

The above assessment of the department of Botany amply substantiates that the department has built up a very competent group of staff and research students actively contributing in

the field of cytogenetics. The group has grown to a viable size which promises for further development and promotion of excellence. This has been possible in a large measure by the sanction of Special Assistance by the Commission and the excellent traditions and team spirit developed by the workers of Cytogenetic group.

Also there is considerable autonomy enjoyed by the department in implementing the various programmes undertaken and the administration cooperate with the department. The funds have been properly utilised in getting the necessary equipment and in strengthening the library. All the posts sanctioned have been filled up except for one post of . . . Plant Breeding Assistant.

While commending about the large output of work by this group and regarding excellence of some of the works, the committee would like to point out that it has not noticed new ideas or new line of research that have emerged which could place their centre as the founder of a new line of investigation. It is therefore suggested that instead of expanding and diffusing the research works, more concentration should be given in intensive research work that would reveal new basic knowledge in the field of cytogenetics. It is suggested that research work in following areas be taken up:

- i) Cytogenetics of crops and wild relatives.
- ii) Radiation Genetics with specific objective for inducing selective mutation.

iii)Cytogenetics of cell at cellular level - tissue and organ culture. This work may be integrated with radiation genetics.

iv)Cytogenetics at molecular level. The approach should be to reveal correlation with physiological and biochemical parameters.

The Committee would like to suggest that the department should therefore carefully decide the directions of future research so that by employing latest techniques, such as, Autoradiography, Quantitative Cytogenetics. The course in Plant Breeding and Genetics should be strengthened with training facilities in Radiation Genetics with the available irradiation unit. The present group in Cytogenetics with the leadership available is capable of high quality, sustained work. Nevertheless, with the potential group now available in the department in the field of biosystematics, it would be advantageous mutually for the groups to interact and develop the biosystematic studies based upon Cytotaxonomical and Chemotaxonomical informations. The Committee feels that in order to do this work, it would be necessary for the department to develop necessary instrumentation facilities, such as, installing a tissue culture laboratory, autoradiography and isotope laboratory and spectromicrocytometer unit. The grants available under this programme should therefore be utilised for obtaining sophisticated equipments rather than to generally strengthen the teaching and research facilities, the needs for which could be met out of the general developmental plan assistance.

Yet another suggestions which the Committee would like to make relates to the fact that, a department which has almost 25 years standing in the field of Cytogenetics, should essentially move upwards to research of high quality contributed mainly by post-doctoral research workers and staff members, most of whom would have a commitment to a long range programme in a chosen area in cytogenetics. The sum total of Ph.D. work done by research students should not be generally taken as the overall research effort of the department. In fact the problems given to Ph.D. students should emanate from the long range departmental programme of work to which staff members would contribute atleast 50% of their research effort. Although the department has a strength of 4 professors, 6 readers and 12 lecturers, the only two identifiable research groups are in the areas of cytogenetics and biosystematics. It would therefore be necessary for the other faculty members to reorient their studies in such a manner that they can effectively interact with these groups and strengthen the research output. The additional staff positions which may become available, could therefore be used in the areas of cytogenetics and biosystematics to develop specific programme by use of modern techniques as mentioned earlier. Some of the existing staff members should be trained in these techniques by spending short periods in other laboratories in India, e.g. BARC, Calcutta University, IARI(NRL & Genetics Division) etc.

The Committee feels that addition of one Reader in each
of these two major areas and research Δ personnel consisting of two research
 Δ associates at post-doctoral

level, two senior research fellowships and 4 junior research fellowships would suffice to strengthen adequately these research areas. As regards supporting technical staff, the Committee feels that addition of an instrumentation technician and a qualified herbarium assistant could be necessary.

The Commission would like to recommend to the Commission that the department may be provided continued support under this scheme in next plan period. The department may organise the research programmes as per suggestions given above. The progress of the department may be assessed after this period and decision regarding upgrading this department could be taken depending upon the achievements. The Commission may provide following assistance for this department in the VI Plan period:

Non-Recurring

- | | | |
|----|-----------|---------------|
| I. | Equipment | Rs.6,00,000/- |
|----|-----------|---------------|
- i) X-ray unit specifically for treatment of seeds and plant parts
 - ii) Two research type Binocular Microscopes
 - iii) Seed Generator
 - iv) 2 Deep Freezes and one Refrigerator.
 - v) Power tiller
 - vi) Installation of Tissue Culture Laboratory
 - vii) Installation of Isotope Laboratory including provision of Geiger counter and ancillary equipment.
 - viii) Autoradiography and Electrophoretic equipment.

ix) Micro-cytophotometer.

II. Books and Journals Rs.2,00,000/-

B. Recurring:

Staff: Two Readers
(one in Cytogenetics, one in Biosystematics)
Two Research Associates
Senior Research Fellows - two (total)
Junior Research Fellows - four p.a.

Technical staff: Rs. 20,000/-p.a.

· (Instrumentation technician,
herbarium Assistant)

Books and Journals Rs. 10,000/-p.a.

Chemicals etc. Rs. 30,000/-p.a.

Contingency Rs. 15,000/-p.a.

Annexure I

Assistance provided to the department under this programme.

Non-Recurring Grant:

Sl. No.	Item	Allocation Rs.
1.	Equipment	2,00,000/-
2.	Books and Journals	1,00,000/-

Recurring Grant:

Sl. No.	Item	Allocation Rs.
1.	Books and Journals	10,000/-p.a.
2.	Chemicals	20,000/-p.a.
3.	Contingencies	5,000/-p.a.
4.	Visiting Fellows	10,000/-p.a.
5.	Seminars	10,000/-p.a.
6.	<u>Staff</u>	<u>Post sanctioned</u>
(a)	Academic	
i)	Professor	1
ii)	Reader	1
(b)	Research Fellows	
i)	Senior	2
ii)	Junior	4 p.a.
(c)	Technical	
i)	Field Assts.	2
ii)	Plant Breeding Asstt.	1
iii)	Lab. Tech.	1
II)	V plan Development grants	
	Staff	One Professor, Two Readers, Two Lecturer
	Equipment	Rs. one lakh
	Books and Journals	Rs.70,000/-

R E P O R T

of

ASSESSMENT . . . COMMITTEE

for

SPECIAL ASSISTANCE PROGRAMME

to

DEPARTMENT OF CHEMISTRY

OSMANIA UNIVERSITY

HYDERABAD

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Assessment Committee appointed to evaluate the work of the Department of Chemistry, Osmania University under the Special Assistance Programme.

The University Grants Commission appointed a Committee consisting of the following members to evaluate the work done by the Department of Chemistry since its participation in the UGC Programme of Special Assistance to Selected Departments in April, 1972:-

1. Professor T.R. Govindachari,
Emeritus Scientist
Central Leather Research Institute
Madras.
2. Professor L.R. Row
Special Officer
Postgraduate Centre
Andhra University
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission
New Delhi

The Committee visited the Department of Chemistry, Osmania University, Hyderabad on 29th August, 1978. In accordance with the terms of reference, the Committee had discussions with the Faculty members with regard to their teaching and research programmes and evaluate the work done with reference to the objectives of the Special Assistance Programme of the University Grants Commission.

The Department of Chemistry, Osmania University was included in the UGC Programme of Special Assistance to Selected Departments with effect from April, 1972 initially for a period of five years but as per the general policy the assistance was extended upto March, 1979. The grants made available to the Department over this period including a non-recurring assistance of Rs.4.5 lakhs and a Recurring assistance amounting to about Rs 1.5 lakhs per annum for various academic posts and other expenditure approved by the Commission. The Committee which had visited this department in 1971 and recommended its participation in the UGC Programme had identified the group in Organic Chemistry particularly in the area . . . of natural products as the largest and viable group and had therefore recommended major support to be given in this area of specialization. Nevertheless, the infrastructure facilities to be created were to be made available to the entire department which included, besides Organic Chemistry, research group in Inorganic and Physical Chemistry also. The department, as suggested by the University Grants Commission, appointed an Advisory Committee to continuously monitor the implementation of its teaching and research programmes and this committee, has met regularly every year and has made useful suggestions with regard to the functioning of the department and utilisation of the grants given by the University Grants Commission. The department has well utilised the non-recurring assistance and has obtained some sophisticated equipments, books and journals required for its academic programmes. The staff of three Readers,

two research associates were appointed as suggested by the earlier committee in the areas of Theoretical and Physical Organic Chemistry and one in Instrumentation techniques.

Teaching Programmes of the Department:

During the period of Special Assistance, the Department has made serious efforts to reorient its Postgraduate teaching programmes, keeping in view the recommendations made by the Southern Regional Conference for Postgraduate teaching in Chemistry. In addition to the usual one subject specialisation, the Department has introduced new specialisations in Physical-Organic, Physical-Inorganic and Inorganic-Analytical Chemistry in the final year of the M. Sc class. The department feels that these two-subjects specialisation courses have an advantage particularly for those who later become lecturers in Degree Colleges and also for carrying out research work in interdisciplinary fields. With a view to providing some introduction to application areas, the department has also added some courses in Natural Products and explosives dyes, drugs and intermediates in the field of Inorganic Chemistry. In the areas of Physical Chemistry it elective papers on catalysis, photo-chemistry, electro-chemistry has introduced/and Nuclear fuels. The Committee was happy to note that in the matter of instruction in these application courses, the Department has obtained collaborative support from some of the industries in the city of Hyderabad, such as Indian drugs and pharmaceutical Limited, Indian Detonators, etc. The Department has also established worthwhile links with other R & D Institutions in the city and in other parts of the country. The department has also

started from the current academic year, M. Phil courses, both for fresh M.Sc. and for teacher fellows coming from affiliated colleges. The intake into the M.Sc class presently is 45 and to M. Phil, 8 students. The M. Phil students, besides receiving instructions in the different branches of Chemistry are also required to do project work and submit a desertation, as per U.G.C. guidelines for the M. Phil courses.

Research Activity:

The Department is actively engaged in research on Natural Products, Oxygen and Nitrogen Heterocyclics, mixed heterocyclics containing nitrogen and oxygen and nitrogen or sulphur, spectral studies, kinetics, photo-chemistry, electro-chemistry and Metal chelates. Several research papers have been published, members of the teaching staff have participated in Symposia and seminars and a number of Ph.D's were awarded as given below:-

	<u>1952-67</u>	<u>1967-72</u>	<u>1972-77</u>	<u>1977-78</u>
1. No. of research publications.	129	70	146	43
2. No of Ph.D's awarded.	25	9	27	12
3. No. of papers presented in symposia.	-	-	-	18

It is proposed to extend research activity to synthesis of a variety of heterocyclics and Isolation of Natural Products with a view to discover their physiological activities. Such studies

will be helpful to understand the structure activity relations. Mechanistic and synthetic photochemical studies on a variety of organic compounds, natural and synthetic heterocyclics, will be continued. Studies on heterocyclics possessing fluorescent properties, polymer research and photochemical studies on atmospheric gas pollutants will be intensified.

Brief details of research work in progress in the different areas are given below, with some suggestions with regard to further directions of developing departmental research effort in these areas.

Organic Chemistry:

The Department has made considerable progress in the areas of natural products which have insecticidal and medicinal importance, synthesis and reactivity of heterocyclic ring systems containing oxygen, nitrogen and sulfur and synthesis of physiologically active compounds and evaluation of their activity.

Natural Products:

During the period 1972-78 several new flavones, isoflavones, rotenoids, proanthocyanidins and other compounds were isolated from plants reputable for medicinal, insecticidal and tannin-bearing plants.

Synthesis and reactivity of heterocyclic ring systems containing oxygen and nitrogen:

Several natural and synthetic flavones, isoflavones and 2,2 furyl chromones have been synthesized by novel methods. Mention may be made about the development of modified Baker-Venkataraman

transformation for the synthesis of 3-substituted flavones. With a general aim to study structure-physiological activity relationship coumarins having different, aryl and heteryl substituents in 3 and 4 positions as well as heteryl rings fused in 3,4 positions have been synthesised and their physiological properties evaluated. A new synthesis of 3-aryl coumarins and coumestans involving the condensation of 4-hydroxy coumarin with p-benzoquinone has been worked out. A convenient step synthesis of 3-acetyl-4-hydroxy coumarin has been achieved involving condensation of phenyl-acetates with malonyl chloride using aluminium chloride and nitrobenzene. A new facile synthesis of dicoumarols has recently been reported involving condensation of 2-moles of 4-hydroxy coumarin with one mole of Schiff's base in the presence of acetic acid at room temperature. This procedure has been found to be useful for preparing discoumarols from sensitive aldehydes with considerable improvement in the yields.

Physical Chemistry:

Work on photo-oxidation of organic compounds in the presence of sensitizers such as dyes, ketones and catalysts like heavy metal ions and their complexes is in progress. The kinetics of anodic oxidation of zirconium in oxalic acid medium have been investigated at a constant current density and thickness estimates of anodic films were made. Polarographic investigations were made for the electrolytic reduction for the picolinic acid and dipicolinic acid.

INORGANIC CHEMISTRY:

Synthesis and characterization of metal chelates, study of their explosive and physiological activity:

Schiff-bases of amino-guanidine, nitro-aminoguanidine, Copper (ii) and Nickel (ii) complexes with nitro-amino schiff-base were found to be flame sensitive. They explode at higher temperature. Further work on the explosive nature of the complex is under investigation. Fe(ii), Fe(iii) of Co(ii) complexes are of octahedral nature. Physico Chemical studies on the complexation of some N, O and S containing ligands with some bivalent transition metal ions is in progress.

Research Programme planned for the future:

Various research problems initiated in the branches of organic, inorganic and physical chemistry will be continued. After procuring high pressure liquid chromatography, photochemical reactors, spectrofluorometer it is proposed to intensify work on isolation of minor active principles from plants, synthetic and mechanistic studies on photochemistry and synthesis of novel fused heterocyclic ring systems with a view to assess their fluorescence properties. Studies on synthesis and reactivity of heterocycle systems like chromones, benzimidazoles coumarins, coumestans, triazoles, oxazoles and isoxazoles will be continued.

Pollution studies:

It's known that sulphurdioxide produced during the combustion of fossil fuels like coal and also petrol is an important pollutant

of the atmosphere. When this sulphurdioxide is let loose in the atmosphere it can cause immense damage to biological systems especially in the presence of sunlight. It has been suggested that the maximum concentration of SO_2 should never exceed 5 PPM in areas where people work. In the case of plants a concentration of 1 to 2 PPM cause damage by inhibiting photosynthesis.

Therefore, proposed to study the photochemistry of SO_2 to find the reactive species causing the damage and required quenchers for the former. It is also proposed to extent this type of study to other pollutants like CO etc.

Polymer research:

Research work on polymers has already been initiated in this department during 1977-78 with the help of a scheme sponsored by ISRO. This work mainly involves the study of photodegradation of polyurethanes. It is now proposed to make the studies on polymers more broad based on following lines:

- i) Kinetic study of vinyl polymers initiated by radicals produced from new redox systems developed in our laboratory.
- ii) Study of photoinitiated polymerization processes.
- iii) Study of the stability of polymers under thermal as well as photochemical conditions.
- iv) Photosensitized polymerizations.

Currently six major research schemes sponsored by the UGC and other agencies are being implemented. These relate to

the following:-

1. Search for Bronchodilators - Natural and Synthetic Oxygen Heterocyclics (ICMR)
2. Investigations on the correlation between the structure and plant growth regulating activity of proanthocyanidins or Leuco-anthocyanidins and their effect on the growth and metabolism of cultured carrotex-plants (U.G.C.)
3. . . Photodegradation of 'High Polymers' (I.S.R.O.')
4. Kinetics of anodic oxidation of Zirconium and thereium in suitable electrolytes (C.S.I.R.)
5. Chemistry and Analytical and Physiological applications of metal complexes derived from nitrogen, phosphorous, arsenic and mixed heterocyclic systems (U.G.C.)
6. Composite drug Research Unit (C.C.R.I.M.H.)

Research work is in progress in the fields of Natural Products, Synthesis of Heterocyclics by novel methods and study of their physiological activity, Chemistry Kinetics, Electro-chemistry, Photo-degradation of Polyurethanes, Mechanistic and Synthetic Photochemistry, Electrochemistry, Metal chelates and spectral studies and these will be intensified in the coming years.

The Department of Chemistry has collaborative research activity with Haffkines Institute, Bombay, Kurnool Medical College, Kurnool, Indian Detonators Ltd., Indian Space Research Organisation, Thumba, Central Drug Research Institute, Lucknow, Bhabha Atomic Research Centre, Bombay, IBM-Wattson, New York and Bristol Research

Laboratories, U.S.A., Indian Council of Agricultural Research proposes to give assistance to pursue research on rotenone and rotenone based pesticides.

The department has planned to develop collaborative Research with the Central Electro-chemical Research Institute, Karaikudi in the areas of problems relating to the prevention of corrosion and electro organic chemistry and with the Regional Research Laboratory in the fields of catalysis, pesticides etc.

The Committee had a general discussion with regard to the impact and value of the on-going teaching and research programmes. The Committee is happy to note that the Department, besides modernising its courses of study at postgraduate level, has a concerned itself with improvement of Undergraduate instruction in the affiliated colleges with the help of the University Leadership Project of the CCSIP approved by the U.G.C. This programme has been successful in establishing continuous channels of communication between the College Departments and the University Department, through a number of curriculum development activities. This activity includes short term courses, curriculum discussion group meetings, bringing up the facilities of Colleges departments to an optimal level and making available to the college teachers quality teaching material etc. The Committee was informed of the annual departmental conferences organised by it, for bringing together heads of the Departments of all Colleges teaching Chemistry to review periodically the \angle schedule in chemistry. The departmental conferences Undergraduate instructions and examination \angle provide to the College teachers, opportunities to make necessary suggestions for better

Chemistry teaching, on the basis of the experiences in the class room and laboratories. One such conference was in progress at the time of the visit of this committee. The proceedings of this and earlier Conferences give sufficient proof, that the Chemistry teachers of Osmania University has functioned as a corporate group to develop suitable programmes and initiate measures which would help in qualitative improvement in teaching of Chemistry within the University and its Colleges.

As regards the contributions in the areas of Research, the Committee noted that although initially greater emphasis was laid in Organic Chemistry particularly on synthesis and structure of Natural Products, under the leadership of late Professor N V. Subba Rao and Professor R. Srinivasan, there has been, in recent years a shift in emphasis to some useful areas in Physical Chemistry particularly photo-chemistry. The department has also acquired some major items of instruments required for this purpose. As indicated above, the out-put of research, as can be judged from the number of Ph.D's awarded and the number of publications resulting from the research investigations, the department has done well. In fact, the number of publications during the past six years is almost equal to the total number of publications from this department in the earlier 20 years. The committee, however, noted that these publications included several presentations at National and International Conferences and Seminars and some abstracts in local journals. The Committee is happy to record that the quality of research done is also of good standard. Nevertheless, the committee feels that in an area like

Chemistry of Natural Products, departments such as these, which have accumulated considerable data on structure and synthesis should now make serious efforts towards study of the dynamics of Organic synthesis and their Physiological activities, instead of extending work of a routine type to a large number of plant families. The level of instrumentation facilities available in the department and in other Institutions in Hyderabad should enable work of a more modern nature and likely to yield results which would have R & D value.

On the basis of the evaluation of this Department with specific reference to the terms suggested by the U.G.C., the Committee has come to the conclusion that the Department of Chemistry, Osmania University has made useful contributions to both teaching and research in Chemistry, and, therefore, has earned its recognition and participation in the U.G.C. programme of Special Assistance to Selected Departments. The Committee considers it most appropriate for U.G.C. to continue to support this department for another five years for its continuation under the special assistance programme could be decided in accordance with the policy to be laid down by the U.G.C. and within the ceiling of assistance likely to be available in the next five years. The present level of assistance would be taken over by State Government as committed expenditure with effect from 1.4.1979.

The Committee would like to express its appreciation to Professor Navaneeth Rao and his colleagues in the department for the facilities extended for the Committee's work.

∟ under this programme from April, 1979 and hopes that the results accruing by them may be such as to make it eligible to participate in the next level, as a Centre of Advanced Study. The requirements for the next five years

REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF CHEMISTRY
PANJAB UNIVERSITY
CHANDIGARH

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the committee to the department of Chemistry
Panjab University, Chandigarh for the assessment of
work/under the Special Assistance Programme.

/ done

The University Grants Commission on the recommendations of the Standing Committee for the programme of CAS/DSA in 1972 invited the Department of Chemistry, Punjab University for participation in the programme of Special Assistance to selected departments. The assistance which was initially for five years period was extended upto March, 1979. For assessing the work done under this programme since 1972 an expert committee consisting of (i) Prof. A.B. Biswas, I.I.T., Bombay (ii) Prof. B.C. Halidar, Institute of Science, Bombay (iii) Prof L.R. Row, Andhra University P.G. Courses, Nuzvid and (iv) Shri A.G. Deshmukh, Education Officer, U.G.C. visited the ~~department~~ on 20th January, 1979. The committee has detailed discussions with Prof O.P. Vig, Head of the Department and other staff members. The committee went round the department and saw the facilities available. The committee met Professor R.C. Paul, the Vice-Chancellor of the University, who was earlier head of this department.

The earlier committee recommended support for the development of active school in Inorganic Chemistry. The details of assistance made available under this programme and other schemes of U.G.C. is given in annexure-I. The department provides facilities for teaching of B.Sc. (Hons), M.Sc. (Hons), M.Phil courses and Ph.D. research programmes for all the three branches of Chemistry. The present enrolment in these courses is as follows:

B.Sc.(Hons School)	40 each year	Three year course
M.Sc.(Hons School)	17 each year	One year course

M.Sc.	40 each year	One year course
M.Phil	16 each year	One year course
Ph.D.	20 each year	About 4 year duration

Since 1972, the department has produced 25 Ph.D's in Inorganic Chemistry, 17 in Organic and 19 in Physical.

The department was one of the first departments selected by the Commission to implement the University Leadership Project under COSIP for improvement of undergraduate Chemistry teaching in affiliated colleges. Under this programme, the undergraduate syllabus has been completely reorganised. A detailed syllabus was prepared and comprehensive teacher's guides have been published, and laboratory courses have been developed. The department organised number of symposia to acquaint the college teachers in the recent development of the subject-wise model questions on various topics have been prepared. Some equipment, books, models, charts etc. have been supplied to all colleges. The new syllabus has been implemented by some neighbouring Universities also. The total allocation of about Rupees 12 lakhs has been provided for the programme.

Under the Indo-Hungarian Cultural Exchange Programme the department has arranged special courses in Instrumental Analysis. These courses were conducted jointly by scientists from Hungary and staff of this department. Some sophisticated items of equipment were made available for organising these courses. The department is also participating in the Indo-British Universities collaborative Programme. The department is collaborating with the Chemistry

department of Nottingham University. Under this programme so far 4 teachers from each department have exchange visits. Recently the commission has approved the bilateral academic contacts between this department and chemistry department of Yerevan State University, U.S.S.R. under Indo USSR Cultural Exchange Programme.

The staff strength of the department is 6 Professors, 11 Readers and 23 Lecturers/teaching assistants. Out of these 16 are in Inorganic Section.

The major area of research in Inorganic section is in the area of nonaqueous solvent chemistry. The work is being carried out on (i) solvents of small self ionisation (ii) solvents of large self ionisation and (iii) the role of the solvents in electrolyte solutions. In the field of co-ordination chemistry works carried out about synthesis and characterization of (i) complexes of transition metals with multidentate ligands based on pyridine carboxylic acids and their derivatives (ii) Complexes of Uranium (v) Chloride with nitrogen and oxygen donor ligands. Work is being carried out in organometallic Chemistry, synthetic Inorganic Chemistry etc.

In the organic section, work is being carried on syntheses of many newly isolated terpenoids. New methods of organic synthesis and preparation of naturally occurring products and compounds of pharmacological interest are being developed. Work on organic photo chemistry and steroids are also carried out.

The main topics of research by Physical Chemistry group are (i) Thermodynamics of partially miscible systems (ii) Thermodynamics

of polymer solutions and (iii) phase transitions of adsorbates on adsorbate-adsorbent systems. Another group is working on (i) Statistical Thermodynamics (ii) Kinetics and mechanism of Redox Reactions. (iii) Electronic spectra and photo chemistry of aldehydes and (iv) Structure Activity relations. Some aspects of Surface chemistry are also being investigated.

As a result of these activities about 425 research papers have been published by the staff members of the department since 1972. The department has arranged a number of seminars and symposia. A large number of research workers, teachers from other Universities in India and abroad have visited the department. The commission has approved 3 major research projects in the department involving amount of about Rs.8,78,000/-.

The department has fairly good facilities of sophisticated equipment and supporting technical staff. The committee scrutinised the future research programmes and generally accepted the plan proposed. After carefully scrutinising the performance of the department the committee came to conclusion that the department has utilized the grants provided under this scheme in a good way. The assistance was mainly utilized for inorganic section but the other branches have also developed good research groups.

The committee would like to recommend to the commission that the department be provided further support under this scheme for a further period of five years for the integrated development of the

entire department. The department would need strengthening in Theoretical Chemistry and Chemical instrumentation as a first preference. The department would need services of a Electronic Engineer to keep the instruments in working order and also design and fabricate new gadgets and instruments. Also a course of chemical instrumentation including basic development may eventually be introduced in the curriculum.

Strengthening of Analytical Chemistry

The department also expressed the ~~desire~~ to strengthen its analytical chemistry section which may be done by creating a post of Professor/Reader in Analytical Chemistry as a second preference.

The committee would like to indicate following assistance over next five years. Keeping in view the policy of the commission and the ceiling assistance to be made available to such departments the departments may be allowed to made suitable changes in these allocations.

Non-Recurring:

- | | | |
|----|--------------------|---------------|
| 1) | Equipment | Rs.5,00,000/- |
| 2) | Books and Journals | Rs.1,00,000/- |
| 3) | Building | Rs.2,00,000/- |

Recurring

- Staff:-
- 1) One Professor in Theoretical Chemistry
 - 2) One Protomentation Officer in the Reader's grade
 - 3) Professor/Reader in Analytical Chemistry (second priority)
 - 4) Readers two: one in Physical Organic Chemistry and one in physical Inorganic Chemistry.

Junior Research Fellows	Four per year
Visiting Fellows	Rs.10,000/-p.a.
Chemical/Glasswares	Rs.30,000/-p.a.
Books and Journals	Rs.10,000/- p.a.
Technical Staff (Supporting staff to the Electronic Engineer)	Rs.25,000/-p a.
Travel	Rs.10,000/-p.a.
Contingency	Rs.10,000/-p.a.

The recurring assistance which was provided in the IV and V Plan period is to be taken over by the university as a part of the maintenance grant from 1.4.1979 and above assistance is in addition to this. While allocating these grants care should be taken to see that the requirements of all three branches are met available for the balance growth of the department. The question of upgrading this department to the level of centre of Advanced Study could be considered after assessment of the progress made in next five years.

The committee is grateful to the Vice Chancellor, Head of the department and other staff members for co-operation given for the work of the committee.

Annexure- I

I Grant approved under Special Assistance Programme

<u>S.No.</u>	<u>Item</u>	<u>Allocation</u>
1.		
1.	Equipment	3.5 lakh
2.	Books & Journals	1.0 lakh
3.	Any other	0.5 lakh

RECURRING GRANT

1.	Books & Journals	Rs.10,000/-p.a.
2.	Chemicals	Rs.20,000/-p.a.
3.	Contingencies	Rs. 5,000/-p.a.
4.	Visiting Fellows	Rs.10,000/-p.a.
5.	Seminars	Rs.10,000/-p.a.

6. Staff

(a) Academic

i)	Readers	3
ii)	Lecturer	1

(b) Research Fellows

i)	Senior	3
ii)	Junior	3 p.a.

(c) Technical

i)	Tech. Asstt.	1
ii)	Lab. Tech.	1

II. Grant available under V Plan development schemes.

(i) Equipment

(ii) Books

III. COSIP grant

(i) I Phase Rs.10,20,000

(ii) ii Phase Rs. 2,00,000

IV. Research Projects : 3

Total amount : About Rs 8,78,000/-

R E P O R T

of

ASSESSMENT COMMITTEE

to

SPECIAL ASSISTANCE PROGRAMME

to

DEPARTMENT OF CHEMISTRY

POONA UNIVERSITY

POONA

UNIVERSITY GRANTS COMMISSION

NEW DELHI-110002

1978-79

Report of the Assessment Committee to the Department of Chemistry, Poona University, for assessment of the work done under the Special Assistance Programme.

The Commission on the basis of the recommendations of the Standing Advisory Committee for the programme of GAS/DA had decided that the Department of Chemistry, University of Poona, may be included in the programme of Special Assistance to Selected Departments. On the basis of the report of the Expert Committee, the Commission had agreed to provide following grants to this department for strengthening teaching and research programmes in Radiation Chemistry upto March, 1979.

I. Non-recurring

Sl. No.	Items	Allocation
1.	Equipment	Rs.4,00,000/-
2.	Books & Journals	Rs.1,00,000/-
3.	Apparatus and Chemicals	Rs.1.50.000/-

II. Recurring

1. Academic Staff		Grants payable on the basis of actual expenditure in respect of posts filled.
a) Readers	Three	
b) Senior Research Fellowships (Rs.500 p.m. fixed)	Two	
c) Junior Research fellowships (Rs.300 p.m. fixed)	Three	
2. Technical/Workshop staff		Rs.15,000/-p.a.
3. Books and Journals		Rs.10,000/-p.a.
4. Chemicals, Glassware, materials and other working expenses		Rs.20,000/-p.a.
5. Contingencies		Rs. 5,000/-p.a.
Total:		<u>Rs.50,000/-p.a.</u>

To assess the work done by the department under this programme since 1972 an Expert Committee consisting of (1) Dr. Jagdish Shankar, Ex-Head, Chemistry Division, BARC, Bombay (2) Professor S.R. Mohanty, Head of the Department of Chemistry, Utkal University, and (3) Shri A.G. Deshmukh, Education Officer, UGC, visited the department on 28th October, 1978. The Committee met the Vice-Chancellor and had detailed discussions with Prof. V.K Phansalkar, Head of the Department, Professor H.J. Arnikar, Ex-Head of the department and other staff members.

The department of Chemistry, Poona University, was established in 1949 and now provides facilities for postgraduate teaching and research in four major branches of chemistry, viz., Physical, Inorganic, Organic and Biochemistry. The department has been actively engaged in research activities during this period and contributed a number of research papers. At present the department has a staff of 4 Professors, 7 Readers and 13 Lecturers. Prof. Arnikar is working as a retired teacher under the UGC scheme of utilisation of services of retired teachers. The enrolment of postgraduate and research students in the department during the last 3 years is as follows:

<u>Year</u>	<u>M.Sc. I Yr.</u>	<u>M.Sc. II Yr.</u>	<u>Ph.D.</u>
1975-76	74	62	60
1976-77	76	61	60
1977-78	87	56	90

Since 1972, about 45 Ph.D.'s have been awarded. The department is having about 20 teacher fellows from colleges for Ph D. under the Faculty Improvement Programme of U.G.C. The department is

participating in the Indo-British University Collaboration programme since 1974. The work done under this programme has been assessed by an Expert Committee and extension of this programme in the next phase is under consideration. Under this programme the department is collaborating with the University of Manchester in the field of Radiation Chemistry for two research projects, viz., (1) Pulse Radiolyses of Inorganic Solids and (2) Recoil Chemistry of Neutron Irradiated Oxy-compounds with Dopants. Under this project Dr. Robinson and Dr. Newton of Manchester University had visited Poona University. One teacher from this department had visited the Manchester University.

The department has also participated in improvement of chemistry teaching at school and undergraduate levels. The department was one of the first departments selected by the U.G.C. for implementing the College Science Improvement Programme, University Leadership Project. Under this programme, the B.Sc course has been completely revised both in theory and practicals. The semester system has been introduced at the B.Sc. level. Some topics in Biochemistry have been added to the B.Sc. syllabus. Equipment and books worth about Rs.15,000/- have been supplied to all the affiliated colleges. A number of short term courses/seminars were arranged for college teachers. Three laboratory manuals and three text books have been prepared by the staff of the department. The department has helped in the improvement of curriculum of course of chemistry in the revised 10+2 course of the Maharashtra State. In collaboration with the State Science

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Institute, the department has organised training courses for the resource personnel. The department has prepared question banks for the syllabus at the 10+2 stage. The M.Sc. course is also modified from time to time. The present M.Sc. course includes a small research project and a compulsory course in Mathematics. Recently, provision has been made for two types of courses, major and minor, in the three branches of chemistry. The internal assessment accounts for 40% of the total marks.

The major areas in which active research is being carried outin the department are as follows:-

1. Luminescence effects from crystals with colour centres.
2. Recoil and radiation chemistry of oxyanion systems.
3. Gamma-radiolysis of binary redox systems.
4. Redox reactions due to transfer of energy from non-reactant irradiated crystals.
5. Isotope exchange reactions.
6. Competitive adsorption.
7. Applications of electrodeless discharge detector in gas chromatography.
8. Magnetic susceptibilities of gamma-irradiated crystals
9. Solvent effect on electronic spectra.
10. Dipole moments and molecular structure
11. Solid state chemistry
 - (a) Electrical conduction and diffusion in crystals
 - (b) Preparation of ferrites.
12. Chemical Kinetics - fast reactions

At present some 15 research projects supported by various agencies are in operation. As a result of these research activities more than 170 papers have been published since 1972. A list of staff members alongwith their fields of specialization and number of papers published is given in Annexure-I. A total number of 50 junior Research Fellowships and seven Senior Research Fellowships are available in the department. The department is well equiped. Some of the major equipment available are (i) Perkin Elmer NMR Spectrophotometer (ii) Infrared Spectrophotometers, (iii) Californium-252 Neutron Source (Under IBUC Scheme), (iv) 100 - Channel analyser (on loan from BARC), (v) Co-60 Source, (vi) Pu-Be Neutron Source, etc. It has facilities in glass blowing and a small workshop for maintenance of electrical instruments. It has technical staff of 9 people for this purpose. A fully equipped central workshop is also available in the University. The University service instrumentation centre is being set up. The Poona University will be establishing a regional computer centre soon.

Advisory Committee:

Meetings of the Advisory Committee have not been arranged. The Committee would like to stress that the Advisory Committee should meet regularly. The annual report of the department indicating details of teaching and research activities of the staff members should be placed before this committee for scrutiny. The advice of the committee should be taken for proper utilisation of grants and planning of research programmes. The committee discussed with

the staff members their future plans and requirements. It has been proposed to undertake research on the following topics in next five years.

1. Colour centres in crystals and Luminescence effects therefrom (i) Solvoluminescence and (ii) Photo-annealing of colour centres.
2. Laser photolysis of gamma-irradiated alkali halide crystals.
3. Study of products of dissolution of crystals with F & M centres
4. Photoconductivity of gamma-irradiated alkali halides
5. Magnetic properties of gamma-irradiated crystals
6. Recoil chemistry of oxyanion systems.
7. Activation analysis.
8. Recoil reactions in mixed crystals.
9. Radiation induced redox reactions.
10. Radiation induced polymerization
11. Studies on kinetics of adsorption desorption and competitive adsorption
12. Surface migration and diffusion
13. Surface chemistry of microporous zeolites
14. Surface isotope exchange reactions
15. Kinetics of decomposition of oxy-salt zeolites
16. Physico-chemical applications of gas chromatography
17. Kinetics of rapid reactions in solution

The Committee after careful review of the teaching and research activities of the Department came to the conclusion that the department has reasonably successfully utilised the assistance provided

by the Commission under this programme and would like to recommend that the department may be continued under this programme for a further period of 5 years. The question of up-grading the department as Centre of Advanced Study could be decided after the assessment of the work done during this period. The Committee would like to recommend the following assistance to the department during the VI Plan period for strengthening the teaching and research activities and this should be taken into consideration at the time of allocation of general support under the Plan to the department.

Non-recurring:

Building	Rs.1,50,000/-
Equipment	Rs.5,70,000/-
Books	Rs.1,00,000/-
	<u>Rs.8,20,000/-</u>

Recurring : (In addition to present recurring assistance to be taken over by the State Government w. e.f. 1.4.1979)

Books and Journals	Rs. 10,000/-p.a.
Chemicals etc.	Rs. 30,000/-p.a.
Contingencies(Including travel)	Rs. 10,000/-p.a.
Seminars	Rs. 5,000/-p.a.

Staff

Two Technicians		On basis of actuals.
One Research Associate		
Two J.R. Fellows, p.a.		

The Committee is grateful to the Head of the Department and other staff members for the co-operation given for the work for the Committee.

Staff members in the Department of Chemistry, Poona University
(As on April 1978)

Sl. No.	Name	Field of specialization	No. of research students guided	No. of papers published
1	2	3	4	5
I. Professors				
1.	Prof. V.K. Plansalkar Head of the Department	(i) Dipole moment (ii) Molecular structure	4 completed 2 working	22
2.	Prof. N.S. Narasimhan	(i) Organo-lithium compounds (ii) Heterocyclic compounds	9 completed 6 working	48
3.	Prof. A.J. Mukhedkar	(i) Synthetic chemistry (ii) Reaction of metal complexes	9 completed 8 working	34
4.	Prof. F.N. Joshi	(i) Biochemistry (ii) Molecular biology	10 completed 11 working	25
5.	Prof. H.J. Amikar (Retd. Professor)	Nuclear and Radiation Chemistry	26 completed 3 working	126
II. Readers				
6.	Dr. T.S. Rao	(i) Rapid reactions in solutions (ii) Gas chromatography	9 completed 7 working	40
7.	Dr. N.R. Kale	(i) Biochemical aspects of blood coagulates (ii) Polysaccharides	4 completed 3 working	13
8.	Dr. K.G. Marathe	(i) Flavonoids (ii) Photochemistry	6 completed 5 working	18
9.	Dr. S.B. Kulkarni	(i) Reactions of metal complexes (ii) Analytical chemistry	2 completed 5 working	11

1	2	3	4	5
10.	Dr.A.V. Khedekar	(i) Magnetism and Spectroscopy (ii) Solvo luminescence	1 completed 1 working	8
11.	Dr.V.G. Dedgaonkar	Nuclear and Radiation chemistry	2 completed 4 working	16
12.	(Vacant)			
III.	<u>Lecturers</u>			
13.	Dr.S.F. Patil	Physical chemistry	1 completed 1 working	10
14.	Dr.A.C. Ranide	Photochemistry	2 working	22
15.	Dr.M.S. Wadia	Natural Products	4 working	51
16.	Dr. B.A. Kulkarni	Coordination chemistry	3 completed 7 working	16
17.	Dr. A.J. D.angre	Sugar Technology	3 working	21
18.	Dr.E.A. Daniels	Surface properties of materials	2 working	10
19.	Dr.M.V. Hedde	Biochemistry	4 working	2
20.	Dr.G.N. Natu	Coordination compounds	4 working	10
21.	Dr. L.S. Prabhmirashi	Spectroscopy	-	5
22.	Dr.S.B. Padhya	Coordination chemistry	-	16
23.	Dr.B.S. Madhava Rao	Nuclear and Radiation chemistry	1 working	11
24.	Dr.(Miss) S.V. Bhide	Carbohydrates, enzymes Leetins	-	6
25.	Dr.P.S. Sarfare	Physical Chemistry	-	6

R E P O R T
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF PURE CHEMISTRY
CALCUTTA UNIVERSITY
CALCUTTA

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Expert Committee appointed to evaluate the progress made by the Department of Pure Chemistry, Calcutta University under the programme of Special Assistance to Selected Departments.

The University Grants Commission invited the Department of Pure Chemistry, Calcutta University, to participate in its programme of Special Assistance to Selected Departments in April, 1972 and provided to the Department assistance as indicated in Annexure-I for purposes of developing its teaching and research programmes, to develop a major thrust area for advanced teaching and research in the field of Chemistry of Natural Products. In accordance with the general policy followed for this programme, the Commission appointed in 1978 a Committee consisting of the following members to visit and evaluate the contributions made by the Department to teaching and research in Chemistry since April, 1972. This evaluation by a committee of experts with specific terms of reference would provide the necessary recommendations to the Commission with regard to providing continued support to this Department beyond April, 1979 and also suggestions to which the Department could give due consideration in further developing its teaching and research activities in future:-

1. Professor T.R. Govindachari,
Emeritus Scientist
Central Leather Research Institute
Madras.

2. Professor A.B. Kulkarni
University of Bombay
Bombay.

3. Dr. D. Shankar Narayan,
Additional Secretary
University Grants Commission

The Committee visited the Department of Chemistry on 22nd September, 1978 and discussed with the head of the Department and the concerned faculty, the ongoing programmes of teaching and research, had discussions with individual research workers, with the Vice-Chancellor of the University, in accordance with the terms of reference given to the committee for purposes of this evaluation and keeping in view the detailed technical report made available by the Department as required by the University Grants Commission.

.....

The department of Pure Chemistry, Calcutta University in April, 1972 had attained certain stage of development in its teaching and research programmes and had become recognised as one of the active schools of teaching and research in Chemistry with recognisable contributions in the area of Chemistry of natural products, and had the potential essential for purpose of further development into a viable school of Advanced training and research in the subject and capable of making worthwhile contribution, and engaging on problems of R & D value to economic development. Subsequently, this department was also included in the UNDP programme to strengthen its R & D potential. While the assistance provided under the special assistance programme was for the general improvement of facilities in the Department as a whole, the emphasis was no doubt on developing a viable school of teaching and research in the field of Chemistry of Natural products, by essential interaction with other areas in the Department namely physical, Inorganic and Analytical Chemistry.

The Committee noted that the Department has been able to effectively utilise the assistance made available to it by the UGC and from the UNDP sources and as presented in the report, has made substantial progress and, therefore, has contributed to the objectives of the UGC programme in recognisable measure. A comparative statement indicating the position with regard to teaching and research as it obtained prior to the department participating in the Special Assistance Programme and as at present, as provided by the Department itself is given below:-

TEACHING

	<u>1970-71</u>		<u>1977-78</u>	
	<u>Ist year</u>	<u>2nd Year</u>	<u>Ist year</u>	<u>2nd Year</u>
1. Total student enrolment.	90	90	120	120
2. Number of teachers	6		10	

Increasing inflow of students to the Organic Division:

The number of students applying for the Organic Special course after the M Sc. first year is increasing every year. As the total number of applicants now far exceeds the number of seats, the students are selected on the basis of their performance in the M.Sc. Part I examination.

	<u>1970-71</u>	<u>1977-78</u>
Number of students (Organic Special)	32	60
Number of students securing Ist class in Organic Special.	10	20
Total number of students securing Ist class.	20	25

These students after passing the M.Sc. Examination undertake higher studies for Ph. D. degree mostly in this Department, I A. C S , I I E M and Bose Institute and some in Foreign Universities. A number of them obtain jobs in Chemical and Pharmaceutical Industries and in Undergraduate Colleges.

4. Additional Laboratory facilities and introduction of newer analytical techniques; Laboratory conditions have considerably improved. Instrumental analysis (UV, IR, NMR, Polarimeter, GLC and Microanalysis) have been introduced in the M.Sc. Organic Special Class.

5. Introduction of modern topics in Organic Chemistry:

A. New Topics

M.O. theory, Group theory, Pericyclic reactions, Linear free energy relationship, Synthetic methodology, Organometallics Spectroscopy (including ^{13}C -NMR, ORD, CD), mathematics relevant to the study of M.O. theory group theory and reaction mechanism.

B. Intensified Areas

Stereochemistry and conformational analysis, Reaction mechanism, Aromaticity, Biosynthesis of natural products, Heterocyclic chemistry, Medicinal chemistry.

6. Improvement of the standard and Quality of teaching:

Quality and Standard of teaching have significantly improved (of recent question papers).

7. Facilities for the students after completion of the Post-graduate studies:

Since more research facilities are available in the Department at present, more research students are being admitted.

RESEARCH

	<u>1966-71</u>	<u>1972 till date</u>
1. Research publications:		
Papers	105	142
Abstracts of papers presented in the National and International Symposia and Conventions.	15	100
2. Average number of Research Scholars: Total	30	60 (From different universities in West Bengal and of other states)
Full time	20	40
3. Ph.D. recipients	25	35
4. Distinguished visitors	23	55
5. Symposium held	-	2
		A. Chemistry, Biochemistry and Biogenesis of natural products held on August, 1975
		B. Recent Trends in Organic Chemistry held on March 1978.
6. Additional Library Facilities:		
i) Name of the Journals:	Experientia, Tetrahedron, Tetrahedron Letters, Phytochemistry, J. Heterocyclic Chemistry, J. Med. Chem, Pure and Applied Chemistry, Coli, Czech. Chem. Comm, Quarterly Review and Index Chemicus.	

* All these journals including back volumes were subscribed, when Special Assistance Programme was initiated, out of non-recurring and recurring grants. Due to lack of funds only Index Chemicus and J. Heterocyclic Chemistry are being subscribed.

B. Books: More than 250 books on various current topics on Organic Chemistry have been added.

7. Newer areas of Research undertaken now:

- i) Plant insecticides - insect repellants and attractants, antifeedants, insect pheromones, and phyto-ecdysones.
- ii) Plant growth regulators.
- iii) Cycloaddition reaction.
- iv) Carbon- 13 NMR spectroscopy of complex molecules.
- v) Synthesis of Natural Products.
- vi) Organometallics.
- vii) Applications of G.C. in isolation of natural products.
- viii) Synthesis of Drugs as potential cardiovascular, anti-cancer and antileukemic agents.
- ix) Chemistry & Biochemistry of lipids isolated from diseased tissues.
- x) Transformations of phytochemicals to drugs and other compounds of economic importance.
- xi) Industrial chemicals (Know-How development)
- xii) Studies on B-adrenergic blocking agents.
- xiii) Anti convulsants.

8. Areas of research pursued earlier, now being intensified:

- i) Screening of Indian medicinal plants.
- ii) Elucidation of structure and stereochemistry of new natural products namely, alkaloids, terpenoids and polyphenolics etc.
- iii) Studies on transformation reactions of natural products.

9. Industrial problems:

- a) Development of economical processes for the production of
 - i) Berberine from Berberis aristata.
 - ii) Ajmalicine (β -yohimbine) from Catharanthus roseus
 - iii) Menthol from the waste liquor of Mentha arvensis
 - iv) Citral from lemon grass.
 - v) Geranoil from Java Citranella.
 - vi) Citronellol from citronellal.
 - vii) Dehydrocholic acid from Ox-bile.
 - viii) Morphine from Poppy shell.
 - ix) Quinidine from quinine.
- b) Development of emulsion stabiliser for the preparation of skin moisture riser (Tuhina)
- c) Standardisation of Silica Gel for TIC has also been achieved.

10. UNDP (UNESCO) Assistance:

The Department has also been participating in UNDP(UNESCO) assistance programme for the improvement of teaching and research activities in terms of the R & D needs of the country.

It is, therefore, evident that over the last six years the Department has given due attention to the modernization of the courses of study at the Postgraduate level and has introduced several useful areas of training including instrumentation techniques relevant to the fast emerging area in Physical Organic Chemistry and Chemistry of Natural Products. The theoretical courses have been upgraded keeping in view the suggestions made by the visiting experts and include the following:-

1. Reaction mechanism, conformational analyses, stereo-chemistry and absolute configuration;
2. Molecular orbital theory as applied to Organic Chemistry, Aromaticity, Huckel Theory, Reactivity Indices, Elementary Group theory, Pericyclic reactions and self Consistent Field theory;
3. Theoretical Organic Chemistry;
4. Use of Mass, NMR (^1H and ^{13}C) IR and UV spectra, ORD and CD studies in structural elucidation of natural products (terpenoids, alkaloids and polyphenolics);
5. Biosynthesis of Natural Products;
6. Current Literature on stereospecific synthesis of Natural Products interesting from mechanistic point of view(Up-to-date);
7. Synthesis and transformations of specific oxygen and nitrogen heterocycles including diazepines);
8. Chemistry and Biochemistry of Nucleic Acids;
9. Chemistry and Biochemistry of Lipids;
10. Chemistry of Antibiotics and Vitamins and their biochemical roles;
11. Techniques of Gas Chromatography;
12. Heterocycles as intermediates in Organic synthesis;

13. Organometallic compounds, their chemistry and applications in organic synthesis;
14. Reactive intermediates - carbenes, nitrenes, arynes and carbonium ions;
15. Mechanism of drug action and drug design;
16. Physical organic chemistry.

Similarly the programmes of research implemented during the period under review covered the following topics:-

1. Chemical investigation of various Indian medicinal plants with a view to elucidating chemotaxonomic relationship between plants of different genera.
2. Elucidation of the structures of chemical compounds such as terphenoids, alkaloids and polyphenolics etc. isolated from various botanical species.
3. Elaboration of their stereochemical features wherever possible.
4. Studies on transformation reactions of phytochemicals with the application of new reagents.
5. Synthesis of some natural products isolated from plant sources with special reference to diterpenoids, isoquinoline and furoquinoline alkaloids, alkalamides, coumarins, kawalactones, flavonoids and lignans.
6. Chemistry and biochemistry of lipids isolated from diseased tissues.
7. Development of analytical methods of studying organic and bio-organic compounds.
8. Synthesis of drugs as potential anticancer agents.
9. Organometallic Chemistry - use of organometallic salts in the synthesis and transformation of organic compounds.
10. Photochemical transformations of heteroaromatic betaines, lignans and terpenoids.
11. Chemistry of natural pesticides.

12. ¹³C- NMR Spectroscopy of complex molecules.
13. Industrial chemical (Know-How development)
14. Studies on B-adrenergic blocking agents

The above teaching and research work has been carried on by a viable group of 2 professor, 3 Readers, 8 Lecturers, 11 supporting technical staff and a large number (about 60) of research workers. The department has also undertaken a number of sponsored research projects from U.G.C., C.S.I.R., I.C.A.R , State Government of West Bengal and Industries associated with Drug Research and Indian medicinal plants.

The student enrolment figures include intake annually of 120 students to the M.Sc. class of which 40 students are allowed to take the specialisation of Organic Chemistry and about 60 students working for their Ph.D. degree in the area of Chemistry of Natural Products. During the period 1972 to 1977, 30 thesis have been accepted for award of Ph.D. degree and one of the staff members has also received his D.S.C. degree.

The Department has built up its infrastructure facilities required for its teaching and research programmes and presently has a good library with essential text books, reference books, back volumes of journals and currently subscribes to most of the major journals in the area of Organic Chemistry with particular emphasis on Chemistry of Natural Products. With the UNIP assistance, the Department has acquired the following instrument facilities and

the accessories for the varian ~~6t~~-20 mmr-spectrometer.

1. One Varian UV-Visible Spectrophotometer (model 634-S) with accessories.
2. One Pye Unicam SP 1025 Infrared Spectrophotometer with accessories.
3. One Pye Unicam GCV gas chromatograph with accessories.
4. One coleman Carbon-Hydrogen Analyser (model 33) with accessories.
5. One Perkin Elmer Electronic polarimeter (Mode. 241) with accessories.
6. One Parr Hydrogenator.

It has had benefit of consultant services of Prof. W. Parker and Professor E. Wankert. Two Senior and Two Junior staff members visited universities and institutions abroad for purposes of consultation of specific training in Advanced techniques. The Senior technical supervisor incharge of the Instrumentation facilities underwent training abroad at Varian AG, Zug, Switzerland, Pe Unicam, U.K. and Perkin-Elmer (F.R.G). He also spent some time in the Department of Chemistry, University of Stirling, working with Professor W. Parker, After returning he has set up the new instruments purchased under UNDP Assistance and ensures their proper maintenance and operation. He now assists the postgraduate (M Sc.) and Ph.D. students in their analytical work. As a result of Mr. Acharyya's constant supervision the Department has been able to offer instrumental facilities to several other Universities and Research Institutions and Industries all over India.

The department has established collaborative research work with a number of universities and research institutions in India as well as abroad. This has resulted in making use of the facilities available in these Institutions for programmes of mutual interest and also visits by visiting scientists for short or long periods to the Department and the faculty members also visiting such Institutions for consultation etc. The department has been able to organise seminars and symposia during the period; as for example, a symposium on Chemistry, Biochemistry and Biogenesis of Natural products in August, 1975 and another symposium on Recent trends in Inorganic Chemistry in March, 1978. The Department organises regularly weekly seminars on Advanced topics in which staff and research workers participate. Colloquium on the Chemistry and Biosynthesis of Natural Products, Synthetic Organic Chemistry, Organometallic compounds, Application of New Reagents and Use of Physical Methods in the determination of structure and absolute configuration of organic compounds, has been organised current problems and research progress made by the researchers are frequently discussed by the staff and research workers.

The Committee noted with satisfaction the important contributions made by the Department in the isolation and elucidation of structure of a variety of new and novel plant products. However, this by itself is not adequate to transform the department into a modern one competent to teach and guide students into areas of organic chemistry which offer new challenges. To mention a few, organic photochemistry,

elucidation of reaction mechanisms, stereospecific syntheses of complex natural products, syntheses of totally new structures which offer insights into new concepts such as Woodward-Hofmann rules, or throw light on factors like steric or electronic interactions. Unless there are active groups carrying out research in atleast a few of these modern areas, the claim to have modernised the teaching of organic chemistry would be hollow, based as it would be on third-hand source material. The committee would urge the department to
.....
take immediate steps to initiate research in some of the modern areas. The committee hopes that the suggestions made in this regard by the Advisory Committee and also the UNDP evaluation mission would be duly implemented by the Department.

The Advisory Committee in the Department has functioned effectively and has made necessary suggestions for the effective utilisation of the assistance available to it and in developing its academic activities. The committee, however, felt that there was a prevailing feeling in the department that the special assistance programme has been exclusively used by the Organic Chemistry group only and the other sections of the Department have neither had the benefits use of facilities nor opportunities for participation in any of these activities taken up by the Department.

On the basis of the above evaluation the present committee has come to the conclusion that the inclusion of this Department by the UGC in its programme of Special Assistance to selected departments and the UNDP support was justified and the Department has earned this recognition as evidenced by the contribution.

The committee, therefore, recommends that this department may be given continued support under the programme of Special Assistance to Selected Departments for another five years at the end of which, based on the evaluation to be made then, the question of upgrading the department into a centre of advanced study could be considered at that stage. The Committee has briefly discussed the requirements of the department over the next five years and generally agrees with the approach. The department could, however, indicate its precise requirements within the ceiling grant to be made available to it for the period 1979-84, under the special assistance Programme.

The Committee wishes to record its thanks and appreciation to Professor (Mrs.) A. Chatterjee and her colleagues for facilitating the work of the Committee.

Annexure - I

Grant approved by the University Grants Commission under the Special Assistance Programme to the Department of Pure-chemistry, Calcutta University

I. Non-Recurring

1.	Building	Rs.2,00,000/-
2.	Equipment	Rs.3,50,000/-
3.	Books & Journals	Rs.1,00,000/-
4.	Furniture for laboratory and library	Rs. 50,000/-
	Total:	<u>Rs.7,00,000/-</u>

II. Recurring

1. Academic staff

a)	Professor	One
b)	Readers	Two
c)	Lecturer/R.A.	Two
d)	Senior Research Fellows	Two
e)	Junior Research Fellows	Two
2.	Technical/workshop staff	Rs.20,000/-p.a.
3.	Books & Journals	Rs.10,000/-p.a.
4.	Chemicals & Glasswares etc.	Rs.20,000/-p.a.
5.	Contingencies	Rs. 5,000/-p.a.
6.	Seminars	Rs.10,000/-p.a.
7.	Visiting Fellows	Rs.10,000/-p.a.

R E P O R T
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF PHYSICAL CHEMISTRY
MADRAS UNIVERSITY
MADRAS

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

The Report of the Assessment Committee to the Department of Physical Chemistry, Madras University for the work done under the Special Assistance Programme.

The University Grants Commission on the advice of the standing committee for the programme CAS/DSA invited the Department of Physical Chemistry, Madras University for participation in the programme of Special Assistance to Selected Science Departments in 1972, as per general policy the period of assistance was extended up to March, 1979, and the work of the Department was to be assessed by an expert committee to decide about further assistance during the 6th plan period.

As per this policy the expert committee consisting of:

- (i) Professor R.D. Patel, Sardar Patel University.
- (ii) Professor A.B. Biswas, I.I.T, Bombay.
- (iii) Shri A.G. Deshmukh, Education Officer, U.G.C.

visited the Department of Physical Chemistry, Madras University on 27th January, 1979. The committee had detailed discussions with Professor R. Ganesan, Head of the Department and all the staff members. The committee also met the Vice-Chancellor, Madras University.

The earlier expert committee which visited the Department in 1970 has recommended that assistance may be provided to this Department for strengthening teaching and research activities in Polymer Chemistry. The committee has also made specific

suggestions for improvement of teaching and research activities.

The recommendations is reproduced below:

"In order to sustain the research programmes it would be desirable for the Department to develop a viable teaching programme also in collaboration with the sister departments in Chemistry located in the A.C. College. The course of study could provide sufficient scope for emphasis on Polymer Chemistry in the second year M.Sc. class. The Committee is of the view such a viable M.Sc.

Chemistry course would be better than having a post M.Sc. course /duration in High Polymers. A balanced course should include besides of a year / Polymer Chemistry, course in Theoretical Chemistry, modern physical methods and introduce student to research methods as well".

The committee scrutinized the achievements of the Department in the light of the recommendations of this committee. The reports made by UNDP consultants were also made available for the use of the committee.

Though the special assistance was sanctioned in 1972, it was implemented only from 1975. The details of grants allocated under this programme and V Plan development schemes are given in Annexure-I.

As per general pattern prevailings in Madras University the / A regular M.Sc. course was started in 1976. / department has no regular teaching programme up to 1976. / The first year of the course is common to all three branches. Only in second year specialization in this branch is offered. About 15 students are admitted every year. Out of these about 5 students are selected for specialization in Physical Chemistry in second year. The

department also participates in part time M. Phil programme for college teachers. The classes are held in the evening. About 15 teachers are admitted every year for this course, out of these about 5 teachers take physical chemistry as a special course. Thus M. Phil. course seems to be teacher training course rather than advanced or special subject training course. The department is also operating the University Leadership Project under the College Science Improvement Programme. This was one of the departments selected for UNIP Assistance. The department was one of the departments selected for UNIP Assistance. The staff strength of the department is 2 Professors, 4 Readers and 6 Lecturers. The main areas of research interest are (i) Polymer Chemistry (ii) Chemical Kinetics and (iii) Co-ordination Chemistry. In the department at present 15 J.R. Fellows and two post doctoral fellows are working. In addition to these 16 teachers fellows are working for Ph.D. degree. The Department has produced 42 Ph.D.'s in last 25 years, out of these 9 are in last five years. The details about staff their field of specialisation etc. is given in Annexure-II.

The commission has approved four major research scheme in the department. Out of these three projects are nearing completion. One project approved in 1976 has not yet been started for want of laboratory space. The Department has been provided two additional rooms in the same building but these have not yet been fitted with laboratory fittings and furniture and hence the problems of space's acute.

Soon after the special assistance programme was approved Prof. Santappa took over as a Director, Central Leather Research Institute. Till July, 1977 he was working as a head of the department in addition to his assignments in the C.L.R.I. He was not able to give adequate attention to the development and sustaining of the work of the department. The programme could not be implemented till February, 1975.

Since 1976, an M.Sc. course were started by Madras University. In view of some administrative and financial difficulties some part of assistance available under this programme was used for meeting the general needs of the department. The department also took up the teacher fellowship programme. It also started evening M. Phil. programme. With taking up of all these programmes nearly simultaneously the department had to face the problem of meeting the ever increasing running expenses of the department, without much increase in allocations from the university. The department has to use to a part of recurring allocations from special assistance programme for this purpose.

Professor Santappa has recently left the directorship of CLRI to take up the post of Vice-Chancellor, Sri Venkateswara University, Tirupati and the committee could not obtain his views. Dr. Natarajan other active research worker was transferred to University P.G. Centre. This has considerably weakened the Polymer Research Group in the department. A separate institute of Polymer Science was inaugurated

by the earlier Vice-Chancellor in the recent past. As per policy of the commission that special assistance is not to be used for starting separate units in a department, this was not accepted by the commission. The members of the Polymer group raised this point in discussions with the committee, and suggested that a separate department may be started for polymer research. The committee discussed this point with the Vice-Chancellor also.

The Madras University has four separate chemistry departments in (i) Physical (ii) Organic (iii) Inorganic and (iv) Analytical Chemistry. Individually no department can be judged as a strong department though the entire chemistry group in the University could be considered as potentially a good group. The teaching and research programmes in the university have not been able to present a coherent picture.

The department has conducted three all India seminars. The department is operating the University Leadership Project under the College Science Improvement Programme since 1976. Under this programme some books, equipment and models have been supplied to colleges. A number of workshops, Orientation courses were conducted for college teachers. The department has invited teachers from other universities, and research workers from industrial concerns as visiting fellows.

The Department has been undertaking research work in following areas.

- I) Polymer Chemistry: (1) New Thermal and Photo Chemical initiators for vinyl polymerisation, (ii) Electrochemical initiators,

(iii) Synthesis of new vinyl monomers, (iv) Effect of surfactants on free radical polymerisation, (v) Graft Copolymers, (vi) Condensation Polymers, (vii) High temperature and conducting polymers, (viii) Cationic Polymerization.

II) Photochemistry: (i) Solar energy conversion and photogalvanic potentials, (ii) Photochemical initiators.

III) Chemical Kinetics: (i) Catalytic properties of ion exchange resin, (ii) Metal complexes and their reactions, (iii) Oxidation by Mn(III) acetate, (iv) Halogenation Kinetics.

IV) Co-ordination chemistry: (i) Preparation and Characterisation of complexes of metal ions of biological importance.

The Laboratories are reasonably equipped for the research programmes being operated. The UNDP assistance has helped the department to add some good modern equipment. The committee noted that the UNDP/UNESCO evaluation mission has not recommended any further assistance to this department. The committee generally agreed with the comments made in the mission report that the research efforts of the department are still at an elementary level. The department has not been able to establish close links with industries and orient its programme to suit their needs. It is also not clear how far the present co-operation with CLRI would continue in the absence of Prof. Santappa. The UNESCO consultants have commented adversely about inbreeding in the department and also about standard of research publications.

The polymer study has been undertaken at very few centres in India and being meagre as well as academically developing, useful and active subject, needs to be nurtured initially, so that it can enlarge and maintain itself independent of U.G.C. help in future to have strong impact on the society in general and industry in particular.

. . . . In the present conditions the committee recommends that the department be given departmental assistance or the polymer group could be supported by the commission to undertake good research project.

Merging of the branches of chemistry in one department seems to be a cry in wilderness but if it occurs one can definitely think of continuation of present special assistance or even more.

Annexure I

Assistance made available under special assistance programme

Non-Recurring Grant

<u>Sl.No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Equipment	Rs.3,00,000/-
2.	Books & Journals	Rs. 50,000/-
3.	Lab. fittings & furniture	Rs. 50,000/-

Recurring Grant

1.	Books & Journals	Rs. 10,000/-p.a.
2.	Chemicals	Rs. 20,000/-p.a.
3.	Contingencies	Rs. 5,000/-p.a.
4.	Visiting Fellows	Rs. 10,000/-p.a.
5.	Seminars	Rs. 10,000/-p.a.

6. Staff Post sanctioned

i)	Professor	1
ii)	Readers	2
iii)	Lecturers/R.A's	2

(b) Research Fellows

i)	Senior	2
ii)	Junior	3 p.a.

(c) Technical

i)	Sr.Tech. Secy.	1
ii)	Tech. Lab. Asstt.	1
iii)	Lab. Attender	1

II. Allocations under V Plan development schemes.

Equipment Rs.2,00,000

III. UNDP/UNESCO assistance \$40,000

Equipment \$ 40,000

Constantal Two

Training Fellowships Four

IV) University Leadership Project under COSIP

i)	For Departmental needs	Rs.7,79,000
ii)	For college requirements	<u>Rs.2,21,000</u>
	Total:	<u>Rs.10,00,000</u>

V) U.G.C. Supported Research Projects

Four research projects involving about Rs.3,33,900/-

Appendix-II

List of staff members - Department of Physical Chemistry, Madras University

Sl. No.	Name	Field of specialization	No. of papers published since 1974	No. of research students
1)	Prof.R. Ganesan (Head)	Chemical Kinetics	9	8(including 2 post doctoral)
2)	Prof.H. Kothandaraman	Polymer chemistry	13 papers 2 books.	7
3)	Dr.M.L. Nanjan (Reader)	Chemical Kinetics	6	3
4)	Dr.K. Venkaturao(Reader)	Polymer Chemistry	4	(one Ph D. awarded)
5)	Dr.T. Balkrishnan (Reader)	" "	11	7
6)	Dr.A. Meenakshi (Reader)	" "	5	2
7)	Dr. Mrs. S. Saccubai	" "	1	2
8)	Dr. V.R. Vijayaragharan	Coordination chemistry	3	3
9)	Dr. R.M. Sburamarian	Chemical Kintics	2	-
10)	Dr. S. Vishwanathan	Chemical Kinetics	-	2
11)	Dr. A. Raghavan	Inorganic Reactions Mechanices	1	-
12)	Dr.(Mrs.)S. Kumarasmy	Electrokinetics	-	-

UNIVERSITY GRANTS COMMISSION

Report of the Evaluation Committee appointed to assess the work of the Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore under the Special Assistance Programme.

The University Grants Commission invited the Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore to participate, with effect from 1st April, 1972, in the UGC Programme of Special Assistance to Selected Departments. In accordance with the policy for evaluating the work of such departments, the Commission appointed a Committee consisting of the following members to visit and evaluate the work done and make necessary recommendations in terms of the reference specifically prescribed for the Committee:-

1. Professor K.S.G. Doss
Former Director
Central Electrochemical Research Institute
Karaikudi
2. Professor A.B. Biswas
Indian Institute of Technology
Bombay. and
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

The Committee visited the department on 30th September, 1978. It held discussions with the faculty and research workers of the department keeping in view the detailed technical report made available for use of the Committee and the presentations made with regard to different areas of work by the group leaders in the

department. The Committee also had discussions on the overall activities currently in progress and the future plans of work envisaged and the support requested for the purpose.

The Department of Inorganic and Physical Chemistry was invited to participate in the UGC's Programme of Special Assistance to selected departments in April, 1972 on the basis of the recommendations made by a Committee which considered the standing of the department and its potential for growing into an active centre for teaching and research in the areas of Electrochemistry, Molecular Structural Chemistry and related areas in the Physical and Inorganic Chemistry. The funds made available for strengthening the activities of this department included a capital grant of Rs 8.5 lakhs for equipment, books and additional laboratory facilities and a recurring assistance for appointment of one Professor, two Assistant Professors, seven Research Fellows and three Supporting Technical staff besides provision for annual expenditure of Rs.60,000/- for chemicals, books and journals, expenditure on visiting fellows, seminars, contingencies etc. The activities of the department undertaken under this programme were reviewed continuously with the help of an Advisory Committee which included the members of the present Committee also. The department was also included in the UNDP Programme of Assistance through which the department was able to obtain substantial assistance for purchase of sophisticated equipment and also services of consultants as well as fellowships for its staff members to visit and work in

institutions abroad engaged in research in the areas identified under the Special Assistance Programme.

The department with its faculty of seven Professors, three Associate Professors, seven Assistant Professors, one Principal Scientific Officer, two Lecturers, two Scientific Officers besides a considerable number of technical assistants, research project assistants and research associates is one of the very active and viable groups engaged in teaching and research work in the five board areas of physical and Inorganic Chemistry, viz, (1) Molecular Structure, (2) Electrochemistry, (3) High Energy Solids, (4) Polymer Chemistry and (5) Inorganic and Mineral Chemistry. The department has currently 71 students registered for the Ph.D. degree including 45 fellowship holding regular students and three interdisciplinary students from other departments. Under the Faculty Improvement Programme, the department has admitted 9 college teachers as teacher fellows working towards Ph.D. degrees. Similarly under the various research projects, ten project assistants and eight external students are also registered for their Ph.D. work in the department. The faculty participates in the institute teaching programme and gives a series of courses to its ^{own} students as well as students from other departments from both science and engineering faculties. It has also organised a number of specialised institutes in the areas of Coordination Chemistry, Chemical Spectroscopy and Crystal Chemistry and will soon organise a Symposium on 'Structure, Bonding and Reactivity of Inorganic Compounds'. The research

infrastructure facilities available in the department are reasonably adequate and modern with instruments like Visible and U.V. Spectrophotometer, Carbon-hydrogen analyser, X-ray diffraction Units, Automatic DTA and IGA Units and also the Chlorine-35 NQR Spectrometer constructed by the staff. Under the UNDP Assistance, the department has obtained some sophisticated equipment as well as high activity chemicals required for its research programmes. The output in the past ten years includes 77 thesis for Ph.D. degree and over 600 research papers including 62 thesis and 450 research papers since April, 1972. In addition, the staff have also written nine books for use by students and research workers.

The department is one of the very active centres for industrially sponsored research programmes and collaborative research work with other R & D institutions in India as well as abroad. These programmes are of an interdisciplinary nature and include 19 programmes taken up in collaboration with other departments of science and engineering within the institute, four research projects in collaboration with other universities in India and ten research programmes in collaboration with foreign institutions and universities in U.S.A., U.K., Italy, Mexico, Czechoslovakia and Greek. One such major project undertaken in collaboration with Birbeck College, London through the collaboration of UGC and the Ministry of Overseas Development, U.K. relates to the preparation and industrial testing of phosphorus-Nitrogen Compounds known as

Phosphazenes, which have widest potential application in agriculture as 'Ultra high capacity fertilisers, and in textile industry as flame retardents as well as in other industries. It has also undertaken two projects each in collaboration with the National Aeronautical Laboratory and Defence Research and Development Laboratory and another major project with the Indian Space Research Centre in the area of Rocket Solid Propellants. In fact the major part of the support of research activity in this department is through such sponsored research programmes amounting to over Rs. 35 lakhs in the past five years.

Under the UNDP programme, two senior and two junior staff members obtained specialised training in the areas of Electrochemistry, Geochemistry, Bioinorganic Chemistry and Solid State Chemistry and Institutions in U.K , U.S.A , Canada and West Germany. The consultants services made available by visits of Dr. M.M. Faktor from U.K. and Dr. John Bagg from Australia helped in initiation of programmes in the areas of Electronic materials and Electrochemistry particularly with relation to growing of crystals of gallium arsenide and cadmium sulphide and theory and applications of Ion-selective electrodes.

The department has taken active interest in curriculum development activities in collaboration with the neighbouring University institutions although it does not presently participate in any programme like the COSIP. It has nevertheless developed an active programme in continuing education in areas of

industrial consultancy as well as by organising symposia, summer institutes, extension lectures, inservice training and faculty improvement programme for college teachers. It has also taken up a programme for the improvement of science education in high school at the sponsorship of the Government of Karnataka.

The Committee is happy to note that the research activities currently taken up by the department are in conformity with the directions provided by the growth of international science, the relevance in the national context and based on the competence and expertise and facilities available within the department. The earlier research programmes which have ceased to be challenging have been discontinued and de-emphasised to a large extent, to make room for newer areas of fundamental and application value in inorganic and physical chemistry. As indicated in the report, the UGC support has made it possible the nucleation of certain activities like theoretical electrochemistry and bioinorganic chemistry besides strengthening programmes in the area of High Energy Solids. It also enabled establishment of facilities for studying (a) the mechanism of polymerisation-copolymerisation, metal ion-nucleic acid nucleotides (and bases) interactions, etc., (b) the synthesis of high energy polymeric propellant binders, the decomposition kinetics of high energy materials, the mechanism of combustion of solid propellants and (c) electrode, Kinetics with special reference to corrosion and battery systems. The acquisition of equipments like ultracryostat and

fluorodruck minderer, Guinier Camera and other accessories has promoted investigations in fluorine chemistry and X ray crystal structure studies respectively.

Brief comments about the major areas of research in work in progress and indicated below:-

(1) Chemical Analysis and Instrumentation: This includes analysis and characterisation of materials, mineral chemistry and geochemistry and developmental work leading to instrumentation. A number of instruments have been fabricated within the department for purposes of study/physical properties and for obtaining analytical data. These include (a) Ultrasonic pulse interferometer, (b) Complex plane polarograph, (c) Chronopotentiometer, (d) Battery discharge programme adapter, (e) Function generator, (f) Electroplating thickness tester, (g) Constant current regulator, (h) Regulated power supply units for linear integrated circuits, (i) 0-30V, 1^A regulated power supply, (j) Instantaneous corrosion ratemeter, (k) Impedance bridge, (l) Impact Sensitivity measurement, (m) Manual TGA and DTA units for the work in vacuum and controlled atmosphere, (n) A high temperature metal reactor and low temperature vacuum filtering unit, (o) Chlorine-35 nuclear quadrupole resonance spectrometer.

(2) In the area of Molecular Structure and Structural Chemistry approaches include Dipole moments, NQR Studies on coordination complexes, Vibrational spectra analysis, X-ray single crystal

structural analysis, Structural studies on the molecular complexes of macrocyclic polyethers, Coordination Chemistry of the complexes of the transition metals and Structure and Stereo-chemistry of several oxovanadium compounds have also been undertaken.

(3) In the area of Quantum Chemistry, both theoretical studies as well as electronic structure of biological importance, molecular have been undertaken. Similarly in chemical synthesis, growth of \angle importance have been undertaken and their chemical dynamics crystals and garnets of economic \angle have been studied.

(4) The High Energy Solid Group has taken up work on chemical thermal decomposition and material science with particular reference to propellants and their ageing properties. These relate to synthesis, and study of mechanisms, role of binders in propellant combustion, photodegradation and flammability of polymers and other aspects of solid state chemistry of new materials.

(5) In the area of theoretical electrochemistry, some very significant programmes have been developed and this group has the potential of growing into one of the leading schools in the area of theoretical electrochemistry in the world and has made worthwhile studies encompassing both phenomenological and microscopic, Faradaic and non-faradaic, including the membranes and porous electrodes with adequate and proper laboratory facilities. This group can become a most important centre for study of fundamental electrochemistry in the area of (a) double layer and absorption analysis, (b) electrochemical

relaxation techniques, (c) electrocrystallisation & (d) Biomembranes.

The Committee therefore specifically recommend that this group should be strengthened into a viable group and be provided necessary experimental facilities which may cost about Rs.2.5 lakhs and essential working expenses for chemicals and glasswares etc.

(about Rs.25,000 p.a.).

(6) Studies on minerals and their utilisation for the development of indigeneous industries has led to an active group in geochemistry engaged in analysis of archeungold field volcanoes, orogenesis etc. in collaboration with the Minerological Institute, University of Mysore and the Geological Survey of India etc. This group also has the potential to take up problems of economic importance in Mineral Chemistry and Geophysics of Rare Earths etc.

(7) The group interested in Application of Science and Technology to Rural areas (ASTRA) has taken up extension work but the Committee could not meet this group for a detailed discussion of their activities.

Based on the above assessment, the Committee is happy to record that the department has well utilised and in fact earned the recognition and assistance from the University Grants Commission and has made distinct contributions in its special areas and has taken up programmes in some of the new horizons in Chemistry. On the basis of its viability, facilities and the future plans of work, the Committee would like to recommend

not only continued support to this department over the next five years under the Special Assistance Programme but also the possibility of upgrading it into a Centre of Advanced Study as well. One of the lacunae however would be the absence of a regular Master's degree level programme of a high quality which could serve as ^a model to other institutions and which this department is capable of organising by utilising the high talent and expertise available in the department. If this could be set right, the department could certainly function as a Centre of Advanced Study and interact vigorously with other institutions also. The Committee has also scrutinised the future plans and ^{the} requirements as indicated in the proposal and feels that these are based on well considered needs and could be developed on a phased basis from the general development grants as well as the grant within the amount to be made available to the department as per ceiling grants to be prescribed by the Commission either under the Special Assistance Programme or under the Centre of Advanced Study Programme over the next five years. The Committee would also like to suggest here that besides strengthening the existing groups particularly the one in theoretical electro-chemistry and high polymer group as well as molecular structural chemistry, the group should further strengthen its interaction with the solid state structural chemistry group led by Professor C.N.R. Rao within the Institute. Such interaction would help considerably to raise the level of research effort and lead to significant contributions in the five major areas currently in operation within the department.

The Committee is grateful to the faculty of the department for the facilities provided for its work.

REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF BIO-CHEMISTRY
LUCKNOW UNIVERSITY
LUCKNOW

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

Report of the Expert Committee appointed to evaluate
the work done by the Department of Biochemistry,
Lucknow University under the Special Assistance Programme.

A committee consisting of the following members was appointed by the Commission to evaluate the contributions to teaching and research made by the Department of Biochemistry, Lucknow University since its participation in the Programme with effect from 1st April, 1972.

- (1) Professor V. Jagannathan
National Chemical Laboratory,
Poona.
- (2) Professor C.S. Vaidyanathan,
Indian Institute of Science,
Bangalore
- and (3) Dr. D. Shankar Narayan,
Additional Secretary,
University Grants Commission.

The Committee visited Lucknow on 23rd December, 1978. The Committee met with the Head of the Department and staff members and research workers in the department, visited the different laboratories and had discussions with regard to the teaching and research programmes and assessed the contributions made by the department as well as future directions of work keeping in view the stage of development reached at present with the utilisation of the funds made available to it by the University Grants Commission during the past six/seven years and also supplemented by the UNDP Assistance Programme. The Dean of the Faculty of Science also met the Committee during these discussions.

The Department of Biochemistry, Lucknow University was invited by the UGC in April, 1972, to participate in the Programme of Special Assistance to Selected Departments. The long term objectives of this Programme are to bring about a modernization and quality upgrading of both training and research programmes in selected university departments to provide necessary support for growth of the R & D potential of value to the national developmental needs and thereby to establish viable schools of teaching and research in the subject, capable of interacting and contributing to the upgrading of the disciplines in the university system as a whole. In keeping with these objectives, the UGC made available to the department capital grant of Rs. 5 lakhs and recurring grant of Rs.55,000/- per annum for working expenses, books and journals etc., besides creating additional posts of two readers, two lecturers/ research associates, four technical staff positions and appointment of a number of post-doctoral and pre-doctoral research fellows.

Prior to the visit of the Expert Committee, the department had prepared and made available to the Committee a detailed report of the work done by it since 1972, indicating the teaching and research programmes as well as other academic activities undertaken by it, output of trained personnel, research contributions and publications and also the impact of utilization of the assistance available to it. Besides this report, the Committee also had an opportunity to look into the reports made by the consultants who spent considerable periods in this department under the UNESCO Programme during the past three years.

The department has a staff of one Professor, four Readers, four Lecturers, four Technical Supporting staff and twelve research fellows. The department has a Master's degree teaching programme and as judged from the ultimate success of the majority of the students going in for employment as well as for research in India as well as abroad and from the nature of training provided, the Committee is of the view that the teaching programme is not only modern but adequate to provide training in both fundamental aspects of Biochemistry as well as leading them on to specific areas of R & D importance. The teaching load of each of faculty members is currently excessive and so is the total amount of laboratory instruction provided to the students. All this obviously point to the need for speedy appointment of additional teaching staff positions available to it from plan resources and from the Special Assistance Programme as well.

The conspicuous breath of interest which exists in the instructional programmes of the department is also expressed, to some extent, in the great range of research topics under investigation by the Ph.D. students. As was envisaged at the time of inviting this department to participate in this programme of special assistance, increasing emphasis is being given to research topics in the biochemistry of Host-parasite relationships. Carbohydrate metabolism in plants, especially as related to development of nutritional tissues, extends the department's overall emphasis on Plant biochemistry. However, work in animal biochemistry continues and involves the study of both mammal and insect

enzyme systems as well as medically-related areas of mammalism and human fertility, and diabetes. Several of these investigations have been initiated very recently and it is difficult at this stage to make an assessment of the quality of work. Individual faculty research projects, as distinct from those involved in the training of Ph.D. students, are not many in number. During earlier years in this department, prior to its present leadership and special assistance from U.G.C., there was a tendency to confine research to rather detailed and exhaustive characterisation of enzymes and enzyme systems. Although these systems were drawn from a wide variety of animal and plants tissues, there nevertheless existed a sameness in the techniques employed and the scientific approach to investigation and experimentation. This is understandable in light of the then severe limitations of equipment. This has been offset to a large degree by the current availability of a wider range of equipment.

The department of Biochemistry has also been encouraged to initiate a programme of study leading to the M. Phil degree and the department has formulated the academic plan for this purpose. Current staff limitations seem to preclude the introduction of the programme at this time. The M.Phil programme, intermediate in level between the M.Sc. and the Ph.D. would involve an in-depth study of selected areas of biochemistry with emphasis on current research literature. Courses in Clinical Biochemistry, Advanced Topics in Plant Biochemistry and Microbial Physiology and Biochemistry would form the back bone of the programme. The M. Phil students would be expected to conduct a literature review of selected research topic, engaged in some project

work which may serve as basis for further experimental research ultimate leading to the Ph.D. degree. Although in content, the M.Phil programme seems academically sound, the value of this intermediate level programme has to be weighed in the light of the country's needs for professional people at this level either for teaching or for research purposes.

The present intake of 20 to 25 students at the M.Sc. level appears adequate keeping in view the infrastructure facilities and staff available in the department. As mentioned earlier, the position of staff would need to be considerably improved in relation to the overall activities of the department. The number of Ph.D. awarded since 1972 is 11, with an average of about 2 Ph.Ds each year. The output of research in the form of research papers and monographs has been substantial. About 35 papers published so far and in good quality journals. The major equipment items purchased through the Special Assistance Programme and through the UNDP Assistance have permitted the general upgrading of research, through better sample preparation and analysis, of the topics of enzymology which has had previously been well developed within the department. The acquisition of this equipment has also brought about a further degree of sophistication of research and competitive in quality with other leading departments. The significant amongst this is the refinement in techniques particularly electrophoretic separation of proteins. A laminar-flow hood, currently on order using Special Assistance funds, represents a potential major contribution to a technical area which is new to this department. The use of tissue culture

techniques should provide the basis for rapid development in the area of host-parasite relationships. A number of planned experiments await the introduction of this techniques to the department. New studies in the biochemistry of plant propagation through tissue culture can also be initiated.

Funds derived from UNESCO/UNDP have been used for the purchase of a double beam spectrophotometer, a density gradient former, and a liquid scintillation counter. The first two items again provide for general upgrading of a wide spectrum of biochemical analysis. The latter item allows the introduction of the use of radioisotopes in the study of nearly every area of interest in the department. Very few major advancements in Biochemistry or Molecular Biology have been made during the last two decades without at some point employing the use of radioactive tracers. Most major laboratories rely almost exclusively on the use of liquid scintillation for radioactive analysis. These equipment items have only recently been received in the department and currently await final installation. Although the space provided for housing the radioactive counting equipment is adequate as a "counting room" there still remains a pressing need for one or more special laboratories where experiments which employ the use of radioactive materials can be carried out, where the samples for analysis can be prepared.

Funds provided through the Special Assistance Programme by UGC have been used to augment the University's library holdings. The list of journals maintained in the departmental reading room represent an

enviable holding. A very substantial number of the most widely read and most frequently cited journals of the world-wide biochemical community are readily available for student and faculty use. The departmental holdings are well cared for. In addition, the central library at Lucknow University provides additional holding not only in the specific field of Biochemistry but in closely related areas of biology. It is essential, of course, that additional funds be provided annually to maintain a current collection of all the journals now represented.

A summary of progress made in research since 1972 and researches being pursued are given below:

A. ENZYMOLOGICAL STUDIES IN CUSCUTA : (a) Intracellular localization of hexokinase in *Cuscuta reflexa*, (b) Purification and properties of soluble hexokinase from *Cuscuta reflexa*, (c) Solubilization, purification and properties of particulate hexokinase from *Cuscuta reflexa*.

B. ENZYMOLOGICAL STUDIES IN LORANTHUS: (a) Isolation and properties of hexokinase from *Loranthus* leaves, (b) Purification and properties of L-threonine dehydratase from *Loranthus* leaves.

C. MITOCHONDRIAL METABOLISM IN OROBANCHE : (a) Isolation of mitochondria from *Orobancha*.

D. STUDIES ON ANGIOSPERM PARASITES AND THEIR HOSTS :
(a) Alteration in phosphate metabolism in host plant parasitized by *Cuscuta reflexa*, (b) Studies on alfalfa grown after cutting

doddar infection, (c) Influence of shading and doddar infection on the content and nature of alfalfa phenolics (d) Effect on tissue phenolics of hosts on infection by *Cuscuta* species superimposed on that by *Orebanche cernua*, (e) Changes in nucleic acids composition of turnip tubers on infection with broomrape.

E. NUCLEIC ACIDS: (a) Nucleic acids distribution in *Cuscuta reflexa*, (b) Nucleic acids in *Cuscuta chiuensis*, (c) Changes in the contents of nucleases and nucleic acids in the course of the development of mistletoe seeds, (d) Nucleases and nucleic acids during maturation and after dormancy of potato tubers.

F. BIOCHEMICAL STUDIES ON BANANA: (a) Optimum conditions for extraction of enzymes from the banana plant, (b) Carbohydrate metabolism in banana plant, (c) Multiple forms of starch phosphorylase from banana leaves (d) Characterization of multiple forms of starch phosphorylase from banana fruits, (e) Properties and kinetics of multiple forms of starch phosphorylase from banana fruits (f) An allosteric starch phosphorylase from banana fruits.

G. PHOSPHOLIPID METABOLISM : (a) Likely individuality of the enzymes catalysing the phosphorylation of choline and ethanolamine.

H. MAMMALIAN BIOCHEMISTRY : (a) Threonine dehydratase from goat liver (b) L-Threonine dehydratase from mouse and rat liver.

I. ANALYTICAL BIOCHEMISTRY (a) A new colorimetric method for the determination of phenolics, (b) A source of error in the paper chromatographic identification of phytate in the presence of inorganic

polyphosphate.

The research programmes planned for the next five years are outlined below:

(i) STUDIES ON ANGIOSPERM PARASITES : (a) Biochemistry of angiosperm parasites, (b) Studies on hausterial development, (c) Studies on lipids and cell wall composition of resistant and susceptible hosts and parasites, (d) Germination studies on parasite seeds, (e) Nutritional requirement of parasites, (f) Distinctive metabolic pathways, (g) Studies on nucleic acid metabolism, (h) Studies on histones.

(ii) PLANT TISSUE CULTURE:

Tissue culture technique will be advanced to encompass the various studies on angiosperm parasites with special emphasis on *Cuscuta* and *Orobanche*, and some other plants of economic value.

Studies on parasites will be aimed at to elucidate the quality and quantity of nutritional status and the degree and nature of dependence on the host. These studies will also help in determining any specific component(s) for which the parasite is solely dependent on the host and also to elucidate the cause (s) of resistance and susceptibility or host-specificity of the parasites. Tissue culture techniques along with the principles of genetic engineering will be utilized to induce root formation in rootless parasite tissues. The introduction of plant tissue culture facility and starting of research on photosynthesis may need

inputs by way of financial grants and extra staff appointments.

The other aspect of the tissue culture technique will be develop disease resistant plants of economic value.

(iii) Biochemical studies on Banana and Tapioca,

(iv) Studies on Photorespiration and Photosynthesis,

(v) Studies on Plant proteins with special reference to the Nutritional value.

The department has been able to establish considerable interaction with other laboratories in India and abroad and has collaborative research programmes with the Industrial Toxicology Research Centre and the Central Drug Research Institute, at Lucknow in related fields. The department has also used the occasion on visits by distinguished biochemists for organising review lectures and this has had some impact on the research activities of the department.

Suggestions & Recommendations:

While the Committee appreciates the work done by this department with the facilities available to it and would therefore recommend continuation of the special assistance to this department for a further period of five years with additional inputs, the committee would also like to make certain suggestions with regard to the future lines of organisation of research effort. A department participating in a special quality improvement programme like the DSA or the CAS should essentially aim at a long range research

programme in carefully chosen thrust areas, not more than one or two and perform essentially at a post-doctoral level with the active research work being done by the academic staff members also. On the other hand, a department should not consider its Ph.D. training functions and the thesis as well as the publications resulting therefrom as the sum total of its research contributions. A department with a well defined core programme of research of a long range to which the majority of the staff have committed themselves should use its Ph.D. training functions for solving problems arising as peripheral from the core programme. This would enable participation of the research scholars also in the departmental research activity. Yet another advantage would be that the facilities to be created, particularly of sophisticated instrumentation, over a given period of time, would be with reference to such a programme rather than acquiring disparate items as and when funds become available. The department should therefore, in consultation with its staff members, and the Advisory Committee define such a core research activity for the next five years and utilise the resources likely to become available for fully supporting such a programme.

On the basis of the work already done in this department and the expertise available, it would be desirable for this department to concentrate most of its efforts towards problems related to Biochemistry and Metabolism of Angiosperm Parasites, including Host Parasite interactions and develop appropriate techniques relevant to solving the major issues in this field of importance to national

development. Any other programmes should normally be organised at individual research effort level, funded by various sponsoring agencies rather than out of the departmental resources. These should preferably in areas which would reinforce the department major research programme.

As mentioned earlier in the report, it is essential for this department to strengthen its staff positions, both academic and technical supporting staff so as to bring the overall number of academic positions to about 15 or 16 in the next five years, at least half of them in the professors and readers level. The supporting technical staff strength should be brought to about 10 positions including persons trained in Electronic Instrumentation who can maintain the sophisticated instruments within the department, and in Tissue Culture Techniques etc. The Committee understands that some items of equipment are likely to become available through the UNDP Assistance Programme.

The Committee, while recommending continued assistance to this department under the UGC's programme of Special Assistance for five more years, would like to suggest to the department that while making its proposals within the ceiling grant that may be indicated by the Commission, as well as in normal development schemes, the suggestions made above should be kept in view so that the limited resources could be well utilised and the department can establish itself as one of the major centres for research in the field of host-parasite Biochemistry.

REPORT
of
ASSESSMENT COMMITTEE
.....
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF BIO-CHEMISTRY
M.S. UNIVERSITY OF BARODA
BARODA

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002
1978-79

Report of the Assessment Committee appointed to evaluate the work of the Department of Biochemistry, M.S. University of Baroda under the UGC Programme of Special Assistance to Selected Departments.

The Department of Biochemistry, M.S. University of Baroda was invited by the University Grants Commission to participate in the programme of Special Assistance to Selected Departments on the basis of the recommendations of the Committee which assessed the stage of development of the department, its teaching and research programmes and its potential for growing into an active and viable school in the field of Biochemistry. Consequent upon this, the department was provided a non-recurring assistance of Rs.7,61,500 for laboratory, equipment and library improvement and a recurring assistance of Rs.55,000/- per annum for chemicals and other working expenses besides meeting the expenditure on the appointment of additional staff of one professor, one reader two research associates, two senior research fellows and three junior research fellows each year and five technical staff members. The department was also included in the UNESCO/UNDP assistance available to this department during the first phase for the years 1976-78.

In accordance with the general policy followed by the Commission in the case of departments participating in the programme of Special Assistance to selected departments, the Commission appointed a Committee consisting of the following members to visit the department and evaluate its contributions since April, 1972 to teaching and research and other aspects and make its recommendations to the University Grants Commission

as per terms of reference:-

1. Professor B.K. Bachhawat
Director
Indian Institute of Experimental Medicine
Calcutta
2. Professor T.A.V. Subramanian
Vallabhbhai Patel Chest Institute
Delhi
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

The Committee visited the M.S. University of Baroda on 7th November, 1978 and had extensive discussions with the university authorities and the faculty of the department on the basis of the detailed report made available by the department for the period 1972-78. The Committee also inspected the facilities, and had group meetings with the various research workers in the department, regarding their work and facilities.

The Committee, on the basis of the discussions and inspection of the facilities created with the aid of the special assistance programme and UNDP Support and the organisation of the working of the department would like to state that this department has justifiably earned the recognition as well as the support given by the UGC and has made substantial contributions to the objectives of the programme and to the development of the advanced teaching and research in the specific areas in biochemistry. The above statement is based on the detailed report which is as follows:-

The department of Biochemistry with a staff of two professors, two readers, four lecturers and two research associated has, in

recent years, organised its teaching programmes to provide for a two year M.Sc. degree programme and training at the Ph.D. level as well as the two year diploma course in laboratory techniques in the form of an inservice training programme. The staff have spent considerable time and effort not only in upgrading the syllabi and courses of study, mode of examination including continuous evaluation of the students but also in the manner of developing well defined admission tests to the postgraduate classes and for purposes of evaluation of the courses as well as teaching by the students and the faculty of the department. Admission is open to students with science degrees coming from different streams but having training at the undergraduate level in Chemistry. A comprehensive written admission test aims at testing the students for his basic knowledge of Chemistry, Biology, Physics and Micro-biology as well as his capacity for comprehension, analytical ability and interpretation of given information. The course content itself provides comprehensive training in the different areas of importance in Biochemistry, provides training in appropriate biochemical techniques and laboratory work and also enables them to design and carry out a specific project for purposes of dissertation in a chosen area of on-going research in the department. Students are / and seminars discussions, are provided with synopses of lectures carefully led on in lectures/and enabled to read original information from publications, on their own and with the guidance of the faculty members. The performance of the students is continuously evaluated and the students are given an opportunity to express their opinion, through a questionnaire

as to the value of the course content, methods of teaching and practical instruction, faculty guidance available to the students and suggestions for further improvement of the instructional programmes. The Committee would like to express its appreciation of the effective way in which the department has been able to organise this, in an autonomous manner, within the framework of the University.

The two year diploma course in laboratory techniques is offered basically as an inservice training programme of continuing education for persons, mostly matriculates, employed as technical helpers in the research projects, medical colleges and hospitals and in pharmaceutical industries. The course enabled them to acquire a basic knowledge of the theory and techniques involved in their work, to improve their skills and therefore their opportunities for promotion etc. The candidates are admitted to this evening course on the basis of the recommendation of their employers. Efforts are also made to meet the requirements of the individual students with reference to the kind of the jobs in which they are currently engaged.

The department has also brought out some innovations at the Ph.D. level to provide for a better inter-disciplinary training to the students, to encourage giving seminars on the work done by them, to participate in journal review club meetings and to work as a group by participating in the overall departmental research activities. The output of M.Sc.s during the period 1972-78 ranged from 14 to 21 and currently 18 students are in the final year M.Sc. class. In the

case of the diploma course, the output has gone up from 4 in 1972 to 9 in 1977. The number of students working towards their Ph.D. degree with the support of fellowship or in research projects is 32. During the period 1972-78, 22 Ph.D. degrees have been awarded and six others are ready for submission. The Ph.D. theses are spread in the areas of Nutrition (4), Neurochemistry (4), Microbial Chemistry (4), Food Microbiology (1), Plant Biochemistry (5) and other topics (2). Of the six theses ready for submission, four are in the area of Nutrition and one each in Food Microbiology and Neuro-Chemistry.

The research effort of the department is organised in the areas of (1) Plant Biochemistry, (2) Food Microbiology, (3) Human Nutrition (4) Experimental Nutrition, (5) Microbial Biochemistry.

In the area of Plant Biochemistry, significant contributions have been made in the organic metabolism in Plant Tissues and biochemical processes involved in ripening of the fruit, using in vitro cultures, and metabolism of plant tissues with special reference to amino acid during germination and development. In the field of Food Microbiology, specific attention has been given to (a) identification of the micro-organisms indigenously present in foodgrains, (b) their role in fermentation in the fermented foods and (c) use of fermentation procedures for preparation of fermented foods from soybean. The beneficial effects of fermentation on the digestibility and nutritive value of foods have been extremely confirmed.

The major area of current research relates to human nutrition and experimental nutrition and covers both fundamental as well as experimental field studies relating to nutrition and development. The important contributions are in the areas of (i) Studies of Human Lactation, (ii) Pattern, Prevalence and Prevention of Malnutrition amongst the children, (iii) Formulation of dietary and nutrient allowances (iv) physical growth and biochemical maturation, (v) Skeletal Development related to malnutrition and (vi) Studies on Nitrogen metabolism and psychobiochemistry.

..... In the area of Experimental Nutrition, studies in progress relate to (a) Studies on the effects of nutritional deficiency on the brain biochemistry and behaviour (b) Effects of Nutritional deficiencies on the composition of bones, (c) Immediate and long term effects of nutritional stress and the operation of adaptive mechanisms, (d) Intestinal Biochemistry in relation to nutrition. As essential support for these research activities, the department has established extensive collaboration with a number of institutions both in India and Abroad (Appendix-I). The collaboration with industry and medical colleges has helped in extensive field studies and testing of the laboratory results and for this purpose the department has established field stations in a village near Baroda, Nutrition Rehabilitation Centres in Kerala and Tamil Nadu. The collaboration also enables the scientists in industry to participate in the department's research programmes.

In the fields of Microbial Chemistry, the department has carried out work on Organic Acid metabolism in micro-organisms, certain aspects of sewage purification with reference to proteolytic and lipolytic bacteria.

The research achievements of the department can perhaps be categorized into three phases. The first phase (1955-63) was associated with the establishment of a well-recognised centre of teaching and research in the field of Biochemistry with a slant on organic acid metabolism and tissue culture and the initiation of studies in human nutrition. The next phase (1963-72) was associated with further development and expansion and a widening interest in human and experimental nutrition. This phase was associated with the department, or some of its senior members, assuming responsibility for (a) overhauling and strengthening the courses and syllabi in the Foods and Nutrition Department of the Faculty of Home Science, / programmes sponsored by the FAO/UNICEF/WHO and the Ford Foundation (b) the conduct of the Applied Nutrition/Project in the faculty of Home Sciences; and (c) six major PL 480 projects. This phase was also associated with increasing international recognition for the work done in this department, particularly for its work in the field of nutrition and neurochemistry. The third phase 1972-78 has been associated with a further expansion of the work in the field of nutrition, neurochemistry and plant biochemistry and the initiation of studies in the field of food microbiology. This period marks the selection of this department by the U.G.C. as a department of Special Assistance and its inclusion under the UNDP programme.

The results of the research have been published in the form of not only research papers in important journals but also in the form of books and monographs, international reviews on specific subjects and the contributions have been extensively cited in textbooks, reference books and annual reviews connected with animal tissue metabolism, Microbial Biochemistry, Plant Biochemistry, Brain Biochemistry and Nutrition. The department also publishes the Baroda Journal of Nutrition containing the chemical, the biological and Nutritional abstracts as well as current contents.

The department has received since 1969 substantial research support of about Rs.17 lakhs by way of US PL 480 sponsored projects and has successfully carried out these programmes. The UNDP/UNESCO Assistance available to the department enabled the department to obtain a few items of sophisticated equipment, services of consultants from U.S.A. and for training fellowships for its staff members. The research findings of their contributions to international reviews and conferences have brought, to the staff international recognition as well as some awards.

In addition to the formal teaching and research programmes, the department has undertaken (a) clinical biochemical analysis for the local medical hospitals (b) running a rehabilitation Centre as well as the outdoor clinic in a nearby village, (c) extension lectures to school children and community groups on nutrition, (d) publication in Gujarat and Tamil on the subject of nutrition literature for layman and (e) advise the local hospitals on nutrition problems.

On the basis of the discussions and the inspection of the facilities, the Committee is happy to record that this department represents a good biochemical laboratory which is well kept, well maintained and has developed infrastructure facilities in relation to the ongoing programmes of teaching and research. The Committee cannot escape mentioning that all the scientific equipment is optimally utilised available to everyone and well maintained. Similarly the animal house facilities are very well organised. The library services are effective. In the overall analysis, it would appear that there has been a very radical and favourable change in the environment in the department and a constant effort to develop facilities commensurate with its teaching and research programmes and to establish an atmosphere of free discussions and liberal methods of functioning in that department. The present teaching and research programmes of the department have been developed as a result of much dedication and perseverance on the part of the senior academic staff and in recent years, enabled involvement of the junior academic staff as well, so as to achieve "critical size" capable of developing into a major school of advanced training and research in these areas of biochemistry and nutrition.

The Committee would however like to mention the following points to which specific attention should be paid by the department, to university authorities and the State Government to enable this department to maintain its high level of teaching and research

programmes and to bring in the required level of viability of academic and research staff as well as supporting technical and administrative staff.

(1) Against the additional staff positions of one professor, one reader and two research associates, only appointments of the post of professor and research associates have been made. The post of a Reader as well as the resultant vacancy of a reader owing to promotion of one of the staff members to the professor have not been filled. The State Government assurance for taking over the recurring expenditure on staff, both academic and technical supporting staff as well as for their recurring purposes has not been given in full. The assurance has been given only in respect of the post of professor and the two research associates positions currently filled but not for the technical posts created under the Special Assistance Programme. It is absolutely necessary that the University obtains the assurance of the State Government for continued maintenance of all the posts created under the Special Assistance Programme and to take over this expenditure with effect from 1st April, 1979 and to make the present incumbents to these posts permanently. The existing vacancies should be filled immediately so that the department can function in full strength and in a viable manner. In fact such a situation of vacant posts at the time when the Fifth Plan Visiting Committee visited the department has adversely affected the department from getting additional positions required to bring it to a critical size, which in the opinion of the committee, should be atleast

16 faculty members at different levels with a ratio of 1:1 for senior to junior positions. Every effort should be made to bring the total staff strength to this level by filling existing vacancies, utilising the grants to be made available beyond April, 1979 under the Special Assistance Programme and the development grant available to the University during the next plan period. The Committee has no doubt that with such a level of staff strength, this department could function as a viable centre for training and research in Biochemistry and Nutrition and to provide for diversification of courses of study in chosen areas of importance. The Committee would like to suggest for purposes for further staffing in the next five year, the department should be enabled to create the following new positions:

1. Two Professors in the areas of Plant Biochemistry and Neurobiochemistry/Neuro Biology.
2. Three Readers in the areas of Trace Metals and Nutrition, Immunobiochemistry or Developmental Biology.
3. Two Research Associates in addition to the existing two research associates posts to be continued.
4. Appointment of an instrumentation technician in the lecturer's scale and providing for adequate administrative support for the department.

2. The animal house facility available to the department is presently located in the premises of the Home Science faculty for historic reasons when Professor Ramakrishnan was concurrently incharge of the Home Science Department of Foods and Nutrition also. Although the animal house is well maintained and adequate, its location causes considerable inconvenience to the staff and

students as laboratory animals have to be transported for experimental work and there are no facilities available within the department for maintaining essential supplies of laboratory animals. It is therefore necessary to create within the department a unit where adequate number of laboratory animals can be maintained, by drawing upon the major animal house facility available at the present location in the Home Science Faculty. The staff required for maintaining such a unit should also become available, along with the expenses for breeding and maintenance of laboratory animals.

3. From the reports made available by the Unesco experts and the meetings of the Advisory Committee appointed under the Special Assistance Programme as well as the discussions which this Committee, had it is obvious that the department has been functioning under great stress and uncertainty with regard to the staff positions both administrative and academic staff, continued support available from the University and the State Government authorities for taking over the recurring items of expenditure as required under the UGC programmes. The Committee however is glad to note that the Vice-Chancellor and the Pro-Vice-Chancellor have endeavoured to remove some of these difficulties and to provide sufficient autonomy in the functioning of this department. The Committee hopes that these efforts would be continued and the department would be enabled to function with minimum problems of a routine nature.

4. The requirements of the department for the next five years, which are proposed to be met from the three possible sources of

financial assistance, viz. (i) the general developmental plan support (ii) continued assistance under the Special Assistance Programme and (iii) the Unesco assistance, appeared to be based on well defined considerations and should be met adequately in the next five years. Some of the scientific equipment which is absolute l replaced and some new items of equipment would need to be l would need to be lacquired. The laboratory facilities will have to be augmented for its normal teaching and research programmes as well as for the peripheral programmes of extension work undertaken by the department and for the departments plan for organising a post-M.Sc. course in tropical nutrition. Since this department would continue to be recognised as a leading centre for advanced training in Biochemistry and Nutrition, demands would be made for organising international short term training programmes by Unesco and other agencies and the facilities required for this purpose should be created within the overall infrastructure to the department. The post-M.Sc. course in Tropical Nutrition could be run on an experimental basis for two or three years and may provide for a few places for students from other countries in the South Asian regions and the impact of such a programme could be reviewed after the initial three years period.

The Committee, on the basis of the above evaluation, recommends continued support to this department for next 5 years under the Special Assistance Programme of the University Grants Commission and hopes that with the utilisation of the support available in the next five years, as indicated above, the department would have created facilities and programmes which

may merit its recognition as a Centre of Advanced Study at the end of this period.

The Committee is grateful to the University authorities, Professor C.V. Ramakrishnan and his staff for the facilities provided for the work of this Committee.

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APPENDIX I

Collaboration with other Universities/Institutions
in India and abroad.

Collaborating Institution

Nature of the work conducted or in
progress.

Medical College, Baroda.

- a) Studies on skeletal status in different age groups and on rickets, osteomalacia and osteoporesis.
- b) Studies on patients suffering from urinary calculi.
- c) Studies on Pregnancy and lactation.

Medical College, Trivandrum
and
Medical College, Madurai.

Studies on children suffering from severe protein caloric malnutrition.

Institute of Child Health,
Madras.

Studies on the psychological development of small for dates and premature babies,

National Institute of Occupat-
ional Health, Ahmedabad.

Studies on biochemical changes in experi-
mental cancer.

Dr. Gaull's laboratory, Mount
Sinai Hospital, New York.

Amino acid composition of human milk w.s.r.
to taurine, in relation to maternal nutrition
status.

Prof. Horrock's laboratory, Depart- Studies on lipid metabolism in rat brain
ment of Physiological Chemistry, under different nutritional deficiency
College of Medicine Ohio University conditions.
Columbus, Ohio, USA

Prof. Steinkraus Laboratory
Department of Food Science
and Technology Food Research
Laboratory Cornell University,
Geneva, N.Y., U.S.A.

Studies on B₁₂ metabolism in
fermented foods.

Volunteers of the Catholic
Research Service, Nandiad.

Training in the conduct of diet and
nutrition surveys.

The Faculty of Home Science,
Baroda.

Some lectures on clinical Nutrition given
by Dr. Sail.

Collaborating Institution

Nature of the work conducted or in progress

St. Xavier's College, Ahmedabad.

Help in organising a Diploma Course in biochemistry and the training of 3 of their staff members during the summer vacation for this purpose. Some lectures GIVEN by the staff to the students of the diploma course.

Agricultural College,
Junagadh.

Training one of their research staff in the detection of aflatoxins.

UNICHEM Laboratories
Bombay.

Collaboration in the formulation and evaluation of a high protein biscuits.

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REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF CHEMISTRY
RAJASTHAN UNIVERSITY
JAIPUR

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002
1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Assessment Committee for
the Department of Chemistry, Rajasthan University,
Jaipur for assessment of the work done under the
UGC Special Assistance Programme.

The University Grants Commission on the advice of the Standing Committee for the Programme of Centres of Advanced Study invited the Department of Chemistry, Rajasthan University, Jaipur, to participate in the Programme of Special Assistance to Selected Departments. The details of assistance which was provided under the scheme in 1972 is given in Annexure-I. As per general policy of the Commission this assistance is available upto 31.3.1979 and for future assistance an assessment committee was constituted to assess the work done under the programme since 1972. The Committee consisting of (i) Professor R.C. Paul, Vice-Chancellor, Panjab University (ii) Professor A.K. De, Department of Chemistry, Vishwa-Bharati and (iii) Shri A.G. Deshmukh, Education Officer, University Grants Commission visited the Department on 19th February, 1979. The Committee had detailed discussions with Prof. J.P. Tandon, Head of the Department and other staff members regarding various academic training and research programmes undertaken since 1972. The Committee also visited different laboratories and noted the laboratory and instrumental facilities available in the Department. Prof. R.C. Mehrotra, Vice-Chancellor, Delhi University, who was earlier Head of the Department of Chemistry, University of Rajasthan, was also present. The Committee scrutinised the progress report submitted by the department ^{and} its future plans.

The Department of Chemistry, Rajasthan University, Jaipur staff started Post-graduate courses in 1960. The academic members of the Department also participate in under-graduate teaching at Maharaja's and Maharani Colleges, which are constituent colleges of the University. The committee which visited the Department in 1970 had recommended special assistance to this Department for the development of teaching and research activities in the areas of Organo-metallic Chemistry. Professor R.C. Mehrotra, who was then Head of the Department, left the University to take up the Vice-Chancellorship of the Delhi University. Due to some administrative reasons the posts of 2 Readers which were sanctioned under this programme could not be filled up till recently. As a result of joint teaching of under-graduate and post-graduate classes by the entire Departmental staff, each teacher get only about one period of post-graduate teaching per week. At present the Department has 85 students in M.Sc. Classes (55 in Ist Year and 30 in IInd Year). There are about 125 research fellows, which include 15 teacher fellows. The Department has not yet started M. Phil courses. The Department has at present 63 teachers and 3 research associates and 7 supporting technical staff. Out of these only 50% are actively engaged in research work. The area-wise break up of this staff is given below:-

	<u>Inorganic</u>	<u>Organic</u>	<u>Physical</u>
Professors	2 *	1	1
Readers	2	2	2
Lecturers	16	16	21
Research Associate	1	1	1
Total:	<u>21</u>	<u>20</u>	<u>25</u>

* (Includes Prof. R.C. Mehrotra who is on leave as Vice-Chancellor, Delhi University).

The M.Sc. enrolment has not increased significantly since 1972, but the research enrolment has increased from 46 in 1972 to more than 100 at present. The average out put of Ph.D's is about 12 per year. The out put in terms of published papers, review articles and monographs in the different areas is shown below:-

Inorganic:

A. School of Synthetic Inorganic & Organometallic Chemistry

Monographs	2
Review Articles	9
Papers	175

B. School of Co-ordination Chemistry

Papers	64
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Organic

C. School of Organo fluorine Chemistry

Papers	23
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D. School of Plant Chemistry

Papers	35
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E. Synthetic Organic Chemistry

Papers	76
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Physical

F. School of Electro-chemistry

papers	77
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G. School of Chemical Kinetics

papers	37
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The achievements of the department in terms of research output have been shown mainly by the school of Inorganic and Organo-metallic Chemistry which continues to be the focal point of the department. The Schools of Organofluorine Chemistry and Electrochemistry have also shown good activity. The School of Electrochemistry has made significant contributions towards development of trace analysis methods by modern techniques such as anodic stripping voltammetry and should be encouraged with necessary laboratory facilities.

The department intends to investigate in future: (1) Structural aspects of organo-metallic compounds which have already been synthesised and which will be synthesised in future, (2) Homogeneous Catalysis, Particularly hydrosilylation reactions catalysed by transition metal compounds, (3) Organotin Compounds as biocides, stabilisers etc. (4) Chemistry of nitrogen ligand relevant to nitrogen fixation (5) Kinetics and electrochemical reactions. These lines of investigation are reasonable and should be pursued. The school of Organo-metallic Chemistry should concentrate on structural aspects of the organo-metallic compounds already synthesised by them. The School of Electro-chemistry should now devote to environmental research and Electro-organic synthesis.

It may be noted that the Advisory Committee for the special Assistance Programme met only once during last five years. This is a serious lacuna in the programme which must be corrected. Unless the Advisory Committee (with the external members) meets regularly, at least twice a year, the entire programme is not

expected to run properly and effectively. The University should pay serious attention to this matter.

The Department has also taken active part in Improvement of Under-graduate teaching of Chemistry in affiliated Colleges, the department is participating in the University Leadership Project in Chemistry under the College Science Improvement Programme of the Commission. Under this programme the department has developed Models of Atomic and Hybrid orbitals and some molecular models. These have been supplied to all the Colleges. Some other Universities have also been provided with multiple copies of these models for distribution to their colleges. The Department has also provided Semi-micro Analysis kits to the Colleges. The Department has produced question banks Workshops were arranged for College teachers to acquaint them with the kits and semi-micro techniques. The Commission has provided grant of about Rs. 8 lakhs for this programme.

The Department was also selected by the Commission for UNDP/ UNESCO support. Under this programme two consultants (i) Prof C.M. Sharts of San Diego State University USA (ii) Prof. M.F. Lappert of Sussex University (UK) visited the Department, four teachers from the Department also were sent abroad. The Department has received PYE UNICAM Gas-liquid Chromatograph. In addition to this some minor items of equipment and variety of organic, organometallic, and organo fluorine compounds have been received. The UNESCO/UNDP Mission which visited the Department did not accept the future research

programmes in the second phase of this programme and recommended that it should be discontinued. Under the Vth Plan development scheme the department was allocated Rs. 5 lakhs for purchase of equipment.

In the last few years the department has organised (i) All India Symposium on Co-ordination Chemistry Research in India(1973) (ii) The Annual convention of Chemistry (1977). Some summer institutes for science talent students and school teachers were also organised.

Recommendations:

After the consideration of the Progress Report (1972-78) departmental proposals and discussions with the faculty members of the department, the committee feels that the department has utilized the grants provided under this programme properly and would like to recommend to the Commission that the Special Assistance Programme be continued for a further period of 5 years with effect from 1.4.1979. The department under this programme should be strengthened by the addition of two senior academic positions and some research and supporting technical staff. Additional grant should also be made available for purchase of equipment, books and journals, and other activities such as a seminar, visit etc. The existing space in the department should be properly organised for continuing the activities under the Special Assistance Programme. No separate grant for building may be sanctioned at this stage.

The financial implications of the recommendations are as follows:

Non-recurring

(a)	Equipment	Rs.5.0 lakhs
(1)	Nitrogen Analyser	Rs 1.00 lakhs
(2)	UV-Visible spectrophotometer	Rs.2.00 lakhs
(3)	Digital coulometer and accessories, other electrochemical Equipments	Rs 1.50 lakhs
(4)	Other items of equipment	Rs. 0.50 lakhs
(b)	Journals & Books	Rs.2.00 lakhs
(c)	Rare Chemicals (for the recommended research programmes)	Rs.1.00 lakhs

Recurring:

(a)	Two Readers (Organo-metallic Chemistry-1, Electro-organic synthesis-1)	
(b)	Junior Research Fellows-5 (on yearly basis)	
(c)	Technician - 3, Rs.470-10-490-20-830 (including glass belower)	
(d)	Library Assistant-1,	
(e)	Laboratory Chemical, Glasswares, and other Contingencies (for the recommended research programmes)	Rs.30,000/-p.a.
(f)	Spare parts of equipments, Repair and maintenance	Rs.30,000/-p.a.
(g)	Travel	Rs.10,000/- p.a.
(h)	Visiting (Fellowships)	Rs.10,000/-p.a.
(i)	Seminar	Rs.15,000/- p.a.

The Committee places on record its sincere thanks to the Pro-Vice-Chancellor, Professor J.P. Tandon, K.C. Joshi, J.N. Gaur, other staff members and research scholars of the department and also the University authorities for necessary facilities for the work of the Committee.

Annexure - I

Assistance available under Special Assistance Programme.

Non-Recurring Grant:-

<u>S.No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Equipment	Rs.5,00,000/-
2.	Books	Rs.1,00,000/-
3.	Any other (Building & fitting)	Rs.1,50,000/-

Recurring Grant:

<u>Sl.No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Books	Rs.10,000/-p.a.
2.	Chemicals	Rs.20,000/-p.a.
3.	Contingencies	Rs. 5,000/-p.a.
4.	Visiting Fellows	Rs.10,000/-p.a.
5.	Seminars	Rs.10,000/-p.a.
6.	<u>Staff</u>	<u>Post sanctioned</u>
	a) <u>Academic</u>	
	i) Readers	2
	ii) R.A./Lecturers	2
	b) <u>Research Fellows</u>	
	i) Senior	2
	ii) Junior	3 p.a.
	c) <u>Technical</u>	
	i) Workshop Supdt.	1
	ii) Technician	1
	iii) Lab. Asstt.	1

R E P O R T
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF GEOLOGY
ANDHRA UNIVERSITY
WALT AIR

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the University Grants Commission
Review Committee for the Department of Geology,
Andhra University with reference to the programme
of Special Assistance to Selected Departments.

A Review Committee consisting of the following was constituted by the University Grants Commission to evaluate the work and academic achievements of the Department of Geology of Andhra University since 1972 under the Programme of Special Assistance to Selected Departments:

- 1) Professor Sourindranath Sen,
Department of Geology,
Calcutta University,
35, Ballygunge Circular Road,
Calcutta-700 019

- 2) Mr. V.K.S. Varadan,
Flat 13, C.G.O. Qrs,
Belvedere Estate, Alipore,
Calcutta-700 027

- 3) Dr. D. Shankar Narayan,
Additional Secretary,
University Grants Commission.

As originally proposed the committee was to visit the Department on September 7 or 8 or 9 or 10, 1978 but due to various practical difficulties the visit materialised only in December, 1978. Even then Professor Sourindranath Sen and Shri A.G. Deshmukh representing the UGC had to cancel their tour at the last minute for want of air booking. Only Shri V.K.S. Varadan could actually visit the Department. Under the circumstances, it was decided that the work of the Committee in connection with the visit would be attended to by him and the draft Report prepared after the visit would be discussed with Prof. Sen

and a joint report submitted. Accordingly, Shri Varadan held discussions with all members of the faculty jointly and separately covering various aspects of the work of the Department under the Special Assistance Programme, keeping in view the general terms of Reference indicated by the University Grants Commission. The details of assistance provided to the department under this programme is given in Annexure-I.

In the light of the detailed discussions which took place, the Department was requested to furnish relevant information, clarification and justification.. The request has been complied with and the material was furnished by the Department.

An attempt was made in the course of the visit to gain an overall impression of inter-disciplinary activities as well as the situation in regard to essential supporting facilities, central library, etc. The present report is based on the impression gained in the course of the visit as also the information furnished by the Department.

General Observations:

It has been stated by the University Grants Commission under their letter No.F.11-10/72(Sc.II), dated February 28, 1972 that "the present programme of special assistance is is intended through concentration of effort, to raise the quality of teaching/research in Departments selected on the basis of their work, standing and potential for further development. It also aims to promote work

(teaching and research) in special areas of study and multi-disciplinary courses."

The general observations offered in the succeeding paragraphs are in the context of the overall objective spelt out by the UGC for the programme of Special Assistance.

It is evident that the Geology Department of the Andhra University fulfils to a pre-eminent degree; all the basic conditions essential to the successful realisation of the objectives spelt out by the UGC. It is observed that it has a faculty strength of 20 highly qualified experienced teachers and researchers whose backgrounds cover a very wide spectrum of specialisation in various branches of Geology. Three of these are Professors, nine are Readers and eight others are Lecturers. There are 38 Research Scholars in the Department. There are 51 undergoing the M.Sc. Geology Course while 59 are in the M.Sc. (Tech.) Course run by the Geology Department. These students are distributed as under:-

I	M.Sc.	30
II	M.Sc.	21
I	M.Sc.(Tech.)	25
II	M.Sc.(Tech.)	20
III	M.Sc.(Tech.)	14

There are well equipped laboratories and the availability of instruments should be regarded as reasonably adequate for most teaching and research purposes in respect of range, quality and quantity. The instruments are properly housed and by and large, are being maintained in good repair. It is evident that they are

being put to good use. Experienced and highly competent teachers and researchers are making use of them and training others in their use. One is struck by the excellent library facilities available, both in regard to resources and efficiency of operation. The coverage in respect of current periodicals is very comprehensive. Open shelf system is in vogue and very satisfactory reprographic facilities are available.

The vital role played by laboratory and library facilities in higher education and research in science is self evident. In regard to both these aspects the situation in Andhra University, with particular reference to the Geology Department, should be considered as highly satisfactory. During the visit to the Department, a number of thesis submitted by researchers for the Doctorate degree were glanced through and it was evident that the review of previous literature was uniformly of a very high standard and comprehensive. It was also noticed that a number of external examiners have also remarked upon this aspect of the thesis submitted to them for evaluation. It is evident that the opportunity "to look further by standing on the shoulders of others" as Newton put it, certainly exists in abundant measure at the Andhra University.

The overall impression gained in the course of discussion and visit to the laboratories is that the faculty members, research scholars and students are all very earnest and there is a high degree of competence, purposefulness and dedication in the way they attend to their duties. The Department seems to be receiving

excellent all round administrative support. The Vice Chancellor has been evincing keen interest in the work of the Department and has been extending all possible encouragement and support.

In a science like geology, which is a meeting ground of the physical and biological sciences, with a dominant interest in the history and results of processes operating on a global scale over vast stretches of time, the fundamental and applied aspects relate to many areas of scientific enquiry, technology and economic development. Inter-action, integration, synthesis and spin off benefits are extremely important. This is particularly true in regard to various aspects of applied geology such as economic geology, engineering geology, hydrogeology, etc. as also marine geology. Since the Special Assistance Programme under reference has a major bearing on teaching and research in marine geology and economic geology at the Andhra University, some special attention was given to evaluate this aspect. It will be noticed that from the information furnished by the Geology Department, Andhra University, on the work done from April 1972 to March 1978, there has been considerable collaboration with other Universities and Institutions in India and abroad. There are, however, a few significant omissions in the list to which attention may be drawn. There is no mention of collaborative programmes with ONGC, NIO, NRSA and NGRI. In the course of personal discussions, the impression gained was that active collaboration is currently in progress with the ONGC in the area of marine geology. It is also observed that the symposium on Management of Marine Resources which was organised by the Department in November, 1977,

brought together scientists working in several disciplines and many Universities and Institutions in India. The ONGC and the NIO have participated in this symposium. While dealing with interaction and integration in scientific activity we have inevitably to traverse some very delicate and difficult ground. Co-ordination, control and purposeful direction are called for, but all these have to be ensured with a very light touch in a fundamentally permissive atmosphere. Coercion and compulsion are the kiss of death to any genuine scientific activity in research, communication or synthesis.

The observations which follow are to be understood more as the impressions of an outsider in the course of a fleeting visit which are being shared in the hope that they may prove helpful rather than as cut-and-dried conclusions attempting to lay down the law. There appears to be a somewhat greater need, as well as scope, for effective interaction and integration of activities within the University and between and among other Universities, Institutions and Organisations within the country. International collaboration is, of course, extremely important in a global science like geology. This is particularly true of marine geology, which is an area of science and technology in regard to the ocean, which knows no frontiers. At the same time, it has to be recognised that capabilities are being rapidly developed, in variety and depth, in the special contexts of many institutions and organisations in the country. We must take advantage of the tremendous spin off benefits that can flow through interaction and integration of activities within the country. In the area of marine geology, Andhra University has the longest tradition and is by far

the most important academic centre for this specialisation in the country. It has, therefore, to act as the focal point for interaction and integration, where the expertise in many disciplines scattered in many Institutions is brought together, exchanged, interacted, synthesised and passed on to a new generation of scientists and research workers. In regard to this very important responsibility much more needs to be done than what has been accomplished so far.

.....
There are also indications of certain trends and tendencies which are not very healthy. The Geology Department seems to be totally inbred. There does not appear to be adequate awareness of the extreme importance of geophysical investigations in geological studies particularly in the area of marine geology. Geophysical programmes have to be planned, designed and implemented on the basis of geological visualisation. The results of such programmes have to be interpreted in the light of geological understanding. No effective geological work can be done in terrain under cover, without a clear appreciation of the scope and limitations of various geophysical concepts, techniques, instruments and methodologies. There has to be a very closely co-ordinated and integrated effort in these two disciplines, particularly in the off-shore areas, where the entire territory is under cover. Some more specific observations will be offered in regard to this later in this report.

This aspect has been stressed because of an apprehension that unless prompt and vigorous measures are taken in this area, there is a great danger of the Department settling down to well

worn grooves of pedestrian research activities and uninspired teaching, basking in the sunshine of past glory and prestigious associations with institutions abroad.

Specific Observations:

In the succeeding paragraphs specific observations are offered with particular reference to the guidelines for evaluation provided by the University Grants Commission.

The Department was visited and detailed discussions took place, both jointly and separately with the faculty members. Everyone was ~~extremely co-operative, frank and very communicative.~~ The Department has also furnished information requested for in the light of the discussions.

The organisational and administrative aspects have been looked into. It is evident that the Department enjoys a very high degree of autonomy and is also receiving all possible encouragement and support from the Administration at all levels, including the highest one, namely, that of the Vice-Chancellor. There is no reason to think that there is any administrative difficulty faced by the Department in regard to implementing any of these programmes, within the existing University framework.

The main thrust of the Special Assistance Programme has been in the areas of marine geology and economic geology. The programme has also been of comprehensive significance to the teaching and research work in the Department, providing support, in depth, for

a number of research activities. As pointed out in the note furnished by the Department, marine geology studies began as far back as 1952 and were vigorously pursued until 1957. Research programmes in marine geology were sustained until 1962 by the samples thus obtained.

Subsequently, there was a serious set back and for nearly a decade from 1962 to 1972 there was little or no activity in this area

In fact, the Special Assistance Programme served to revive and stimulate activity in an area of far-reaching national importance, which had begun with great promise but was dormant for a decade. It is evident that the Special Assistance, if anything, was over due and has had an extremely beneficial effect.

The composition of the Advisory Committee for the Geology Department is quite broad based and satisfactory but the practical difficulties in attendance of outside members makes their role and effectiveness somewhat less significant than what they might otherwise be. This is, however, a problem to which there is no easy solution. It only serves to emphasise the need for ensuring the inner dynamics of the Department, so that, while the Advisory Committee can be helpful the effective functioning of the Department should not be made to depend on them excessively. There is need to lay stress on the development of proper attitudes and traditions within the Department. As already mentioned, the faculty members are well qualified, hard working and dedicated and keenly interested in the research and teaching programmes. These constitute the best guarantees for the proper functioning of the Department.

The progress of utilisation of the grants approved earlier, payments made against posts created, the selection of research fellows, etc. have been examined by the Committee and it is evident that the performance of the Department in regard to these matters has been highly satisfactory. This would be apparent from the specific replies furnished by the Department to the communication from the University Grants Commission in this regard.

While the Department is functioning very competently and has made good use of the Special Assistance provided by the U.G.C., there are certain aspects where there is need as well as scope for improvement. One of them relates to the fact that the entire faculty is inbred and there is little infusion of eminent scientists, research fellows and good students from other Universities into the Department. This seems to be a malaise which is now becoming increasingly common in all Universities. The pressures of parochialism, coupled with lack of concern for excellence, appear to be responsible for the increasing prevalence of tendencies towards inbreeding. While it is necessary to reckon with the many impediments that exist, there is no need to submit to them. Workable solutions can and must be found, which will ensure that traditions of excellence ^{are} fostered through cross-fertilization of ideas, by encouraging various kinds of interaction among Universities as well as research institutions and executive agencies. The symposium on Management of Marine Resources organised in November 1977 has been useful and more enduring and persistent forms of interaction must be encouraged and there must

be encouraged and there must be a minimum infusion of fresh blood into the research and teaching activities from time to time.

While in the matter of international collaboration the performance of the Department is very satisfactory in the matter of interaction within the University and between other institutions within the country, there is need as well as scope for further improvement. The role of geophysical exploration in geological investigations is becoming extremely important in the context of various geological features, including mineral deposits, which have to be explored under cover. In the case of marine geology all the features are entirely under the cover of water and geophysical investigations have to play a vital and inescapable role. What has to be recognised in this context is that geological and geophysical investigations have to be conceived as integrated activities, not to be engaged in isolation but jointly for a common purpose. This implies that in the Universities there must be very close interaction between the geology and the geophysics Departments. The arrangement of having both as a common Department as at Roorkee is an excellent one and has many useful lessons to teach others. There is no need to have the same pattern everywhere, but there is no denying the need for ensuring very close collaboration. It is suggested that the geophysics course in the Geology Department be made of as high a standard as practicable and full advantage be taken of the resources available in the Geophysics Department for achieving this. There has to be also a course developed suitably in regard to palaeomagnetism which is extremely important in

the context of marine geology.

From the information furnished in regard to major achievements of the Department with reference to research output, scholars trained, academic programmes initiated, etc., it is evident that its performance has been very satisfactory. As far as development of new techniques, fabrication of new instruments, etc., are concerned there is very little to report. The Department is discharging very competently its teaching and research responsibilities but there has to be greater collaboration, integration and interaction in regard to multi-disciplinary activities as well as infusion of new blood in order to scale . . . the heights of excellence and cope with the much larger tasks that lie ahead.

In the light of the progress achieved by the Department there is ample justification for continuation of the Department under the Special Assistance Programme for a further period of five years. It is felt that the Department should be upgraded as a Centre of Advanced Studies in Marine Geology in the larger national interest. If vigorous steps are taken from now, it should be possible to realise this objective in a matter of two to three years. In other words, it would be best to continue the Department under the Special Assistance Programme for a further period of five years and concurrently take steps to upgrade it as a Centre of Advanced Studies. In the context of the major developments that are taking place in the United Nations Conference on the Law of the Sea and the pivotal position occupied by India among the Developing Nations, there is

an urgent need to acquire comprehensive capabilities at the highest levels and excellence in regard to exploration, exploitation and management of sea bed resources. The Andhra University, Geology Department with its long tradition in marine geological studies and proved capabilities has to serve as a focal point in concentration of national efforts in this area. It is also evident that without the Special Assistance from the UGC, the Department would be unable to shoulder the major tasks ahead, be the part, a valuable decade has been lost through dormancy, for want of such support. The Special Assistance Programme which has revived activities in this area, therefore, requires to be continued on an enhanced scale.

Observations and suggestions in regard to future programme of work in the next five years (April 1979 to March 1984) and financial requirements for the same.

The observations and suggestions given below are related to the recommendations that the Special Assistance Programme of the University Grants Commission in the Department of Geology, Andhra University should be continued for a further period of five years. Concurrently with the continuation, effort should be made to upgrade the Department as a Centre of Advanced Study in Marine Geology in a matter of 2 to 3 years from now. The academic programme for the second phase of UGC's Special Assistance (April 1979 to March 1984) proposed by the Department of Geology, Andhra University has been critically studied and the observations and suggestions which follow, represent an attempt to orient the programme in a manner which, on the one hand, will take note of the progress achieved in the first phase and, on the other, promote realisation of objectives appropriate to the second phase.

The overall impression which the academic programme as proposed gives is that work similar, in scope and character, to what was carried out during the first phase will be attempted during the second phase. This would be a mistake. While many of the programmes would be similar, there has to be a number of important changes in scope, nature and emphasis of the programmes, which alone can ensure that the capabilities and potentialities acquired in the first phase are taken advantage of in realising the objectives appropriate to the second phase.

It is evident that the activities of the Department have been very limited in scope during the first phase, with the investigations hugging the coast very closely and not really venturing much into the sea. This would be wholly inadequate as an objective for the second phase. In fact, in the light of the recommendations made above the Department must be enabled to acquire considerable sea-going facilities. In view of the very large expenses involved, such facilities may have to be for quite sometime in the shape of collaboration with others with ships both in India and abroad. The facilities may be obtained either as an outright contribution by the other collaborating agencies or on the basis of charges to be paid by the University. In any event, to enable the Department to develop comprehensive capabilities and excellence in Marine Geology at a reasonable pace, it would be necessary to make provisions in its budget for meeting charges on ships which will have to be engaged for undertaking its researches.

The Special Assistance Programme has recognised two major areas where attention is to be focussed under the programme. There are marine geology and economic geology. There is already a Professor for Marine Geology and there is a need for another Professorship in Economic Geology. In the context of developing comprehensive capabilities and excellence in Marine Geology, as a national priority at the Andhra University, there is urgent need to augment resources in certain areas which are vitally important for realising these objectives. A very strong school of micro-palaeontology has to be developed with special reference to off shore surveys. Sedimentological studies with particular reference to diagenetic processes are very important in Marine Geology. Comprehensive capabilities in the area of instrumental analysis are essential requirements in regard to Marine Geology as well as Economic Geology. Marine Geochemistry with particular reference to instrumental analysis will have to be provided adequate support. In the light of these considerations the request under the proposals of the Department for the creation of four Professorships in the disciplines of Economic Geology, Micro-Palaeontology, Marine Geochemistry with special reference to instrumental analysis and sedimentology with particular reference to diagenetic processes merit favourable consideration. The Department while justifying its proposal has emphasised the need for promotional opportunities for academic personnel of the Department. While this is a relevant consideration, the recommendation of this committee is based on functional requirements in relation to the objectives envisaged for the Special Assistance Programme. It is also necessary to make it clear, in this context, that alternatives such as ore mineralogy, Petrology,

clay mineralogy and Management of Coastal Resources, etc., indicated in the proposal of the Department cannot be supported from functional angle. There is a danger of such alternatives resulting in merely some persons being promoted without the purpose in view being served. While it is necessary to avoid frustration to faculty members, this should not lead to a sacrifice of the objectives of the Special Assistance Programme.

As soon as the investigations begin to venture further into the sea, the role of geophysical data will become extremely important in all geological investigations.. There would be a need for very close collaboration, integration and synthesis of the activities of the Geology and Geophysics Departments of the Andhra University. This must be ensured, both in the teaching and research activities. The Special Assistance Programme must be primarily conceived as leading to the setting up of an Advanced Centre in Marine Geology at the Andhra University. Both the Special Assistance Programme and the Advanced Centre would serve the overall objectives of developing comprehensive capabilities and excellence in marine geology as a national priority. There should, therefore, be proper linkages in the programme between off shore and on-shore investigations. Investigations for buried placers and palaeo-placers would be obvious cases where close connections can be expected between marine and land geology. Investigations for diamond, gold, tin, etc., would merit attention in this context. Andhra University is well placed in regard to these investigations and it is surprising

that these have not been attempted in the first phase itself. They should certainly find a place in the second phase in the Special Assistance Programme.

In the programme as submitted one gets the impression that all types of investigations are attempted to be covered under this programme without any concern for the major overall objectives of the Special Assistance Programme. This should be avoided. Proper orientation emphasising marine geology and the interactions between geology on-shore and off-shore should be given to the programme for the second phase.

Subject to the above observations the academic programme indicated by the Department of Geology merits support under the University Grants Commission Special Assistance Programme.

With reference to the details of proposed items of expenditure envisaged during the Sixth Plan period the following observations and suggestions are offered:

As already explained the request for four Professorships merits support but the alternatives indicated, viz , of Ore Mineralogy, Petrology, Clay Mineralogy and Management of Coastal Resources are not justified. The Professorships should be for Economic Geology, Marine Geochemistry with special reference to Instrumental Analysis, Micro-palaeontology with special reference to off shore surveys and Sedimentology with special reference to diagenetic processes. The request for two junior fellowships is well justified. In regard to this, the number may well require to be increased as the programme

acquires momentum. It is not understood why a Museum Curator's post should be supported under the Special Assistance Programme. The request under library building and equipment merits support. The boat hire charges and field work charges and spares and maintenance of equipment are essential consequential requirements of the programme and, therefore, merit support. The X-ray unit, with all accessories and other supporting equipment is a costly item and is being recommended in the context of the specific clarifications furnished by the Department. There is a clear need for developing comprehensive capabilities for instrumental analysis. The Department already possesses an extensive range of equipment and the costly unit would meet a felt need and can be expected to be properly utilised in the context of proved capabilities and performance. The Department already has teachers and staff who have done work in Australia, U.K , and USA on the XRF, XRD and gained operational proficiency. The University has established a Central Instrumentation Science Centre with assistance from the U.G.C. to look after maintenance of sophisticated, expensive precision instruments. The Department would also be in a position, after it acquires the X-ray equipment, to extend assistance to other Universities and Institutions in the country. In the context of the objectives, scope, nature of work and responsibilities envisaged for the Special Assistance Programme in the second phase and the Centre for Advanced Study in marine geology, the request for the X-ray equipment merits support.

In the light of the above recommendations, the consequential financial requirements deserve to be met in the list furnished by the Department (Annexure-II).

Annexure - I

Grants provided to the Department of Geology - Andhra University under the Special Assistance Programme.

Non-Recurring Grant

<u>Sl. No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Equipment	Rs. 3,00,000/-
2.	Books & Journals	Rs. 50,000/-
3.	Any other (Van & Coastal Lab.)	Rs. 1,00,000/-

Recurring Grant

<u>Sl. No.</u>	<u>Item</u>	<u>Allocation</u>
1.	Books & Journals	Rs. 10,000/-p.a.
2.	Chemicals	Rs. 15,000/-p.a.
3.	Contingencies	Rs. 5,000/-p.a.
4.	Visiting Fellows	Rs. 10,000/-p.a.
5.	Seminars	Rs. 10,000/-p.a.
6.	<u>Staff</u>	<u>Post sanctioned</u>
a)	Academic	
i)	Readers	2
ii)	Lecturers/R.A.	2
b)	Research Fellows	
i)	Senior	2
ii)	Junior	2 p.a.
c)	Technical	
i)	Analyst	1
ii)	Driver	1

(13) Details of proposed items of expenditure envisaged during the sixth plan period:

STAFF

	Rs.
Four Professors:-	
One Professor of Economic Geology/Oremineralogy	4,00,000
One Professor of Marine Geochemistry/Petrology	
One Professor of Sedimentology/Clay Mineralogy	
One Professor of Management of coastal resources/ Micropalaeontology.	
(Grade Rs.1500-60-1800-100-2000-125/2-2500)	
Two Junior Research Fellows.	60,000
One Museum Curator (Grade Rs.700-40-1100-60-1600)	65,000
Library	1,00,000
Building	5,00,000
Boat hire charges and field work charges	2,50,000
Spares and maintenance of equipment	2,50,000

EQUIPMENT

X-ray unit with all accessories and other supporting equipment	10,00,000
Densotometer with recorder	75,000
Direction and current meters (3 Nos.)	75,000
Sieve sets (6 sets) ($\frac{1}{2}$ phi)	30,000
Rotap.	8,000
Vicker's Micro Hardness Tester.	25,000
Research ore microscopes (2 Nos.)	1,00,000
Torsion balance	6,000
X-ray spectrometer	50,000
Scintillometer (2 Nos.)	30,000
B-Y Exposure meter (2 Nos.)	12,000
D.C. Earth Resistivity meter.	10,000
Electrical muffle furnace with spares (2 Nos)	12,000
High temperature furnace	10,000
Cameras (2 Nos.)	25,000

Petrological microscope with display unit	50,000
Berman density balance	10,000
Carpso high tension separator	50,000
Salinometer (S.T.)	50,000
Echo sounder	20,000
Niskin bottles 5 litres (Water sampler)	15,000
High pressure filtration equipment, for Millipore and Nucleopore units.	50,000
	<hr/>
Total:	33,38,000
	<hr/>

REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF GEOLOGY
JADAVPUR UNIVERSITY
CALCUTTA

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Assessment Committee appointed for evaluating the work of the Department of Geological Sciences, Jadavpur University under the UGC Programme of Special Assistance to Selected Departments.

The U.G.C. invited the Department of Geological Sciences, Jadavpur University in April, 1972 to participate in its Programme of Special Assistance to Selected Departments on the basis of the stage of development and its contributions to teaching and research and the potential that existed for further strengthening its advanced teaching and research programmes. In accordance with the policy followed by the U.G.C. in the case of such departments, the Commission appointed an Assessment Committee consisting of the following members to evaluate as per terms of reference, the work done by the department and its contributions to teaching and research under the Special Assistance Programme.

1. Professor M.N. Viswanathiah
Department of Geology
Mysore University
Mysore
2. Professor J.M. Chaudhury
Department of Geology
Gauhati University
Gauhati
3. Dr. D. Shankar Narayan
Additional Secretary
University Grants Commission

The Committee visited the Jadavpur University on 23rd September, 1978 and held discussions with the University authorities and the faculty of the department. In view of the disturbed situation,

it was not possible for the members to visit the various laboratories but all the members of the Evaluation Committee, who have been associated with the Advisory Committee also, have earlier had the opportunity of inspecting the facilities and meeting with research students as well. Consequent upon the participation of this department in the Special Assistance Programme, the U.G.C. made available to the Department over the past six years a capital grant of Rs.3.75 lakhs for purchase of equipment, books and journals etc. and an annual recurring grant of Rs.50,000/- for various items of recurring expenditure besides meeting the salary on the appointment of additional staff of two readers, two research associates, one Senior Laboratory Assistant and appointment of two Junior Fellows every year. The grants made available have been fully utilised by the department for the purposes for which they were approved and thus created the necessary infrastructure required for its teaching and research activities. The department also received substantial assistance, through the University Grants Commission from the U.N.D.P. during the first phase. This assistance provided for purchase of sophisticated items of equipment, training fellowships for four of its faculty members in institutions abroad in the U.S.A., U.K and Canada and for services of consultants from U.K. and Canada.

The committee on the basis of the discussions it had with the faculty members, keeping in view the detailed technical report made available to it as suggested by the U.G.C. and on the basis of its review in the earlier years on the functioning of the

department and its academic programmes would like to mention that this department has merited the recognition and the financial assistance provided by the U.G.C. under the Special Assistance Programme. It has also utilised this assistance as well as the UNDP Assistance to upgrade substantially its quality of teaching and research activities, its interaction with other university departments and collaboration with other agencies and industries connected with geological sciences and is now recognised as one of the viable and active schools of teaching and research in Geological Sciences with particular reference to economic geology.

As regards its teaching programmes, the Department of Geology offers a three-year B.Sc. honours course followed by a three-year M.Sc. course in applied geology and admits 15 students each year to these courses. The basic approach in the formulation of these teaching programmes is to provide for an emphasis on the fundamental aspects of earth sciences at the undergraduate level and to lead the students at the postgraduate level to the application areas and to provide for sufficient number of lectures, seminar discussions and a rigorous practical work in both field as well as laboratory. The postgraduate students are also given project work which requires them to prepare a dissertation as well.

Although the University itself does not have any affiliated undergraduate colleges but in view of the interest shown by the department in curriculum development in undergraduate courses of study, the Commission, on the advice of the Geology Panel, has

invited the department to take up an inter-regional university leadership project in Geology for the universities and the affiliated colleges located in the eastern and northern regions of the country. This department alongwith the Geology Department of the Mysore University would make such an integrated effort towards improvement of teaching of geology in the undergraduate level in all the universities in the course of next three to five years. The programmes to be initiated for this purpose have been planned on the basis of the discussions held with representatives of the colleges and universities departments concerned.

The teaching and research staff of the department are actively engaged in research projects in the following branches of Geology: Economic Geology with emphasis on Coal and Ore Geology : Petrology and Minerology: Structural Geology, Palaeontology and Stratigraphy: sedimentology: Geophysics and Hydrology. Nevertheless the main focus of all these research programmes is in the area of Economic Geology and involves extensive field studies, economic feasibility studies for purposes of exploitation of important minerals and coal and also theoretical studies particularly on Organic processes, layered media and preparation of basic structural and dynamic models for important minerals bearing zones. The broad fields of research in which investigations are in progress are indicated below:-

- i) Physio-chemical and petrological study of coal and associated sediments in the major Gondwana basins of India. Radioactivity of coals and associated rocks in Raniganj Coalfield.

- ii) Geological, Mineralogical and Geochemical study of the major manganese deposits of India with particular reference to their genetic and utilisation aspects.
- iii) Genesis of the banded iron formation and associated iron ores of Orissa & Bihar.
- iv) Investigation on the chromite and nickel deposits associated with ultrabasic rocks of Orissa (Eastern India).
- v) Structural study and the process of sulphide ore mineralization along the Singhbhum shear zone;
- vi) Study of the sulphide ore mineralisation in Rajasthan with particular reference to Khetri, Dariba-Alwar and Zawar-Khetri-Dariba areas. Ore mineralization in parts of Eastern Himalayas.
- vii) Structural control, mineralogy and genesis of the gold-tungsten concentration in Bihar and West Bengal.
- viii) Studies of interactions of electromagnetic and mechanical fields in layered media.
- ix) Scale model experiments on geological studies with particular reference to mineral deposits.
- x) Palaeontological study of the Mesozoic and Tertiary sediments with particular reference to their economic possibility.
- xi) Proterozoic tidal deposits in parts of Madhya Pradesh and Rajasthan and their palaeogeographic and economic implications.
- xii) Exploration of some geothermal areas in the Himalayas and in the northeastern Peninsular India for their economic utilisation.

A number of projects have been supported by UGC, GSI etc. in these areas. Significant results have been obtained in each of these areas and these have also resulted in the publication of over 250 research papers in important journals in Earth Sciences and award of 20 Ph.D. degrees during the past six years.

The staff of 22 persons, which includes three professors, nine readers and ten lecturers, and a supporting technical staff

of seven persons, has also taken up a number of sponsored research projects from the U.G.C., CSIR, INSA, West Bengal Mineral Development Corporation and other agencies. The department has established collaborative arrangements with the Geological Survey of India, Department of Atomic Energy, Central Ground Water Board, Coal India Limited, Central Fuel Research Institute, Oil and Natural Gas Commission and other R & D Organisation concerned with Geological Sciences. It has also established collaborate-arrangements with institutions abroad in Europe and U.S.A. This has also resulted in exchange of visits connected with the research programmes of mutual interest.

Under the UNDP Programme of Assistance, the department has acquired a perkin Elmer Atomic Absorption Spectrophotometer which has considerably enhanced the level of its research activities. It has also had the benefit of consultancy services of Professor P. Allen, F.R.S. of Reading University, U.K. and Professor A.M. Goodwin of University of Toronto, Canada. Both of them, besides giving lecturers and holding seminars discussions in their area of specialization, participated in the research activities, in the field work in progress and reviewing research publications and the Ph.D. thesis. These visits have had considerable impact in upgrading the academic programmes and exchange of ideas and information on currently emerging problems in geological education and research. The fellowships available under the U.N.D.P. programme have been used for visits and training abroad by two senior and

two junior staff members particularly for study of various aspects of coal minerology in which the department particularly occupies significant place.

On the basis of the discussion which the Committee had with the faculty members and the university authorities and the detailed report made available to it regarding the progress made since the department came into the programme of special assistance in April, 1972, the Committee notes with satisfaction that the department has earned the recognition and the support from the UGC and the contributed to the programme in considerable measures. The committee therefore has no hesitation in recommending to the Commission that the assistance under this programme may be continued for a further period of five years, enabling the department to further strengthen its teaching and research activities, interact with the neighbouring departments and R & D institutions and establish itself as a leading school for advanced training and research in geological sciences. Such an assistance and the support available from the normal development as well as from sponsored research projects should enable the department, over the next five years, to reach a stage to merit recognition as a Centre of Advanced Study in the next 5 years.

The Committee would like to make the following suggestions so that the facilities and the expentise available in the department could be utilised increasing for training functions and research effort.

- i) The present intake into the B.Sc. Honours and the M.Sc. class could be substantially enhanced gradually to 24 and 30 students and opportunities may be created to attract students from neighbouring universities in the region as well.

- ii) The Applied Geology Programme should be reviewed to bring in the required level of acquaintance with geophysical methods of mineral exploration in addition to the geological methods and some aspects of quantitative geology should be introduced at this level.

- iii) The department like other departments of Geology, has experienced difficulty in retaining Junior Research Fellows working for Ph.D. degree or on the projects, because of the increasing opportunities of employment available to geologists in the vast expanding earth sciences programme in the country. In view of this, it is essential for the department to build up to the corresponding extent its research programmes at the post-doctoral level so that persons with senior fellowships at post-doctoral level and research associates of a tenure nature could be attracted to the department. It could also encourage short term research workers from other university departments to spend some time informally for interacting with staff and students and participate in its field activities alongwith its own students. Such an interaction would help strengthen its research base, considerably.

- iv) In order to implement effectively this suggestion, it is essential for the department to strengthen its core programme of research in the area of Economic Geology with particular reference to coal and other important minerals and to offer to the Ph.D. students peripheral problems emanating from such core programme and which could be done in a period of three to four years by the Ph.D. students. Any effort to define its overall research activity as mainly comprising of problems being tackled by Ph.D. students and the staff participation in such problems may not help the department to upgrade its level of research and to make contributions of a theoretical nature based upon the data generated from the work carried out in economically useful research projects of an applied nature.

- v) The department has accepted the University Leadership Project for upgrading instruction in geology at the undergraduate level in the colleges and universities in the eastern and northern sectors of the country. The staff of the department as a whole should accept this programme and contribute to the different aspects of curriculum development in the same way as for their research programmes and recognise their contributions to curriculum development as of equal value.

- vi) Any effort to stratification of research programmes either horizontally or vertically should be avoided so that group research effort in well defined problems of economic importance could be undertaken.
- vii) The UNDP Assistance likely to be available in the second phase should be used to build the general infrastructure facilities and sophisticated instrumentation required for geophysical and quantitative methods which can be usefully applied for the teaching and research programmes of the department.
- viii) Suitable efforts should be made to strengthen the present programmes in the areas of environmental geosciences and geo-thermal resources as these would constitute an important emerging area in earth sciences in the immediate future.

The proposals of the department for the next five years involving further augmentation of the equipment facilities, academic and supporting staff and working expenses etc., are reasonable and have been framed on the basis of well defined consideration.

The Committee would therefore, support these proposals and the department could be requested to accommodate these needs within the overall ceiling that may become available to the department in the next five years under the Special Assistance Programme.

The Committee is grateful to the University authorities and the faculty of the department for facilitating the work of the Committee.

REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
DEPARTMENT OF STATISTICS
POONA UNIVERSITY
PUNE

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002
1978-79

Report of the Assessment Committee to the
Department of Statistics, Poona University to
assess the work done under the Special Assistance
Programme since 1972.

The University Grants Commission, on the basis of the recommendations of the Advisory Committee for the programme of Centres of Advanced Study, invited the department of Mathematics and Statistics, Poona University to participate in the Special Assistance Programme. An Expert Committee visited Poona University in November, 1970 and assessed the stage of development and suggested requirements for participation in this programme. On the basis of the report of this committee, following grants have been provided to the Statistics group of this department since 1972.

RECURRING:

(1) Staff

Three Readers, Two Lecturers, Two Senior Research Fellowships Two Junior Research Fellowships (to be awarded every year)	
Contingency	Rs.5,000/- per annum
Books & Journals	Rs.10,000/- per annum
Administrative & Technical staff	Rs.10,000/- per annum

NON-RECURRING

Books & Journals	Rs.1,00,000/-
Equipment	Rs. 25,000/-

Initial assistance was for a period of five years. Subsequently, it was decided that the assistance may be extended upto 31st March, 1979 and the work of the Department may be assessed by an Assessment Committee.

An Expert Committee consisting of (1) Professor R.P. Bambah, Panjab University, Chandigarh (2) Professor S.K. Mitra, Head, Indian Statistical Institute, New Delhi (3) Professor C.G. Khatri, Gujarat University, Ahmedabad and (4) Shri A.G. Deshmukh, Education Officer, U.G.C., visited the department on 29th September, 1978. The Committee discussed the progress made by the department with Professor S. R. Adke, Head of the Department and other staff members. The Committee also met the research students/teacher fellows working in the department to ascertain their views. The specific problems relating to implementation of the programme were also discussed with the Vice-Chancellor of the University.

The Department of Mathematics and Statistics, Poona University was established in 1950 and the postgraduate course in statistics were started in 1953. When the Special Assistance was granted, it was a combined department of Mathematics and Statistics. In 1978 the university bifurcated the department into two separate departments for Mathematics and for Statistics. Since the special assistance has been provided only for the development of statistics, the Assessment Committee evaluated the work done by the Department of Statistics.

Staff:

In 1972, the department had a staff strength of 3 professors, 2 Readers and 4 Lecturers. Under the Special Assistance Programme posts of 3 Readers and 2 Lecturer were sanctioned. The University has converted posts of demonstrators to lecturer present staff strength of the department of statistics is 3 Professors, 5 Readers

and 9 Lecturers. Out of these 3 posts of Lecturers were vacant when the Committee visited. Two Professors have been ^{abroad} for about one year. ^{abroad} one of the professors has extended his leave by one more year. The Committee observed that out of the 3 Professors normally one is abroad and only two professors are in the department for most of the time.

Teaching Programmes:

Under the Special Assistance Programme, it was envisaged that the department will strengthen its teaching and research activities in probability and statistics. However, the department started a separate postgraduate course in Biometry in 1974 in collaboration with the Departments of Botany, Zoology and the Maharashtra Association of Cultivation of Science. The University has introduced the semester system for the postgraduate courses and a number of optional papers have been introduced. The postgraduate courses in Statistics and Biometry consist of 20 courses in 4 semesters, each semester having 5 courses. Courses in I and II semesters are compulsory. For Biometry course students who have taken Biology at B Sc. level but neither mathematics or statistics are also admitted. Separate courses in Mathematics & Statistics are provided to such students. The students who have not studied biology are given instructions in quantitative aspects of Biology. The optional papers provided to M.Sc. students in Statistics in III and IV semesters are:-

Industrial Statistics, Operational Research, Advanced probability, Econometrics, Statistical Quality Control and Sampling

inspection, Numerical Analysis, Generic Statistics, Stochastic processes, Demography, Advanced Sampling, Advanced operations Research, Epidemiology, Non-parametric methods, Biometry and Bioassays.

In M.Sc. Biometry course optional courses provided are
 (i) Epidemiology (ii) Medical and Public Health Statistics
 (iii) Multivariate Analysis and (iv) Statistical Inference.

The Department has been allocated 10 teacher fellowships under the Faculty Improvement Programme and has been able to attract teachers from all over India for short-term and long-term fellowships. At present two teachers are working for Ph.D. and five teachers are working for M. Phil. The university has recently introduced M. Phil. courses only for the teacher fellows. The first batch will appear in 1978. The number of students at postgraduate/research level during last three years is as follows:-

	<u>1975</u>	<u>1976</u>	<u>1977</u>
M.Sc.(Statistics)	24	26	36
M.Sc.(Biometry)	20	16	13
Ph.D.	16	26	30

The out turn of M.Sc. during last three years is as follows:

	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>
M.Sc.(Statistics)	15	19	18	15
M.Sc. (Biometry)	-	18	15	4

Research Activities:

The main areas of research in which active research work is going on in the Department are as follows:-

Probability Theory, Stochastic Processes, Applied Probability, Statistical Inference. At present the activities of the Department seem to be primarily focused towards training students for M.A / M.Sc. programme in Statistics and Biometry and for the M. Phil programmes. Every week one research seminar is conducted where most of the time faculty members and occasionally invited speakers speak about their research work. To the Committee, it appears that though this is a laudable feature, this alone may not be sufficient for the big push expected from the department. Now that the department is able to recruit competent and able researchers, it should identify some broad areas of research activities where the main emphasis should be placed by staff members. In each of these areas, the work that has already been done in the department and also else where should be taken notice of and preferably recorded and work that remains to be done should be identified and noted down. The tools to solve these problems should be acquired preferably by individual or group studies and group seminars conducted regularly by the members of the staff participating in this project, where the progress made towards solving these problems could be reported from time to time. The Committee was informed that such activities are apparently a regular feature of this department but what is emphasised is that it should be done systematically, keeping proper records and

progress reports. Even a monthly mimeographed research report systematically prepared and published could help focusing the department's research thrusts which will ultimately speed up the research activity of the department. Another end product of such an activity that the Committee can visualise is that along with the studies that will be made to learn new areas and also latest progress made in old areas, the systematic records that will be kept would help the staff members to write individually or collectively advanced level text-books in the identified areas. The department should widen its activities in directions outlined above rather than introducing new courses and undertaking fresh liabilities for future.

During the last 5 years the department has guided six doctoral thesis. About 30 research papers have been published by the staff members of the department. Professor Hazurbazar has published two books. One book written by Professor Adke is being printed.

Although the research activity has taken some time to build up the appointment of younger people at the reading level in 1973-74 and their participation in guidance and research is expected to have an impact in the near future and the tempo of the research activities would be steadily building up. A statement giving list of staff members, their qualifications and number of Ph.D. students enrolled is given in Annexure-I.

The list of publication is given in Annexure-II.

Seminars & Symposia:

The Department has organised seminars and symposia with the funds available under the Special Assistance Programme. An all India seminar in probability and Statistical Inference was organised in 1978. It attracted number of teachers and research workers from all over India. The department has organised number of summer institutes for the benefit of college teachers. The department has introduced weekly seminar programmes from 1974 where the teachers present their research work. Some guest lecturers are invited to these seminars. Number of professors from universities in India and other countries have visited the department to give talks about their research activities. The department has been participating in an Indo-Soviet collaboration programme of the Indian National Science Academy. Under this programme, the department is collaborating with Soviet / statistics and probability theory. Two eminent Scientists in a project entitled / statisticians from USSR have visited the department and some teachers from the department are expected to visit USSR shortly. The department is also developing a collaborating programme in the field of 'Theory of Probability and Mathematical Statistics' with the Kiev University under the Indo-USSR Cultural Exchange Programme.

The department has established a statistical service unit which provides consultation services to industries round Poona and other departments of the university. For the students of M.Sc. classes, arrangement for practical training in industries have been made. It is proposed to make these arrangements on a permanent basis with the collaboration from industries.

All the posts approved under the Special Assistance Programme have been filled up. A good departmental library has been developed from the funds available under this programme. The annual expenditure on purchase of journals is about Rs.20,000/-. The total number of books in the departmental and central library is about 5000. At present 33 journals are being subscribed.

The department has shown interest in curriculum development activities. The syllabus is reviewed every 2 or 3 years. The undergraduate syllabus in statistics has also been revised recently. The seminar about undergraduate teaching in mathematics and Statistics was arranged in 1976. All the staff members took active part in this seminar.

The Advisory Committee:

The Advisory Committee met only two or three times during this period. In future the department should ensure that the Advisory Committee meets atleast once a year and the external expert members attend the meetings. The annual progress reports should be reviewed by this committee and future plans for research work could be decided in consultation with this committee.

The Administrative Problems:

The department did not experience any major administrative difficulty in implementing the programme. The university administration has been cooperative. The Head of the Department has full freedom in

purchasing books , journals and equipment. The only difficulty faced by the department is about inadequate representation on board of studies. As per new act the Chairman and members of the board of studies are elected. As a result the department staff is unable to take active steps to change the M.Sc./M.Phil syllabus. The Committee discussed this difficulty with the Vice-Chancellor. The Vice-Chancellor assured that he would take steps to grant autonomy to the department as early as possible. These difficulties could be solved after granting autonomy.

The other difficulty about supporting administrative staff for the department was also discussed with the Vice-Chancellor. He assured that the university would provide necessary staff to the department for proper implementation of U.G.C. Programmes.

Visiting Appointments:

With the assistance available from the Commission the department has invited Professor B.R. Bhat, Karnatak University, as a Visiting Professor. Since one or two professors of the department are usually on long leave at any time, the Committee suggested that the department should utilise the funds thus available for appointment of visiting faculty. This was also discussed with the Vice-Chancellor. The Vice-Chancellor assured that this is possible under existing university rules. He also assured that after the head of the department suggests suitable names he would take action to appoint visiting teachers with least administrative formalities. The university would also make efforts to provide suitable accommodation to visiting faculty.

Future Plans:

The department has prepared a plan for development in next 15 years. This was discussed by the Committee with the Head of the Department and other staff members. The committee noted that the department has proposed number of additional posts for starting new specializations. It was pointed out that the Special Assistance provided by the Commission was for strengthening the existing areas. However, the department has utilised this for starting a new course in Biometry. It is now proposed to start number of new specialisation in next plan. The present staff members have developed interest in certain applied areas like operational research, econometrics, demography, industrial statistics, sample surveys etc and the staff members wanted to have experts in these fields in the department so that viable groups could be formed for research in these areas. The Committee pointed out that this is against the basic philosophy of the Centre of Advanced Study and Special Assistance Programmes. If the assistance provided under the scheme is utilised for starting more and more specialisations, the department is not likely to develop thrust in a few major fields identified for support. At present there are 3 vacant posts of lecturers and while making appointments, the needs of the department for teachers in applied fields could be taken care of. The committee also discussed the promotional prospects for the existing staff members. The department in order to make provisions for promotions of teachers has proposed creation of more senior posts. In order to justify these it is proposed

to introduced more and more specialisations. It is also proposed to start three diploma courses in (i) Industrial Statistics (ii) Operations Research and (iii) Statistical Techniques for research workers.

It should be possible to solve the problem of promotions when the scheme of merit promotions, which has been accepted by the Commission in principle, is implemented. The department has also asked for separate research professor posts devoted exclusively for research. The idea of creating such posts has not been accepted in the country and it would not be possible to sanction exclusive research posts in the university departments at present. However, it should be possible for a department to adjust the teaching programmes in such a way that teachers are free in/for one semester ^{term} and to devote full time to research activities. The Committee discussed this point with the Vice-Chancellor. He agreed that within the existing rules such arrangements can be made.

The Committee after reviewing the achievements made since 1972 felt that the department has utilised the Special assistance provided by the Commission satisfactorily. The Committee would like to recommend to the Commission that the department may be provided further assistance under the Special Assistance Programme for next five years. The progress of achievements could be further assessed after 5 years and the question of up-grading department as Centre of Advanced Study could be considered on the basis of utilisation of this grant for strengthening the teaching and research programmes in probability and Statistical Inference.

Taking into account the present stage of development and the facilities available the Committee would like to indicate the following requirements of the department during the 6th Plan period for strengthening teaching and research activities in Probability and Statistical inference. This assistance should not be used for starting new courses or adding more specialisations. Depending on the ceiling of assistance for each such department (DSA) which the Commission may decide and keeping in view the general support under plan allocation to the university, the department could indicate its actual needs within the ceiling grant available for next 5 years.

NON-RECURRING:

- | | | |
|----|-----------|-------------|
| 1. | Building | Rs.4,00,000 |
| 2. | Equipment | Rs.1,50,000 |

RECURRING (In addition to the present recurring assistance to be taken over by the university/state Government with effect from 1.4.1979)

STAFF

One Professor & one Reader
One Visiting Professor
One Research Associate
3 Junior Research Fellows
to be awarded every year.

- | | | |
|----|------------------|-----------------|
| 2. | Travel | Rs.10,000/-p.a. |
| 3. | Books & Journals | Rs.50,000/-p.a. |
| 4. | Contingency | Rs.10,000/-p.a. |

The additional posts of professor and reader should be filled up only if outstanding persons are available. The Head of the Department indicated some names of eminent statisticians who are

willing to join the department if posts are available. If necessary, the post of reader could be up-graded to a professor, if a really competent and first rate person is available. Against the post of the visiting professor, to be approved, the department could either invite one professor for 12 months or could invite upto 4 persons for 3 months each. This is in addition to the visiting appointments to be made against the long-term vacancies. The promotion of existing . . . readers could be taken care of by merit promotion scheme, when made applicable to the university.

The Committee is grateful to the Vice-Chancellor, Head of the Department and other members of the staff for the cooperation given for the work of the Committee.

LIST OF STAFF MEMBERS IN THE DEPARTMENT OF STATISTICS
POONA UNIVERSITY

Annexure-I

Sl. No.	Name	Qualifications	Field of Specialisations	No of Doctorates supervised/now working	No of papers published.
1	2	3	4	5	6
1.	Prof. V.S. Huzurbazar (Head of the Deptt. now on leave)	M.A., Ph.D.(Cantab) F.N.A , F.S.S., F.A.Sc.	Statistical Inference Probability Theory	9 (all completed)	31
2.	Prof. S.R. Adke Acting Head	M.Sc. Ph.D.(Poona)	Stochastic Processes	6 (2 completed)	21
3.	Prof. B.K. Kale (Now on leave)	M.A. Ph.D.(Poona)	Statistical Inference	2	28
4.	Dr.A.V. Khareshikar Reader	M.A. Ph.D.(Poona)	Statistical Inference	2	4
5.	Dr.S.R. Paranjape Reader	M.S.(Purdue) Ph.D.(Purdue)	Statistical Inference	2	4
6.	Dr.G.H. Marathe, Reader	M.Sc., Ph.D.(Penns- ylvania State Univ.)	Ergodic Theory	2	2
7.	Dr.S. Kunte, Reader	M.Stat(Agra) Ph.D.(Purdue)	Statistical Inference	1	9
8.	Dr.M.S. Prasad Reader	M.Sc.Ph.D. (I.I.T ,Kanpur)	Stochastic Processes	1	1
9.	Mrs.S.S. Beo	M.A.	-	-	3
10.	Dr.M.B. Rajarshi	M.A., Ph.D.(poona)	Stochastic Processes	-	2
11.	Sh.R.N. Rattihali	M.Sc.	Statistical Inference	-	-
12.	Shri S.D. Gore	M.A.	Stochastic Processes	-	3
13.	Dr.D.G. Mahajan	M.Sc., Ph.D. (I.I.T ,Bombay)	Operations Research	-	4
14.	Appointment made	- not yet joined.			

REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
to
.....
DEPARTMENT OF METALLURGICAL ENGINEERING
BANARAS HINDU UNIVERSITY
VARANASI

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002
1978-79

Report of the Expert Committee to the Department of Metallurgical Engineering, Banaras Hindu University, Varanasi, for assessment of the work done under the Special Assistance Programme since 1972.

The University Grants Commission on the advice of the Standing Committee for the Programme of Centres of Advanced Study and Special Assistance to the Selected Departments invited the Department of Metallurgical Engineering, Banaras Hindu University to participate in this programme in 1972. As per general policy, the assistance which was made available for an initial period of 5 years was extended up to 31.3.1979. For the assessment of the work done under the Special Assistance Programme an Expert Committee consisting of

1. Dr. Brahm Prakash
Director
Vikram Sarabhai Space Centre
Trivandrum.
 2. Professor E.C. Subba Rao
Indian Institute of Technology
Kanpur
- and
3. Shri A.G. Deshmukh
Education Officer
University Grants Commission
New Delhi

visited the Department on 21.3.1979. The Committee had a detailed discussion with all the staff members and also visited the Department and examined the various facilities available in the Department. The Committee also met the Vice-Chancellor of the Banaras Hindu University.

The Department of Metallurgical Engineering, Banaras Hindu University is one of the oldest Departments of Metallurgy and is

offering degree course in Metallurgy since 1923. The Post-graduate courses were started in 1957. The Department provides facilities for teaching B.Sc. Tech. courses in Metallurgical Engineering with the intake of about 40 students. The duration of B.Sc. courses is 5 years, but the first 2 years are a common programme for the B.Sc. Tech. students. For the M.Tech. courses, the approved intake is 25 but normally about 10 students are admitted. The Department has about 20 students enrolled for research. The Department has a staff of 8 Professors, 13 Readers and 16 Lecturers. All staff members are engaged in Undergraduate and Post-graduate courses and also in research work. The details of the assistance provided under this programme during Vth Plan period is given in Annexure I. In addition to this, the Department was provided an allocation of about Rs. 8 lakhs in V Plan Development Schemes of the Commission. The Committee which has visited the Department in 1972 has recommended that the Special Assistance may be provided for the development of teaching and research in Physical Metallurgy.

At present the major areas of research in the Department are

- a) Rapid solidification studies
- b) Metal casting technology
- c) Phase stability and transformation studies
- d) Deformation and fracture studies
- e) Thermodynamic studies
- f) Kinetic studies
- g) Extractive metallurgy

The Department has also taken steps to develop research activities in corrosion and in metal joining. As a result of research activities, the Department has produced 16 Doctorates since 1972 and 20 more students are working for their doctorate degrees. The Department has produced 66 M.Techs. The research publications number about 250. The Department has participated in 2 International Collaboration programmes namely (1) Indo-German Cultural Exchange Programme and (2) Indo-British Universities Collaboration Programme. The first programme was initiated in 1975. Under this programme, the Institute has collaboration with 3 institutions in West Germany namely, the Max-Planck-Institut fur Metallforschung, Stuttgart, Institut fur Werkstoffwissenschaften, Erlangen and Max-Planck-Institut fur Eisenforschung, Dusseldorf. The research work on Structure, Energetics and Mechanical Properties of Metallic systems would be undertaken during the 5 year period. Under the IBUC programme, the Department is collaborating with the Sheffield University in the field of technology of primary metal processing. Under these programmes the exchange of visit of teachers were arranged. Some sophisticated equipment is likely to be obtained under these programmes. In the research activities of the Department, greater emphasis is being laid on the problems relating to industries. The Department has initiated an Industrial Consultancy and Liaison Cell and has developed contacts with industries concerned. A number of experts from metal industries have visited the Department and delivered special lectures. The consultancy services have been offered to Messrs Hindustan Steel, Ranchi, Hindustan Aluminium Corporation, Renukoot and a number of small scale industries.

The Committee formed the following impressions based on the visit to the various laboratories and detailed discussion with the faculty and research workers. The quality and quantity of research has gone up substantially as a result of the Special Assistance Programme provided to the Department. Several Masters and Ph.D. degrees have been awarded. The large number of outstanding publications both in India and abroad and a number of successful conferences that have been held on a variety of metallurgical topics in the Department is a testimony to the successful utilization of the Special Assistance Programme. The Committee strongly feels that the Department of Metallurgical Engineering at B.H.U. and in particular the Physical and Mechanical metallurgy groups are amongst the best in the country and also comparable with some of the best groups in the world. The Department received recognition in the form of a large number of awards and other distinctions conferred on the faculty. They have been able to establish academic collaboration with metallurgical centres in India and abroad.

The Committee was highly impressed by the functioning and full utilization of the support provided to the Department under Special Assistance Programme in the form of personnel, equipment, library grants and recurring funds. The equipment acquired under this programme is being fully utilised for teaching and research programmes. In fact, based on the infrastructure built partly from the special assistance programme, the Department in general and physical metallurgy group in particular has been able to attract substantial research.

support, from various agencies such as Aeronautics Research and Development Board, Department of Science and Technology etc.

Another happy development which the Committee noted was the trend towards industrial utilization of research in a variety of fields. One of the obvious ones in this respect was the good work in the field of metal casting.

The Department which has attained a high degree of professional maturity has many interesting ideas which it would like to pursue. The Department already has a strong programme in mechanical properties, phase transformation, rapidly quenched alloys etc. They have come up with worth-while research plans for the future. These include fracture mechanics and mechanisms, metallic glasses, structure-property correlation in a wide range of technically important and modern alloys.

Based on what has stated above, the Committee unanimously recommends that

(1) A Centre for Advanced Studies be established at the Department of Metallurgical Engineering in the field of Physical and Mechanical metallurgy.

(2) The support be provided to the Centre as per details attached in Annexure II. The Committee would like to emphasise that the recommendation about creation of the Centre is based on the outstanding academic and research record of the Department. The Committee wishes to underlike the fact that the Centre is in an

engineering discipline where research costs are necessarily high compared to many other areas of academic research. Keeping in mind the tight resource position, the Committee took great pains to recommend a minimum programme that is essential to nurture and sustain a centre of excellence that has been created at this Institute with the support of UGC. The Committee strongly feels that any decrease in the proposed support would hamper the full blossoming of the promise held by the Department.

The Committee would like to make a special mention of 2 items of equipment requested by the Department, but not included in the Annexure II. One is X-ray Fluorescence Spectrometer which is an essential item for analysing all metals, alloys and other metals. Considering that it is an expensive item (Approximately Rs.12 lakhs) the Committee feels that the U.G.C. should provide funds for this important equipment to the Institute of Technology or to the B.H.U. as part of the sophisticated instrument centre in this University. In that case, it will be available not only to the Centre of Advanced Studies of the Department of Metallurgical Engineering but to other researchers in the University. The second item is a Sputtering Unit which is needed for a variety of materials research including studies of metals and alloys. It is strongly recommended that this equipment be made available by UGC possibly through the School of Materials Technology established at this University.

The Committee is grateful to the Head of the Department and all the staff members for the cooperation given for the work of the Committee.

ANNEXURE - I

Assistance provided under the Special Assistance Programme

I. Staff

1. <u>Academic</u>	Professor	1
	Readers	2
	Lecturers	2
2. <u>Supporting</u>	Scientific Officer	1
	Instrument Technologist (EM)	2
	Assistant Librarian	1
	Mechanic (Turner)	1
	Assistant	1
3. <u>Research</u>	Senior Research Fellows	4

II. Non-Recurring grants

1. Building	Rs. 1,60,000
2. Equipment	Rs. 9,50,000
3. Books and Journals	Rs. 1,00,000
4. Stock of pure metals	Rs. 1,00,000
5. Additions / Alterations	Rs. 1,00,000

III. Recurring grants (p.a.)

1. Books & Journals	Rs. 10,000
2. Chemicals etc.	Rs. 25,000
3. Contingencies	Rs. 5,000
4. Visiting Fellows	Rs. 10,000
5. Seminars	Rs. 10,000

ANNEXURE - II

- I. Staff:
- One Professor of Metallurgical Engineering
(Physical/Mechanical Metallurgy)
 - Two Readers of Metallurgical Engineering
(Physical/Mechanical Metallurgy)
 - One Foreman in the grade of Rs.700-1300
 - One Scientific Officer in the grade of Rs.700-1300
 - One Assistant Librarian in the grade of Rs.700-1300
 - Two Research Associates.....

II. Non-Recurring Grants:

Equipment	Rs.20,00,000
1) EDAX Analyser for Scanning Electron Microscope	Rs.6,00,000
2) MTS 50 Ton Dynamic Mechanical Testing Machine	Rs.10,00,000
3) Accessories of existing equipment and spares and minor equipments	Rs. 4,00,000
Books and Journals	Rs. 1,00,000
Additions, alterations and Furniture	Rs. 2,00,000
Maintenance and spares	Rs. 2,00,000

III. Recurring Grants: (Including grants allocated in V Plan and
now available under maintenance grant)

Books and Journals	Rs.12,000/-
Chemicals	Rs.30,000/-
Contingencies	Rs. 8,000/-
Visiting Fellows	Rs.10,000/-
Seminars	Rs.10,000/-

REPORT
of
ASSESSMENT COMMITTEE
for
SPECIAL ASSISTANCE PROGRAMME
..... to

DEPARTMENT OF PHYSICS
ANDHRA UNIVERSITY
WALT AIR

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002
1978-79

UNIVERSITY GRANTS COMMISSION

Report of the assessment committee to the Department of Physics, Andhra University for the programme of Special Assistance to Selected Departments.

The Department of Physics, Andhra University was invited by the Commission to participate in the programme of Special Assistance to selected departments in 1972. The assistance was provided for initial period of five years and as per general policy this was extended upto March, 1979. An Expert Committee consisting of (i) Professor J.N. Bhar; Calcutta University and (ii) Prof. CSRK Setty; Delhi University was constituted to assess the work done by the department since 1972. Professor Bhar visited the Department on December 21, 1979. Professor Setty could not visit the Department due to non-availability of air-tickets. A meeting of the committee was held in New Delhi on January 23, 1979. In this meeting Professor B.R. Rao, Vice-Chairman, U.G.C. who was head of this Department earlier, Professor M.S. Rao, in-charge of this programme, Dr. D. Shankar Narayan, Additional Secretary, U.G.C. and Shri A.G. Deshmukh, Education Officer, U.G.C. were present. The achievements of the department and its future programmes were discussed in detail. Professor Setty was requested to go through the earlier reports including UNESCO experts reports and to consolidate the recommendations taking into accounts all these reports.

The expert committee which visited this department in 1970 has recommended special assistance for the development of teaching and research activities in the field of ~~heronomy~~ heronomy. The details of assistance provided under this scheme and also under V Plan development

schemes are given in the Appendix-I. The department was also provided assistance for running the post M.Sc. Diploma course in space sciences. The department was one of the department selected for UNDP/UNESCO assistance. Under this scheme equipment worth \$ 40,000/- was supplied to the department. Two consultants (1) Professor C.S.L. Keay, University of New Castel, Australia and Dr. Kingsley, University of Sheffield, U.K. visited the department. Four teachers of the department were sent abroad for training/visits.

The department offers M.Sc. (two year course), M.Sc.(Tech.) three years course, one year post M.Sc. Diploma course in space sciences and technology. and one year post B.Sc. Diploma in Electronics.

The intake in these courses is as follows:-

i)	M.Sc.	56 per year
ii)	M.Sc.(Tech.) Electronics	8 per year
iii)	Diploma in Space Sciences and Technology	10
iv)	Diploma in Electronics	12

In addition about 50 students (including teachers fellows) are enrolled for Ph.D. The staff strength of the department is 4 Professors, 9 Readers and 17 Lecturers. The department has about 50 supporting staff members.

The department is one of the first departments to take up the University Leadership Project under the College Science Improvement Programme. Under this programme the department has revised the B.Sc. syllabus and arranged number of training/orientation programmes for college teachers. The department has prepared question banks,

developed demonstration experiments, written text books, supplied books and equipment to colleges. The Physics Instrumentation Workshop was sanctioned in the department to develop and produce on large scale equipment required for instructions in colleges. Under this scheme some items of equipments were produced and supplied to colleges.

The major area of research in the department is Aeronomy. The major work is about dynamical behaviour of the ionospheric regions, specifically irregularities and drifts of ionization. Extensive drift measurements in the E and F region have been carried out using the spaced receiver technique developed by Shri S.N. Mitra. This method has been improved by the department by recording the phase path simultaneously. This has led to identification of sea back scatter reflections which may prove to be a very useful tool of monitoring sea waves and sea currents which in term may help predict and track formation of storm centres in the sea.

The Aeronomy field station located about 15 km away is a good facility available to the department for meteor radar work. With the installations of equipment provided under UNDP assistance scheme the department is fairly well equipped to continue the research activities in this area.

The research work is being carried out also in Meteor Wind Radar, Meteor Forward Scatter, Meteor Backward Scatter and Beacon Satellite Sounding. The progress of research in these fields is quite satisfactory. The Meteor Wind Radar is nearly complete

and first results were expected in 1978. The Beacon Sattelite experiment was carried out with the Rotating Faraday Palarimeter made available by the Physical Research Laboratory when the ATS-6 Geostationery Sattelite transmissions were available (Aug - 1975 to July 1976) and the measurements are in progress at present using transmissions from other sattelites. The results of forward scatter equipments between Waltair and Dehradun and of Sea back scatter have been published. Studies have also been made using metesrological rocket data taken at Thumba. In this connection the committee would like to quote from Professor Keay's report.

..... "The Andhra Station would become one of the most important. . . station in the global meteor network because it was pointed out by Professor T.R. Kaiser, a leading meteor scientist that a meteor Radar near the equator has the unique ability to measure the meteor influse directly without the correction necessary in observations from higher latitudes. The Andhra station is equatorial. The results gained could ~~therefore~~ become the base line data for all other stations".

Future Research Programmes

C.W. Meteor Wind Radar:- An additional facility to the existing wind radar. The Wind Radar facility was being established with UNDP assistance. The results were expected in the early 1978. The full potential of this experiment must first be realised before expanding the facility - ~~the slow Studies.~~

Air glow Studies:

A new proposal also referred to in Dr. Kingsley's report. This proposal involves duplication of the ~~set~~ up at Poona. The object of this experiment is to establish the equatorial geomagnetic anomaly. This proposal is scientifically sound.

Studies of TID's by Doppler Technique:

This is a proposal which involves multistation recording simultaneously with accurate time synchronism. An isolated effort does not yield useful information. The recent ATS-experiment with a number of organizations involved did a commendable job. This experiment should be thought of on a national basis.

V.L.F. Amplitude and Phase recording:

The cost of VLF receiver is grossly under-estimated. The receiver and the crystal oscillator together cost nearly Rs 1,00,000.

This is essentially a complimentary experiment in support of other major experiments like Partial Reflection or wave interaction experiment. This may be continued as it is.

F5. Sea Back Scatter Studies

The committee recommends this experiment. Waltair is ideally situated for carrying out this experiment and it is application oriented .

F6. Rocket Studies including Pay load Fabrication.

The rocket pay load work for a University department is extremely difficult and yet important. This needs a well- equipped sophisticated electronic workshop. So do the other major experiments such as the partial reflection experiment. The partial experiment was proposed

course. The term Technology may be dropped as there is no technology involved in the existing course. The courses in Space Sciences were first encouraged by the UGC almost a decade ago and recommended that five selected universities namely, Ahmedabad, Kerala, Waltair, Calcutta and Delhi universities should start such courses. Of these Gujarat, Kerala and Andhra Universities started these courses. Gujarat is doing well in collaboration with the Space Applications Centre. Kerala's efforts were not successful and they have stopped offering these courses. Waltair's Post M.Sc. Programme has not been to successful. I.S.R.O. is also not very favourable for such courses. In the light of the above remarks it is suggested that a combined course in Electronics and Space Sciences may be examined.

The committee also considered the reports made by two UNESCO consultants about research programmes. These reports include number of valuable suggestions and the department should take note of these. The committee after examining the achievements of the department during last seven years came to conclusion that this department has utilized the assistance provided by the Commission well and has been able to achieve the objectives of the programme. The committee would like to recommend to the Commission that the department be provided further assistance under this programme for next five years. The question of upgrading the department as a Centre of Advanced Study could be considered after evaluating the work done in next five years. The committee would like to suggest following allocations to the department during next five years.

Non-recurring

1) Building	Rs.2,00,000/-
2) Equipment including vehicle	Rs.5,00,000/-
3) Books and Journals	Rs. 50,000/-

Recurring:

Professor (Space Physics)	One
Research Associate	One
Senior Research Fellows	Two (fixed)
Junior Research Fellows	Four (per year)
Maintenance and contingencies	Rs.50,000/- per annum
Books and Journals	Rs.10,000/- per annum
Technical staff (Electronics Engineers and supporting tech. staff)	Rs.60,000/- per annum

The department may be allowed to modify the requirements in the light of the recommendations of the committee and allocations made available within the plan development grants.

Appendix-I

Assistance provided to the department of Physics,
Andhra University.

1) Special Assistance Programme (1972-73)

Non recurring Rs. 5,00,000/-

Equipment Rs. 5,00,000/-

Books & Journals Rs. 1,00,000/-

Others Rs. 50,000/-

Staff One Professor, One Reader, One Lecturer, One Electric

Engineer, One Electronic Technician and One Instrument

Technician.

Fellowships : Two senior Research Fellowship, Four Junior Research
Fellowships per year

Other Recurring items:

i) Books and Journals Rs. 10,000/-p.a.

ii) Chemicals etc. Rs. 20,000/-p.a.

iii) Contingency etc. Rs. 5,000/-p.a.

iv) Seminars Rs. 10,000/-p.a.

v) Visiting Fellowships Rs. 10,000/-p.a.

II) UNDP/UNESCO Assistance

Equipment \$ 40,000

Consultants : Two

Training Fellowships : Four

III) Assistance under CGSIP

I Phase Rs. 10,50,000/-

II Phase Rs. 1,80,000/-

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IV)	Physics Instrumentation workshop (Extended upto 31.3.1979)	
A.	Non Recurring	Rs. 85,000/-
B.	Revolving Funds	Rs. 85,000/-
C.	Expenditure on Research and Development	Rs. 51,000/-pa.

V) Assistance after organising Post M.Sc. Diploma course in
Space sciences.

A) Non-recurring

Equipment Rs.2,00,000/-

Two additional rooms for
field station Rs. 30,000/-

Total: Rs.2,30,000/-

Recurring Rs. 55,000/-p.a.

Staff:-

2 Readers, 1 Lecturer, 1 Electronics Engineer, 1 Electronics Technician

VI) Plan development Grants:-

Physics

Books Rs. 50,000/-

Equipment Rs.4,00,000/-

Staff:-

1 Professor, 1 Reader, 1 Lecturer, 3 Fellowships.

R E P O R T

of

ASSESSMENT COMMITTEE

for

SPECIAL ASSISTANCE PROGRAMME

to

DEPARTMENT OF ZOOLOGY

BANARAS HINDU UNIVERSITY

VARANASI

UNIVERSITY GRANTS COMMISSION
NEW DELHI-110002

1978-79

UNIVERSITY GRANTS COMMISSION

Report of the Committee to the department of Zoology
Banaras Hindu University, Varanasi for the assessment
of work done under Special Assistance Programme.

The University Grants Commission in 1972 invited the Department of Zoology, Banaras Hindu University to participate in the programme of Special Assistance to Selected Departments. As per general policy the period of assistance, which was initially for five years, was extended . . . upto March, 1979. An expert committee consisting of (1) Prof. S.K. Manna Kalyani University (2) Prof. S.S. Guraya, Panjab Agricultural University and (3) Shri A.G. Deshmukh, Education Officer, University Grants Commission, visited the department on 22nd and 23rd March, 1979. The committee had detailed discussion with Professor J.P. Thapliyal, Head of the Department and other staff members. The committee went around the department and met each staff member individually and saw the facilities available.

The department is one of the oldest departments of Zoology in the country. In the earlier period the department under the leadership of Professor A.B. Misra developed research activities in the fields of Structural Entomology, Cytology, Fish Morphology and Avian Reproduction. Later under the leadership of Professor S.P. Ray Chaudhari an active school for research in Cytology and Radiation Biology was developed. The research activity in cell Physiology and Biochemistry of aging and Reproductive Biology was also developed. As a result of these activities this department was provided special assistance by the Commission. The details of assistance provided under this scheme

Contd...2....

is given in Annexure-I. At present the department has staff of 3 Professors, 4 Readers and 13 Lecturers (including 3 Temporary lecturers), and posts of one Professor, 5 Readers, and 4 Lecturers are lying vacant. The department has about 30 supporting staff. At present 60 research students are working in the department. There are also two post-doctoral fellows and one research associate. The staff of the department is involved in B.Sc. and M.Sc. teaching. The total B.Sc. enrolment is about 500. The M.Sc. enrolment is about 25 each year. The number of doctorates awarded every year is about 12.

Some of the staff members of the department received S.S. Bhatnagar Award, INSA Young Scientists Awards, Krishnamurty Award etc.

At present a number of sponsored research schemes are in operation and practically every staff members has one or more schemes supported by UGC, INSA, CSIR etc.

The committee which visited the department in 1971, while recommending special assistance has given specific comments about organization of the department. These observations are reproduced below:

"However before making specific recommendations regarding the assistance that may be provided, the Committee would like to make certain observations with regard to the present organization of the department and utilisation of the instrumentation and other facilities. While there is considerable ^{over}lapping of the research interest and also techniques employed in the research programmes undertaken by the department, one cannot escape the feeling that the three different groups have tried to develop independent

facilities required for their programmes rather than make an attempt to developing certain common facilities of instrumentation of sophisticated nature and also workshop facilities with a view to bringing about some economy as well as effective utilisation. There is also lack of coordination of efforts between this department and the Department of Botany as well as the related biological sciences department in the College of Agriculture and the College of Medicine. As mentioned earlier, the department used to participate in the teaching programmes of Biochemistry but this arrangement seems to have ceased in recent months. The department has recently obtained an Electron Microscope under the U.S. dollars loan and this could be used by this department as well as the Department of Botany and others. Similarly the ultra centrifuge included in this department's proposals is available already in the Department of Botany and could therefore be used. There are several other similar instances where sophisticated equipment available could be brought together and maintained properly with the help of technicians and for the common use by all scientists in the University.

On the basis of the assessment of the relative strength of the different research groups in the department, the committee has come to the conclusion that it would not be quite appropriate at this stage to recognise this department as a Centre of Advanced Study. This question can be considered in the Fifth Plan period. In the meantime, in order to encourage the research groups and their efforts towards evolving a common programme for the department, the committee strongly recommends that the present potential

should be assisted substantially during the Fourth Plan Period."

Some of the observations quoted above are still applicable.

The committee has a feeling that a healthy team spirit is lacking for personal factors. Out of the three major areas identified in the special assistance programme (1) Cell Physiology and Biochemistry and (2) Cytogenetics being relatively small groups, all the teachers concerned were involved and have presented their consolidated report and requirements. While the third area Reproductive Biology include large number of teachers with different specializations. In this area one Professor and few staff were involved in the programme and report was submitted by this small group. In view of this the committee visited each and every teacher present, and received their reports and requirements individually. The committee noted that the books purchased under this programme are kept separately with three groups and are not available for general use. Similarly the equipment available in one group is not made freely available to others thus many teachers of the department specially who are outside the groups were to look for similar facilities outside the department when these are available in the department. In spite of all these problems the overall performance of the department is very good. The teachers have been able to obtain research grants from various other sources and carry out the research activities by using facilities available elsewhere. The other difficulty was about filling up of the posts. These posts were advertised three times, interviews were also held, but the posts could not be filled up. Some teachers appointed earlier have also left and as a result 10 posts are

vacant at present. This has resulted in frustration among some staff members. A brief report of the research activities is given below:-

I) Cytogenetics Section:

The group consist of one Reader and two Lecturers. The post of Professor is lying vacant. This should be filled up immediately.

The research work is being carried out in three major areas (i) Mammalian Cytogenetics (ii) Systematics, Population Cytogenetics and Ecology of Indian Drosophilids and (iii) Chromosomal Organization and Function in Drosophila. The emphasis in research is on cytogenetics of wild populations and structural and functional organization of chromosomes. In mammalian cytogenetics the work is concentrated (i) the structural conservation and function of mammalian sex chromosome (ii) the structural organization and the role of heterochromatin in evolution and cell metabolism (iii) phylogenetic relationships and karyotypic divergence and (iv) Cytogenetic effects of X-irradiation and certain chemicals of known physical actions.

The department has undertaken more extensive field collections in remote and inaccessible areas to fill up gaps in the knowledge of distribution of Drosophila in India. Many new species were recorded for the first time in India. The work on chromosomal polymorphism in Drosophila is also being carried out. In recent years work on functional organisation and regulation of genetic material in Drosophila has been initiated. The group has also prepared plan

for future research activities. About 100 research papers have been published since 1972 and 6 students have been awarded doctorate degree. An all India Cell Biology Conference was held in the department in January, 1977.

II) Cell Physiology and Biochemistry: The group consists of one Professor and three Lecturers (one Reader post is vacant and one lecturer is on leave) and about 16 research students. The research work is being carried out on biochemical aspects of aging studies were undertaken on (i) induction and regulation of enzymes (ii) receptor proteins (iii) primary structure of muscle proteins

(iv) nucleic acids and (v) chromosomal proteins. It is proposed to carry on more extensive studies on aging. As a result of these research activities about 60 papers have been published since 1972 and 9 students have been awarded doctorate degree.

The group is collaborating with other university departments working in this area in India and abroad. Some assistance has been received from Nuffield foundation, London, National Institute for Medical Research, London. Professor Kamungo was awarded S.S. Bhatnagar Award for his research work. A number of scientists from other countries have visited the laboratories. Professor Kamungo was visiting Professor at West Virginia University, USA and has completed a book on 'Biochemistry of Aging'. This book is based on the research work done in this department and the 'Academic Press', London is publishing this book.

III) Reproductive Biology Section:

This is the largest group in the department and in broader sense includes all the rest of teachers i.e. 2 Professors, 3 Readers and 6 Lecturers. Each teacher is working independently with his own collaborators but without having over all collaboration with others. The research work is being carried out on various topics. In the field of vertebrate reproduction work is being done on mammalian reproductive pheromones, avian and mammalian reproduction, hypothalamo-hypophysial complex (hypothalamic neurosecretion, pituitary cytology etc) In reproductive physiology work on time in migratory and other birds, Endocrinology of reproduction in reptiles, Hormonal interactions during different phases of annual (a) gonad development and (b) body weight cycles etc. are being carried out. The work on avian reproductive physiology and endocrinology, avian photoperiodism is also being carried out. Endocrinology of insects and fish is also being studied. About 250 research papers have been published since 1972. Some good work on parasitology and Tumor Biology, Histophysiology, wound healing is also being carried out.

The committee after careful scrutiny of the research activities of the department felt that the overall progress of research is satisfactory in all the three major areas. The performance would have been much better if teachers working in certain areas like fish endocrinology, mammalian reproduction, Insect endocrinology, Cell Biology etc., which also pertain to these three identified areas have been associated with this programme. For future programmes

Contd...8...

this should be kept in mind. The committee would like to suggest some specific safeguards for proper implementation of this programme in future. In the past the advisory committee never met and the departmental staff was not generally consulted in implementing this programme. Therefore, it is extremely important to constitute the advisory committee as per Commission's guidelines with outside experts and representatives of teachers and consult it for proper implementation. If it is possible some departmental committee could be constituted to solve problems in day to day working of the department. The tendency to develop independent facilities should be discouraged. All the books, equipment available could be used as a central facility by all the teachers. The committee discussed this question with the senior teachers. At present most of the major equipment available has been purchased out of grants received from foreign agencies for individual research projects and the concerned persons are not willing to move it outside their own laboratories. From the special assistance programme equipment grant only minor items of equipment have been purchased. The teachers were complaining about lack of space, animal house facilities etc. The committee, however, feels that the present space and facilities are not very poor and with proper adjustments this problem could be solved. One or two teachers have very little space but on the other hand some teachers have much more space. The V plan allocation of Rs. 1 lakh for building has not been utilised. The animal house facilities are also not very bad and it should be used as common facility by all the staff members.

The department obtained an Electron Microscope under the US dollar loan scheme. Some parts of this equipment were lost in transit and the equipment has not been installed. Some legal case is going on about this matter. It is not likely to be decided soon. The air-conditioned room prepared for this could be used for installation of all the sophisticated equipment. The committee would like to recommend two technical assistants one for optical instruments and one for electrical instruments. This would help the department to keep the sophisticated equipments in working condition.

The department staff needs to be strengthened by addition of a Reader in biostatistics. This would help all the three research groups in their work.

At present 10 posts are vacant and the committee would like to stress that immediate steps be taken to fill up these posts.

While providing continued assistance during next five years it should be ensured that all the teachers working in related areas as indicated earlier are covered under this programme.

Subject to these comments the committee would like to recommend that the department may be provided continued support under the special assistance programme in the VI Plan period. The committee would like to indicate following requirements of the department in the next plan period. Keeping in view the ceiling of assistance to be provided to each such department and likely allocations under the VI Plan development grants this may be modified. The new posts under this

programme could be approved only after all the sanctioned posts including the Professor of Cytogenetics have been filled up and only if required for the special areas indicated.

Recurring:

Staff

One Professor in Reproductive Physiology (Preferably in non cordate lower vertebrate)

Readers	Four	One	Cell Physiology/Biochemistry
		One	Bio Statistics
		One	Cytogenetics
		One	Reproductive Biology

. . Research Associates . . Four

One Cytogenetics
Two Reproductive Biology and Endocrinology,
One Biochemistry,
Jr. Research Fellows 3 p.a.

Technical Staff:

Two Senior Tech. Assistants
One for Optical Instruments and
One for Electrical Instruments

II Other recurring heads (In addition to the allocation approved earlier which are available under maintenance grant with effect from 1.4.1979)

i)	Books and Journals	Rs. 5,000/-p.a.
ii)	Chemicals	Rs. 10,000/-p.a.
iii)	Contingency	Rs. 15,000/-p.a.
iv)	Travel	Rs. 5,000/-p.a.

Non-Recurring

1) Equipment Rs.7,00,000/-

Motor activity recorder, cytophotometer, U. V. Spectrophotometer, Research Microscopes, L.S. Counter, Isoelectric Focussing, High Speed Refrigerated centrifuge, Fluroscence Microscope with photographic attachment, Esterling Angus (10 channels, and two recorders)

2) Books and Journals Rs.1,00,000/-

The committee is grateful to the Head of the Department and other staff members for the Cooperation given for the work of the committee.

Annexure - I

Grants provided to Department of Zoology - Banaras Hindu University under Special Assistance Programme.

Non-Recurring Grant

<u>Sl. No.</u>	<u>Items</u>	<u>Allocation</u>
1.	Equipment	Rs. 3 lakh
2.	Books & Journals	Rs. 1 lakh
3.	Any other	
.....	(Building)	Rs. 1 lakh

Recurring Grant

1.	Books & Journals	Rs.10,000/-p.a.
2.	Chemicals	Rs.20,000/-p.a.
3.	Contingencies	Rs. 5,000/-p.a.
4.	Visiting Fellows	Rs.10,000/-p.a.
5.	Seminars	Rs.10,000/-p.a.

6. Staff Post sanctioned

(a) Academic

i) Readers	3
ii) Lecturers	2

(b) Research Fellows

i) Junior	3 p.a.
ii) Senior	3

(c) Technical

i) Sr.Tech. Asstt.	1
ii) Sr. Workshop Asstt.	1
iii) Cultur Asstt.	1
iv) Office Asstt.	1

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 26th October, 1979

Item No.4.02 : To receive the report of the Committee appointed to consider the question whether the maintenance grants to the Central Universities and also deemed to be Universities be paid on Block Grants System or on the basis of annual grants/deficits.

The Commission appointed a Committee consisting of the following to consider the question whether the maintenance grants to Central Universities and also to institutions deemed to be Universities may be paid on a system of Block Grants or on the basis of annual grants:-

1. Prof. A.M. Khusro,
Vice-Chancellor
Aligarh Muslim University
Aligarh
2. Prof. R.C. Mehrotra,
Vice-Chancellor
Delhi University, Delhi.
3. Shri S.N. Pandita,
Joint Secretary
Ministry of Education & SW
New Delhi
4. Shri J.A. Kalyanakrishnan
Financial Adviser
Ministry of Education & SW, New Delhi.
5. Prof. Ramesh Mohan
Director,
Central Institute of English
& Foreign Languages
Hyderabad
6. Shri J. Veeraraghavan,
Consultant
National Staff College
New Delhi

The Committee has submitted its report and a copy of the report is attached as Annexure-I.

The main recommendations of the Committee are summarised below:-

period

1. As per existing decisions the current Plan period Covers the 1978-1983 and two years 1978-79 and 1979-80 have already gone by and the budget exercises for these two years have been undertaken on the basis of assessment of the requirements on an annual basis and any block grant exercise for the current Plan period, therefore, will be feasible only on the basis of the needs of each Central University assessed for the period 1981-1983.
2. In order to have a sound base of reasonably accurate calculations of per student cost or other such cost units, a simple scrutiny of past expenditure and determination of the gross deficit, from which block grant for a five year period is derived, is an unsatisfactory and unscientific method and past experience has shown that block grants determined in this fashion had tended to be liberal. The Institutions had in some cases resorted to application of surplus resources for new items of expenditure or for creation of posts, while laying claims to receive the block grant in full, irrespective of the actual expenditure. Derivation of bench marks like per student cost or other unit cost would provide not only a sound basis for determining block grants but also provide tools in the hands of the UGC as well as the Institutions for appraisal of work in financial terms.
3. Block grant exercises may be done for the period 1983-88 corresponding to the possible 7th Plan period and for this purpose the Commission may initiate steps from now for developing the data, which can be considered and examined by an Expert Group to be set up for determination of block grants. This Group could preferably be set up early in 1981 so that its recommendations would be available for the Commission to consider and take decision before the budgetary exercises for 1983-84 commence in later part of 1982.
4. The National Institute of Education Administration may be requested to assist in designing a questionnaire for collecting such data and information.
5. At present the savings that exist out of the maintenance grants fixed or released arise mainly from vacant posts

even though some savings also accrue from scholarships and fellowships and such savings are mostly used for creating non-teaching posts. The Universities have not been fixing any annual ceilings for creation of posts based on the total resources available for the University. It would be prudent therefore to set apart a certain percentage for re-appropriation instead of allowing savings for creating such positions.

6. The University may adopt the practice that is being followed by the Government of India regarding opening balances i.e. upto 1/12th of the annual budgetary allocation in the month of April every year for carrying on its existing activities.
7. The Commission may appoint a Committee which may examine the budget estimates received from the Universities to determine the annual block grant of the Universities.
8. The terms and conditions attached to the Utilisation of the non-plan grant by the Universities so far may be reviewed on the basis of past experience since the maintenance grant will be fixed on an annual basis till 1983.

The report of the Committee is placed before the Commission for consideration.

US (NP)/DS (NP)

UNIVERSITY GRANTS COMMISSION

Minutes of the meeting of the Committee appointed by the UGC regarding maintenance grant to Central Universities and Institutions deemed to be Universities.

The second meeting of the Committee appointed by the University Grants Commission to consider the question whether maintenance grant to Central Universities and Institutions deemed to be Universities, be paid on a block system or on the basis of annual deficit, was held on 18th August, 1979 in the UGC office. The following were present:-

1. Shri J.A. Kalyanakrishnan
Financial Adviser,
Ministry of Education & Social Welfare
New Delhi.
2. Prof. Ramesh Mohan
Director
Central Institute of English and
Foreign Languages,
Hyderabad.
3. Shri J. Veeraraghavan
Consultant,
National Staff College
New Delhi
4. Shri R.K. Chhabra
Secretary
University Grants Commission
5. Shri M.P. Balakrishnan
Deputy Secretary
University Grants Commission
6. Shri V.M. Seth
Under Secretary
University Grants Commission

Vice-Chairman, UGC was also present at the meeting for sometime.

Prof. A.M. Khusro (Aligarh Muslim University), Prof. R.C. Mehrotra (Delhi University) and Shri S. N. Pandita, Joint Secretary

Ministry of Education and S.W. could not attend the meeting.

The Committee noted the contents of the working paper already circulated regarding maintenance grant paid to Central Universities and Institutions deemed to be Universities by the University Grants Commission since 1953 as also the guidelines and norms fixed by the UGC/Government of India for fixing the maintenance grants or its payment and utilization from year to year.

△basis of

The Committee also noted that as per existing decisions, the current plan period covers the period 1978-1983 and two years 1978-79 and 1979-80 have already gone by and the budget exercises for these two years have been undertaken on the/assessment of the requirements on an annual basis and any block grant exercise for the current plan period, therefore, will be feasible only on the basis of needs of each Central University assessed for the period 1981-1983.

Moreover, the assessment of a block grant for a period of five years would have a sound base if reasonably accurate calculations of per student cost or other such cost units can be derived. It was considered that a simple scrutiny of past expenditure and determination of the gross deficit, from which block grant for a five year period is derived, is an unsatisfactory and unscientific method and past experience has shown that block grants determined in this fashion had tended to be liberal. The Institutions had in some cases resorted to application of surplus resources for a new items of expenditure or for creation of posts, while laying claims to receive the block grant in full, irrespective of the actual expenditure. Derivation of bench marks like per student cost or other unit cost would provide not only a sound basis for determining block grants but also provide tools in the hands of the UGC as well as the Institutions for appraisal of work in financial terms. It would take time to collect and study the necessary data for carrying out exercises towards this and while it is desirable to commence such exercises, it is unlikely that data necessary for block grant will be available before the second half of 1980,

It was, therefore, considered that the block grant exercises may be done for the period 1983-88 corresponding to the possible 7th Plan period and for this purpose, the Commission may initiate steps from now on for developing the data, which can be considered and examined by an Expert Group to be set up for determination of block grants. This Group could preferably be set up early in 1981, so that its recommendations would be available for the Commission to consider and take decision before the budgetary exercises for 1983-84 commence in later part of 1982.

The National Institute of Education Administration may be requested to assist in designing a questionnaire for collecting such data and information. Based on this questionnaire the UGC would collect the required data which would then be processed by the National Institute of Education Administration for use of the assessment Committee.

In this regard it was indicated that at present the savings that exist out of the maintenance grants fixed or released arise mainly from vacant posts even though some savings also accrue from scholarships and fellowships and such savings are mostly used for creating non-teaching posts. The universities have not been fixing any annual ceilings for creation of posts based on the total resources available for the University. It would be prudent therefore to set apart a certain percentage for re-appropriation instead of allowing savings for creating such positions.

It was also noted that the practice followed by the Government regarding opening balances is that an organisation is allowed to keep upto 1/12th of the annual budgetary allocation in the month of April every year for carrying on its existing activities. The Universities will have to adopt this practice if the block grants are fixed on an annual basis and unspent balances are to be adjusted.

It was agreed that the Commission may appoint a Committee which may examine the Budget Estimates received from the Universities to determine the annual block grant of the Universities.

It was agreed that the terms and conditions attached to the utilisation of the non-plan grant by the Universities so far, may be reviewed immediately on the basis of past experience, since the maintenance grant will be fixed on an annual basis till 1983.

Monthly Certification of accounts

It was noted that the Finance Officers of the Central Universities at their meeting held in August, 1978 had recommended and it was agreed that in order to ensure timely preparation and submission of annual accounts by Central Universities a certificate may be obtained from the Vice-Chancellor to the effect that monthly accounts have been compiled in the prescribed manner falling which the Commission should withhold payment of grants payable to the Universities. The Vice-Chancellor of the Delhi University has suggested to the Commission that such a certificate

may not be insisted every month and a certificate while claiming the quarterly instalment of the maintenance grant that monthly accounts have been prepared for the period duly signed by the Finance Officer should be considered adequate. This view was accepted by the Committee.

The Committee also recommended that the Universities may be informed that the 3rd instalment of maintenance grant would not be released unless the Universities have submitted the required certification to the effect that the accounts for the previous years have been completed and presented to the audit.

Confidential

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 403: To consider the recommendations made by the Committee appointed by the University Grants Commission to allocate 250 Junior Research Fellowships to Universities.

The University Grants Commission appointed a Committee consisting of the following members to allocate 250 Junior Research Fellowships which were hitherto being awarded annually to the universities on the consideration of the applications received by the Commission:-

1. Prof. E. Ramachandra Rao,
Vice-Chairman, UGC
2. Prof. A.R. Desai,
Vice-Chancellor,
South Gujarat University
3. Prof. C.V. Subramaniam,
Centre of Advanced Study in Botany,
University of Madras
4. Prof. Anlesh Tripathi,
History Deptt.,
Calcutta University.
5. Prof. Rais Ahmed,
Vice-Chancellor, Kashmir University

The Committee met in the office of the University Grants Commission on 6th May, 1979 and discussed the matter at length and finally was of the view that the number of additional fellowships to be allocated to a university should be based on two factors - (1) the number of Ph.Ds. produced during the year and (2) the number of departments, in the university in the faculties of arts and science. Keeping these two points in view, the Committee recommended the allocation of 250 Junior Research Fellowships as detailed below:-

1. 185 awards for Developing Universities.
2. 20 awards Kakatiya, Nagarjuna, Maharishi Dayanand

p.t.o.

and Mithila Universities which are likely to be declared fit in near future 5 J.R.Fs. each (Mithila University has been declared fit and hence it has been allocated 5 J.R.Fs).

3. 20 awards for Post-graduate Centres of Madras, Sri Venkateswara, Karnatak, Calcutta and Jawaharlal Nehru Universities.
4. 10 awards for blind and physically handicapped students.
5. 15 awards for students seeking transfer from one university to another.

..... A copy of the minutes as approved by Vice-Chairman, UGC as Chairman of the Committee is enclosed as Annexure.

The additional fellowships recommended by the Committee have been allotted to the Universities.

The recommendation made for earmarking J.R.Fs. for blind and physically handicapped students and those seeking transfer from one University to another are placed before the Commission for consideration. If these are accepted, the manner in which these fellowships may be awarded be also decided.

Annexure to Item No. 4.03

MINUTES OF THE MEETING OF THE COMMITTEE TO
ALLOCATE 250 RESEARCH FELLOWSHIPS TO UNIVERSITIES
HELD ON 6TH MLY, 1979 IN THE OFFICE OF THE UGC

The following were present:

1. Prof. B. Ramachandra Rao
Vice-Chairman
University Grants Commission
2. Prof. A.R. Desai
Vice-Chancellor
South Gujarat University
Surat
3. Prof. C.V. Subramanian
CAS in Botany
Madras University
Madras.
4. Professor Amles Tripathi
History Department
University of Calcutta
Calcutta.

Prof. Rais Ahmed, Vice-Chancellor, Kashmir University, Srinagar could not attend the meeting. The meeting was also attended by Shri R.K. Chhabra, Secretary, UGC, Dr. M.L. Mehta, Deputy Secretary, UGC and Shri M.R. Gupta, Under Secretary, UGC.

The committee noted that the Commission has been awarding Junior Research Fellowships to the universities for the promotion of research in Humanities, Social Sciences and Sciences. 650 Junior Research Fellowships have been allocated to the universities to be awarded annually by the universities. In addition the Commission also awards 250 fellowships annually to the universities on the consideration of the applications received by the Commission.

The Committee also noted that the schemes of Junior Research Fellowships and Senior Research Fellowships are separately being reviewed by the Commission. It was also noted that 10% of the Junior Research Fellowships, are to be awarded to the scheduled castes/scheduled tribes candidates. This number was in addition to the 50 junior Research Fellowships separately available for being awarded to the scheduled castes/scheduled tribes candidates. The committee was generally of the view that the number of fellowships allocated to a university should have some relationship with the number of Ph.D. produced the number of departments in the University. Some fellowships should also be provided for the colleges engaged in postgraduate teaching and research. The committee was of the view that while reviewing the overall allocations of the Junior Research

Fellowships to the universities, it should also be taken into consideration the fellowships provided by other agencies like the ICSSR, ICAR, CSIR etc. as well as the fellowships provided by the UGC under its other quality programmes like CAS, DSA as also the research projects. The committee was of the view that all these points be taken into consideration while reviewing the scheme of junior research fellowships and the senior research fellowships.

With regard to the allocation of 250 junior research fellowships to the universities, the committee discussed the matter at length and finally was of the view that the number of additional fellowships to be allocated to a university should be based on two factors - (i) the number of Ph.Ds. produced during the year and (ii) the number of departments in the University in the Faculties of Arts and Science. Keeping these two points in view, the committee has allocated junior research fellowships as indicated in Annexure.

The Committee noted that the Kakatiya University, Nagarjuna University, Maharishi Dayanand University at Rohtak and the Mithila University are likely to be declared eligible to receive assistance from the UGC in the immediate near future. The committee felt that 20 fellowships at the rate of 5 fellowships each university be allocated for these four universities.

The committee was also of the view that postgraduate centres as indicated below may be allocated separate fellowships to enable them to promote research activities in the centres:-

<u>S.No.</u>	<u>Name of the University</u>	<u>Postgraduate Centre</u>
1.	Madras	Trichur - 3 Coimbatore - 3
2.	Sri Venkateswara	Anantpur - 4
3.	Karnataka	Manipal - 3 Gulbarga - 2
4.	Calcutta	Agartala - 2
5.	Jawaharlal Nehru	Imphal - 3

The Committee could not recommend any fellowship for the existing postgraduate centres of Bombay University at Goa because of the centre is likely to be raised to the status of a university in the near future when the question of allocation of fellowship to the university could be decided at that time.

The Committee felt that a few about 10, fellowships may be ear-marked for the handicapped candidates and the remaining fellowships may remain with the UGC so as to enable the Commission to centrally operate such fellowships in order to facilitate, placement of scholars at the university/institution who seek transfer from one university to another.

Appendix

ANNEXURE-I

S.No.	NAME OF THE UNIVERSITY	ALLOCATIONS RECOMMENDED
1.	Allahabad University	4
2.	Berhampur University	3
3.	Bhagalpur University	2
4.	Bhopal University	3
5.	Burdwan University	3
6.	Calcutta University	10
7.	Calicut University	3
8.	Cochin University	3
9.	Gauhati University	5
10.	Gujarat University	8
11.	Gurunanak Dev University	3
12.	Himachal Pradesh University	3
13.	Indore University	2
14.	Jabalpur University	2
15.	Jammu University	3
16.	Jiwaji University	7
17.	K.S.D. Sanskrit University	1
18.	Kashmir University	3
19.	Kashi Vidyapith	3
20.	Magadh University	4
21.	M.S. University of Baroda	2
22.	Marathwada University	6
23.	Meerut University	5
24.	Nagpur University	6

S.No.	NAME OF THE UNIVERSITY	ALLOCATIONS RECOMMENDED
25.	North Bengal University	2
26.	Panjabi University	3
27.	Rabindra Bharati	3
28.	Ravishankar University	3
29.	Roorkee University	7
30.	Sambalpur University	3
31.	Sampurnanand Sanskrit University	3
32.	Sardar Patel University	8
33.	Saugar University	6
34.	Saurashtra University	8
35.	Shivaji University	4
36.	S.N.D.T. Women's University	3
37.	South Gujarat University	3
38.	Vikram University	6
39.	Vishwa Bharati University	2
40.	B.I.T.S., Pilani	2
41.	C.I.E.F.L., Hyderabad	3
42.	Gujarat Vidyapith	2
43.	Indian Institute of Science, Bangalore	6
44.	Indian School of Mines, Dhanbad	3
45.	Jamia Millia Islamia	3
46.	T.I.S.S., Bombay	2

CONFIDENTIAL

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 4.04: To receive the Protocol of Cooperation between institutions of higher education in India and Poland in specified fields.

The Indo-Polish Cultural Exchange Programme 1977-78 provided as under:-

- (a) Both sides will set up a joint working group of academicians/professors, which will meet once in each country, to identify the specific areas and the university/institutions of higher learning for collaboration in the fields of Physical and Natural Sciences, Social Sciences, Engineering & Technology and Humanities. Details to be worked out by mutual consent.
- (b) The two sides will work out a bilateral exchange programme between universities and academic institutions of the two sides. In doing so, they will take into account the report of joint working group mentioned in Item (a) above. The programme will include:
 - (i) exchange of teachers/specialists;
 - (ii) exchange of literature/publications of common interest, and
 - (iii) joint research programme in the fields of common interest.

This item has been repeated in the current cultural exchange programme also. In December, 1978, a delegation from Poland had visited India and held discussions with a group of academicians in the UGC for exploring the possibility of developing academic collaboration between institutions of higher education in the two countries in terms of the Indo-Polish Cultural Exchange Programme. Some tentative areas were identified and it was decided that a group of Indian academics would visit Poland in 1979 to finalise the protocol of cooperation. Accordingly, a delegation comprising the following headed by the Chairman, University Grants

Commission, visited Poland in June-July, 1979:-

1. Professor CS Jha,
Department of Electrical Engineering,
IIT, New Delhi
2. Shri GS Marwah,
Director,
Indian School of Mines,
Dhanbad
3. Dr. D.D. Narula,
Director,
Indian Council for Social Science Research,
New Delhi

The protocol of cooperation signed by the leader of the Indian delegation is attached (Appendix-I). A statement indicating the linkages agreed to in the protocol incorporating the fields of bilateral cooperation, institutions in the two countries and the duration and number of visits from the two sides is also attached (Appendix-II). The protocol provides that the proposed collaborative programmes would cover the period ending 31st December, 1981. The total financial liability on the UGC for implementing the exchanges and organisation of the two symposia works out to Rs.13 lakhs approximately.

The protocol inter alia provides that the Ministry of Science, Higher Education and Technology, Poland may grant for students delegated by the Indian partners 2-3 places in Ph.D. studies in Ship Building and Marine Engineering. The Government of India, Ministry of Education and Social Welfare have been requested to earmark some scholarships offered by the Polish Government for these two years.

The matter is placed before the Commission for consideration.

DS(CE)

PROTOCOL

of the Second Session of the Indo-Polish Joint Working Group

The group on its second plenary session discussed the subjects of scientific collaboration between selected Indian and Polish Institutes and Universities.

Both sides recommended to the below listed Institutions to conclude agreements on scientific cooperation for the period end 31st December, 1981.

The agreements should cover the subjects of joint research and seminars, the number of visiting scientists on conditions specified in Indo-Polish Cultural Agreement for 1979-1980.

The subjects of scientific collaboration proposed below by the Joint Working Group may be expanded or modified when the texts of agreements is finalised by the collaborating institutions. The Group suggests the agreements to be signed before the end of 1979.

The Joint Group proposes that the institutions selected for joint research should start the exchange of publications even before the agreements are officially concluded.

INSTITUTIONS, FIELDS OF RESEARCH AND EXCHANGE OF SCIENTISTS

I. Warsaw University/Institute of History/and Delhi University/Department of History/ and the Archaeological Survey of India will start collaboration in research on:

1. Medieval and Rural Archaeology
2. Social and economic history of Middle Ages

To follow-up the collaboration each side will delegate for research and teaching 4 scientists for 12 man-months per year.

II. Central School of Planning and Statistics and Jawaharlal Nehru University in New Delhi/or other Indian University/ and the Indian Council of Social Science Research will start the joint research on:

1. Problems of development in socialist and developing countries

2. Problems of national planning and management

- medium and long term comprehensive planning and management
- sectoral planning and management
- enterprise planning and management

3. Regional Planning

Each side will delegate one professor for lecturing for four weeks and two younger scientists for research for three months or two professors and one younger researcher respectively.

III. Warsaw Polytechnic and Wroclaw Polytechnic will start collaboration with the Indian Institute of Technology in New Delhi and Indian Institute of Science in Bangalore in the following fields:

- 1. Power Systems and industrial drives
- 2. System sciences and cybernetics

The exchange of scientists will comprise 5 persons on each side for 15 man-months.

IV. Polytechnic in Warsaw and Jagiellonian University in Cracow will undertake with University in Bombay, Ravi Shankar University and Institute of Science in Bangalore joint collaboration in the fields of:

- 1. Chemical engineering. 2. Catalysis

Each side will exchange 5 persons for 15-man months.

V. Gdansk Polytechnic will start collaboration with Indian Institute of Technology in Kharagpur and Andhra University in the fields of:

- 1. Ship building and marine engineering

Each side will delegate 2 persons for 24-man-months for teaching and training, 3 persons for 12 man-months for research collaboration.

The Joint Group recommends that the Ministry of Science, Higher Education and Technology may grant for students delegated by the Indian partners 2-3 places in Ph.D. Studies in the above mentioned fields.

VI. Gdansk Polytechnic and G.S. Institute of Technology and Science in Indore will continue their collaboration in

1. Electrical technology

VII. The Academy of Mining and Metallurgy in Cracow and the Indian School of Mining in Dhanbad will collaborate in research on:

1. Study of stress state in massive rocks in an effort to prevent rockbursts.
2. Computer application in the planning, control and regulation of mineral beneficiation plants with particular reference to coal.

For this purpose each side will delegate two teachers/experts for a total of six man-months.

The two sides will also explore the possibility of having joint research on:

3. Studies in improvement of productivity and intensification of coal production processes
4. Mining geology investigations into base-metal mineralisation

There will also be exchange of scientists as below in five identified areas:

- 5 Indian teachers - including three for one year period each and two for 3 months each.
- 5 Polish teachers/experts - including three for six months each and two for 3 months each.

Two symposia will be organised on the following subjects:

1. Application of geological and geophysical techniques to mining in Dhanbad - 1980/
2. Planning and construction of coal mines in Cracow - 1981/

A Polish mining library would be started at Indian School of Mines.

The University Grants Commission and the Central School

contd...4/-

of Planning and Statistics may if necessary alter the partners of collaboration through mutual discussion.

The Joint Working Group recommends to take into consideration the beginning of scientific collaboration on dairy and protein foods production and hydrotechnics.

For
the Indian Side of the
Joint Working Group

Sd/-

Prof. Dr. Satish Chandra

For
the Polish Side of the
Joint Working Group

Sd/-

Prof. Dr. hab. Wieslaw
Sadzikowski

Bilateral Collaboration between India and Poland

S.No.	Field for bilateral Cooperation	Institution in India	Institution in Poland	Visits from Indian Side	Visits from Poland Side
1	2	3	4	5	6

A. History & Archaeology:

i) Social and Economic History of Middle Ages	}	Department of History Delhi University (Focal Point)	Institute of History Warsaw University, Warsaw	12-man months (4 scientists)	12-man months (4 scientists)
ii) Medieval and Rural Archaeology		Archaeological Survey of India			

B. Economic Development & Planning

i) Problems of Development in Socialist and developing countries	}	Jawaharlal Nehru University, New Delhi (Focal Point)	Central Institute of Planning & Statistical, Warsaw	4 weeks (1 Professor) 6 months (2 younger scientists)	4 weeks (1 Professor) 6 months (2 Younger Scientists)
ii) Problems of National Planning & Management		I.C.S.S.R.		OR 2 Professors, 1 Younger Scientist	OR 2 Professors 1 Younger Scientist
iii) Regional Planning	}				

C. Electrical Sciences & Engg.

i) Power Systems & Industrial Drives	}	IIT, New Delhi (Focal Point)	Wroclaw Polytechnic		
ii) System Sciences and Cybernetics		Indian Institute of Science, Bangalore	Warsaw Polytechnic	15-man months (5 persons)	15-man months (5 persons)

contd..2/-

1	2	3	4	5	6
iii)	Electrical Engineering	GS Institute of Tech., Indore	Gdansk Polytechnic	Existing Collaboration to continue	
D.	Ship Building and <u>Marine Engineering</u>	I.I.T., Kharagpur (Focal Point)	-	12-man months (3 persons)	12-man months (3 Persons)
		Andhra University Waltair	Gdansk Polytechnic	24-man months (2 Persons)	24-man months (2 Persons)
E.	<u>Chemical Sciences & Engg.</u>				
	Chemical Engineering and Catalysis	Bombay University (Focal Point)	Polytechnic in Warsaw	15-Man months (5 Persons)	15-man months (5 Persons)
		Ravi Shankar University	Jagiellonian University in Cracow		
F.	<u>Minining Engineering:</u>				
i)	Study of Stress in Massive Rocks in an effort to prevent rockbursts	Indian School of Mines, Dhanbad	The Academy of Mining and Metallurgy in Cracow	6-man months (2 teachers)	6-man months (2 teachers)
ii)	Computer Application in the Planning control and regulation of Mineral benefication Plants with particular reference to coal local)				
iii)	Exchange of Teachers in Identified Areas	Indian School of Mines, Dhanbad	The academy of Mining and Metallurgy in Cracow	3 for 1 year each 2 for 3 months each	3 for 6 months each 2 for 3 months each.

similarity and approach and understanding of the entire range of questions connected with the interaction between university research and socio-economic development. This understanding is reflected in the joint statement adopted by the Seminar, a copy of which is attached (Appendix III

The matter is placed before the Commission. The proceedings of the Seminar are being printed and would be sent to the universities.

US(CE)/DS(CE)

LIST OF INDIAN PARTICIPANTS

1. Professor BR Rao,
Vice-Chairman,
U.G.C.
2. Professor RC Mehrotra,
Vice-Chancellor,
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3. Professor AN Bose,
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4. Professor Raja Ramana,
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5. Dr. S Vardarajan,
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11. Professor AR Kidwai,
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12. Professor T Navneetha Rao,
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13. Professor Rais Ahmed,
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15. Professor AN De,
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16. Dr. Y Nayudamma,
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17. Professor NBK Nair,
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4. Dr. Fred Herrington,
Vilas Research Professor
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5. Dr. Herbert Carter,
Head, Bio-chemistry Department
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6. Dr. Donald Barten,
Director,
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7. Dr. John Mellor,
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Cornell University,
Cornell.
8. Professor Glenn Schweitzer,
Senior Research Fellow,
Cornell University,
Cornell.

JOINT STATEMENT ON THE SEMINAR

(i) RESEARCH MANAGEMENT & INTERACTION WITH FUNDING AGENCIES

There is a dynamic organic relationship between the funding agencies supporting research and those receiving and utilising such funds. The key ingredients in this relationship are: (1) the choice of projects appropriate to the creative talents of the receiver, (2) a procedure for funding adequately to enable the receiver to make efficient use of the support within the framework of the structure, (3) providing a presentation of the progress of the project in a manner suited to render good accountability without straining the recipient and (4) enabling the funding agency in the end to give its own accountability in terms of national priorities and in procedure for translation of the results of research for application.

In analysing the framework and procedure possibilities that can be applied to funding research in the universities, there is need to consider the system and its design and improvements in terms of the user of the funds and in terms of the funding agency. A great deal has been learnt from the experiences of the agencies and the universities in the United States who have a long history of funding basic as well as contract research through a multiplicity of agencies. In India, while the funding process has existed for some years, it has gathered strength and momentum recently. Universities which have remained somewhat neglected in the past are now responding to the new funding. Here again a multiplicity of agencies will continue to exist in funding and one realises that the demand for funds in the universities will in the beginning be very substantial. Great care is necessary for recognition of talent and excellence and to make wise choices among many demands, so as to use the funds to make maximum impact on advancing scientific caliber and output. The following summarises specific needs from the point of view of agencies and receivers.

Funding Agency:

(i) A basic concept of funding of creative activities such as research has been that there should be multiple set of funding agencies and a monolithical structure should be avoided. We wholeheartedly subscribe to this. However, there is need to evolve some set of national priorities

which may act as guidelines to all agencies providing support. It is recognised that setting up of such priorities for any short period such as a year is an extremely difficult and indeed hazardous task. What can be achieved at best is a gradual shifting of emphasis of priorities on the basis that specialised disciplines and research themes cannot respond to violent changes without destruction of creative forces. The budgetary process in the United States provide checks and balances by many reviews through the executive and legislative branches of government. There is some need now for India to strengthen Central bodies such as National Committee Science & Technology in responding to the national needs, by shifting priorities and eventually by allocating these needs by shifting priorities and eventually by allocating resources for research through many agencies. This would necessarily call for an improved management information system covering all agencies and a free and full flow of such information to the central body. In making changes such a body would necessarily have to be sufficiently sensitive to the history of developments and roles hitherto assigned to various agencies. Pre-defined roles and goals have to be always considered while taking into account preservation of human excellence and aspirations.

As set by
Parliament and
government
and in reflecting these
needs

(ii) A major task of the agencies is that of choosing individuals and institutions for support. There are already good mechanisms for evaluating applications for support of basic research. It is sufficient to say that in support of basic research the individual and his creative individuals and secondly to support new frontier areas of science. However, in supporting applied research in universities, agencies must clearly have to establish that these are vital and important problems recognised as such in the national context. In providing support for inter-disciplinary groups, agencies have to exercise a careful judgment of many factors, apart from excellence of the participants. They must examine the culture for cooperation that prevails and above all the leadership that could motivate such inter-disciplinary groups.

creativity
shall always
remain predominant
consideration. The
agency has
thought after
firstly to
identify new

(iii) Support for development work will involve fewer programmes because of the magnitude of the funds required for such activity and the need for very clearly and unequivocally establishing that the final user of the results has the commitment to exploit the development. These therefore have to some extent acquire the character of contract research.

(iv) As the expenditure increases, there is increasing demand for accountability. Funding agencies do not find this an easy task. It is therefore recommended that the agencies evolve some form of output reporting preferably based on the perception of the research investigator as to how the output will be utilised and how it will benefit society. Such output reports should be prescribed and circulated to potential users in a form which is appropriate to the needs of the user. The output shall also be made available to all informed opinion forming sectors so in the end have a state in funding research and in converting research into economic and social benefits for the community. It is therefore paramount that funding agencies develop sensitivity and new mechanisms to educate the political constituency in respect of all the potentialities and limitations of research in meeting national needs. It is therefore recommended that the output information gathering and circulating shall be the responsibility of a separate expert unit within the funding agency.

(v) Monitoring - While the initial selection of projects and institutions and finally presentation of output reports are important in themselves, there is need within the agency to evolve appropriate mechanisms for monitoring of progress and evaluation of the results. In the case of basic research, monitoring as well as evaluation should be the responsibility of the expert peer groups using well established academic research standards of performance. The frequency and modalities should be appropriate for each specific project and should preferably be determined at the time of the approval of such project.

In the case of applied as well as multi-disciplinary projects, the mechanisms have necessarily to be more elaborate and carefully thought out. Suitable multi-disciplinary evaluation groups have to be gathered for this purpose. Since the evaluation standards are not as well defined as academic norms, there should be an attempt to evolve norms by an open discussion between the proposer and the evaluators at the time of approval of the project and at various stages of evaluation. There should be considerable sympathy and understanding of the difficulties in the pursuit of the multidisciplinary projects. It is also suggested that the successful and not so successful examples may be prepared as case studies and suitably circulated so that new groups entering these difficult areas may benefit from past experience. It is

also suggested that such projects, specially the large ones, should be small in number to begin with and these can be increased based on experience.

While over the last few years there has been marked improvement and simplification in the procedure adopted by funding agencies in the release of funds, there is always need for further examination of these procedures; the most efficient use of funds is best made when there is least hindrance.

Institutions performing research:

It is to be clearly expected that the University institutions receiving support from external agencies have a moral obligation to create the structure and system within the institution for efficient use of funds and support received. This may involve establishment of new management procedures and information systems. Universities everywhere are now also accepting that their work and output must in some
broadway relate to national needs. The needs for fulfilling these aspirations are different in the case of basic research and applied research and it is therefore appropriate to detail conditions for these separately.

Basic Research:

Since basic research is best fostered by encouragement of gifted creative individuals, there should be complete freedom for individuals to make applications to funding agencies for support, provided the application states what commitments are being made by the university system in pursuing such projects. Universities incur expenditure on various overheads such as provision of space and maintenance of facilities and administrative support. It is suggested that in all cases a percentage of the total funds should be allocable for university and department overheads and there should be no need for detailed accounting for such overheads. This indeed is the current practice in the United States - Funding Agencies and similar practice exists in certain Indian funding agencies. However, in the last several years, while costs of salaries and emoluments have remained relatively constant, the overheads costs have increased very substantially and the present provisions are grossly inadequate to meet this increase. Particular note may be taken of the situation and remedies should be sought.

Procedures:

The procedure for seeking support should be reasonably simple and direct. When applications are received, there should be a response in a period of six months and in no case exceeding nine months. There should be two dates in each calendar year for receipt and evaluation of applications. It is not uncommon for applicants to submit the same project to a number of different funding agencies because of uncertainty. In the United States this number has been reduced to about 2 to 3 by tradition and practice. There is need today of the same in India. While multiple applications are inevitable, the applicant has the obligation to inform agencies of applications made to other agencies.

Applicants are not necessarily very accurate in the estimates initially made in the relative amounts required for proper pursuit of research under various heads of contingencies such as travel, books, materials and equipment and naturally find later on that the amounts provided are inadequate. There should therefore be a willingness to accept a measure of flexibility in the use of funds.

Manpower:

Because of the relatively low costs of salaries and the availability of graduates aspiring to carry out research, a large number of fellowships have been provided. If we are to make optimum and efficient use of these young scientists, there is also a need to increase support facilities and it should be possible in future for funding agencies to give grants only for support rather than salaries in specific cases.

It is felt that during the last 5 years the emoluments pertaining to research fellowships are out of step with emoluments offered to brilliant graduates pursuing non-research professions with the result that the best talent is not attracted to scientific research. We cannot too strongly emphasise the need for the research fellowships to be structured in such a manner as to attract the very best talents.

New Areas:

In addition to funding creative individuals, there is need in the university system to identify

new frontiers and initially initiate development of competence in the area, eventually leading to the pursuit of excellent research in that area. It is recommended that competence development not necessarily of a research character should receive support.

Staffing:

In pursuing basic research, there is to be recognised the need for good relationship between the investigator and the support staff. Everywhere in the world there is a clamour for procedures which will ensure wide publicity of vacancies, proper consideration of all applicants and fairness in final selection. While these societal demands cannot be ignored, it is recommended that the procedures adopted shall ensure speed in staffing and avoid loss of excellence and loss of motivation through delays.

.....
In India there is some unwritten but increasing pressure to provide secure and continued employment even for those who are placed in temporary positions in projects. Universities should evolve suitable procedure for meeting this trend. However, they must clearly declare that such staff specially graduate research staff cannot have rights for permanent employment without further open selection procedures.

Applied Research:

It seems highly important that university systems should identify research areas applicable to national needs. Such applied research must always derive from background basic competence within that university system. The identification of objectives of applied research should be made by a competent agency outside the university system. There are wide variations in the types of goals set for research and the universities will be well advised to pursue those which are innovative providing sufficient excitement and challenge rather than re-designing a too well-established process or product. In this choice universities should place special emphasis on the environment in which applied research is carried out and should establish a forum for interaction with users and industry.

It is found that there is a basic difference in the structure of a university institution in India and in U A which is in a position to carry out applied research. Whereas in the United States almost all university institutions have a wide ranging set of departments and disciplines such as social sciences, biological sciences, physical and engineering sciences and very often managerial education, Indian institutions tend to carry out applied research in specialised engineering and technological institutions, very often lacking the input of other disciplines. These engineering/technological institutions can do useful work in specific technological areas but are not yet able to investigate major problems of interest to society at large. It is therefore recommended that in undertaking applied and multi-disciplinary research, the University Grants Commission will be well advised to set up a small number of experimental projects and carry out an examination both in the choice of the institutions and in the choice of major problems. It is further suggested that 3 major applied problems should be identified by the UGC in consultation with other Government agencies such as the Planning Commission for this purpose.

Industry:

At present the expenditure on specific research carried out in universities by support from industry remains small both in India and the United States. It is recognised that the best approach to this relationship is through individual contacts and establishment of credibility and trust. In the United States, consultancy and summer working industry are prime sources of specific research emoluments: in addition this provides a degree of mobility between industry and university and leads to development of new joint projects and adds relevance to both research and teaching. These conditions are as yet not available in India and it is important that concrete efforts should be made to encourage such inter-connections. It is also possible that through provision of opportunities for industrial researchers to work in the University system as visiting academics, there will be greater interaction and funding.

Management for multi-disciplinary activities:

As mentioned earlier, universities with many different disciplines may have the capability to undertake multi-disciplinary projects. However, it appears

that in undertaking such projects, leadership, motivation and dedication are the key ingredients. Furthermore the members drawn from different disciplines forming a task force for investigation should receive the support of the respective departments in full measure. The tenure-track staff should have already achieved a degree of competence and acceptance in their own specific disciplines and the inter-disciplinary activities should usually be considered only when the scientist has established himself in his department.

As there is possibility and need for such multi-disciplinary work, it is suggested that universities may choose areas of national importance, for instance ecology, resources identification and development, as possible areas. For success in such work, universities may have to consider introducing new institutional forms including use of a professional project manager detached from any single department/discipline to act as a coordinator.

Society:

It is understood that university must basically be a place of open search for knowledge and open access to that knowledge. However, if the universities are to accept sponsored projects from industry or from mission-oriented agencies, it may be necessary for the individuals receiving support to exercise a certain restraint on free communication. This should not be in the form of permanent denial of information to fellowmen but should be sufficient to acquire a lead in industrial exploitation.

General:

While formal mechanisms of evaluation of research inputs in university or other systems are valid or necessary, it is felt that these are insufficient to project the continued gains of science as instruments of change and betterment of society. It is also necessary that output information gathered by agencies and institutions are examined in an open way from time to time to allow for yet unrecognised ways and means of promoting sciences and its contributions. Finally as other professions get organised in a collective way, there is need for scientists to gather and express and communicate their own contributions and potential for the future to the politically conscious community.

It is recommended that this can be best achieved through a forum or gathering of a reasonably large number of scientists, educationists and administrators of science in the presence of the senior-most representative of the Government and industry in which a free and frank exchange can take place. Such conferences should be held at least every 2 years. The Science Policy Resolution imposes on the people of India and the community of scientists an obligation to strive to use science as a major instrument of social change and to bring the benefits of science to the people. Such forums must be focal points for re-dedication of the principles of this resolution.

While the mechanism of 5 yearly review by the UGC are important methods of assessments, the universities must create mechanisms of annual review of their research performance and identify areas and new creative individuals. It is suggested that the universities and the UGC must provide for the promotion of higher levels of exceptional meritorious scientists without always waiting for this through the passage of time. This could be done possibly by having a select number of professorships to be funded for limited periods.

In choice of entirely new areas and corresponding new institutions for support, it is suggested that funding institutions may convene largely attended conferences of scientists in the country who could contribute to such areas and through presentation of scientific papers and discussion of potential routes or methods of investigations. The proceedings of such meetings can be summarised and published to act as a beacon light for new pathways.

(ii) Ways to Improve and Reorient University Research for National Development

Introduction:

The working group discussed this problem in all the dimensions and is of the opinion that many of suggestions made below are equally applicable to Indian and US universities. It may appear to be oriented more towards the Indian problems largely because of the desire on the part of the Indian participants to concentrate on this.

The group considered, under this topic, the following problems for detailed discussion.

1. Identification of Research Talent,
2. Raising the quality of University Research,
3. Relationship between education and research.
4. Incentives for applied research.
5. Selection of research problems for support.

1. 1. Identification of Talent:

(a) The group considered at length the problems in identifying talent at an early age. It is suggested that involvement of undergraduate students with research laboratories in the universities as well as in other agencies during vacations may provide an opportunity to spot talent.

1. (b) The M.Phil. degree should serve as a filter and also help in identifying talent. It was felt that more than one supervisor should be involved with each M Phil project. This will help in proper assessment of the merit of the student as a research worker.

1. (c) Professional entry into the centres of advanced study and similar strong programmes may be given to a few carefully selected research scholars on a national basis. These fellowships could be given a special name and higher emoluments.

2. Raising the quality of University Research:

2. (a) The research facilities available in the universities are far from satisfactory.

Unless proper infrastructure is provided, quality of research is likely to suffer. The relevant Government agencies should look into this problem and explore the possibilities of increasing the facilities. Mechanisms may be evolved to transfer unused equipment from one university to another; this may include incentives in the form of new apparatus to the departments transferring equipment.

2. (b) In the existing national research facilities, e.g. in India the variable Energy Cyclotron, Regional Instrumentation Centres and Regional Computer Centre, there should be an active effort in the administration of these so as to ensure that these facilities are available on equitable basis for use by universities.
2. (c) UGC in India, independently and/or in collaboration with other agencies, should set up similar facilities in other emerging areas of science.
2. (d) It is expected that special facilities set up in centres of advanced study are made available to scientists working in the same area.
2. (e) Most research work in the universities has been of short duration since the main emphasis has been on training. A bright, talented research scholar rarely gets a chance to continue to work in the same area after obtaining the Doctorate. It is desirable to create a mechanism by which promising research workers may be given post-doctoral fellowships or research associateship for extended periods to continue their research.
2. (f) Multiple funding of large projects by several funding agencies is desirable when necessary. It is also suggested that universities encourage younger staff members to seek multiple funding, not only from government agencies but also from non-governmental agencies. It is suggested that UGC may bring out a booklet listing the various sources of funding and the agencies with details of methods of applying.
2. (g) Mechanisms for evaluating problems of research need to be developed in the universities and on a regional and national basis.

2. (h) Administration in the universities is too much centralised. This leads to inevitable delays and therefore frustration. More delegation of powers is necessary from the Central administration to the departments and from the departmental heads to the teachers in the department. Departmental committees may be set up for purchases of equipment of common use and consideration of academic matters.

2. (i) The University, the UGC and the other funding agencies should review and modify the present set of rules and regulations, both financial and administrative, in order to give greater freedom to investigators to utilise the funds.

3. Relationship between Education and Research:

(a) There is a need to reorient science education emphasizing the problem approach encouraging students to observe, innovate, make use of the observations and explore further. It is desirable to impart this training to observe and ask questions at primary, secondary and high school levels. At the school level, collecting things, and surveys of national resources may be stressed. At the college level, a project work or a paper independently prepared by the students should be included in each course. The students should be trained and encouraged to raise questions and discuss the possible answers. The emphasis in all teaching should be on the unknown i.e. science should not be taught as a closed subject, but one in which much remains to be discovered.

3. (b) At the college level, purely descriptive portions of the syllabus may be left to the students to study on their own. The lecture hours may be reduced and more time may be spent on seminars, discussion groups and independent study.

3. (c) A dissertation based on an independent project should form an integral part of the M.Sc. programme.

3. (d) There is a need to provide research facilities at the college level and UGC should help in this.

3. (e) The syllabus of the teacher training programmes should be reoriented to include the discovery approach.

3. (f) The educational changes envisaged above will necessitate the reform of the examination system prevalent in the Indian universities.
4. Incentives for applied and relevant research:
 - (a) Fellowships and associateships may be provided for applied work, wherever possible.
 4. (b) UGC should set up a special expert advisory body consisting of scientists and technologists to develop and encourage programmes of applied research in the universities.
 4. (c) Liberal funds should also be made available for applied research.
 4. (d) One way of creating an interest in applied work would be to create a multi or interdisciplinary institute of Applied Research/Centre/Programme in the universities in which a particular area of applied research or regional development programmes is emphasised. Research staff may be specially appointed for this purpose without full time teaching responsibilities and also staff may be drawn from other departments to the programme. Where necessary programme coordinators may be appointed.
 4. (e) The principal investigators of the applied research projects may be given suitable incentives.
 4. (f) A mechanism should be found for university staff to be associated with government agencies like the Railways, All India Radio and so on, so that the problems they face may be identified. Universities could then lend a hand in solving the problems faced by them.
 4. (g) It should be possible for research associateships created for applied work in the institutes of applied research and University departments to be translated into permanent status.
 4. (h) The present system of recognition, awards and promotions based on publications in recognised journals alone may act as a deterrent to undertaking applied research. Development of a new process, solution of a problems of relevance to the region and such other work, should be given equal weight in the criteria for promotion.

5. Selection of research problems for support.

(a) With regard to the selection of research projects, it is suggested that some preference may be given to problems of regional relevance; projects which contribute to solving problems in rural areas, and small scale industries.

5. (b) It is suggested that emerging areas in such discipline be identified and conscious efforts made to identify the departments and scientists and to create the necessary facilities and provide funds for research in these areas.

5. (c) There is a number of interdisciplinary areas which do not fall in the above mentioned categories but are of great relevance, e.g. new energy sources, appropriate technology without environmental disruptions and so on. These must receive special attention.

6. Areas of Indo-US Collaboration

6. (a) This report contains many suggestions which needs further discussions by a bi-national committee, such as:

i) the way in which national facilities are utilised.

ii) Working of the consortia of universities to undertake research activities and maintain shared facilities.

iii) Management and operations of applied research programmes and laboratories such as Corporations for applied research operating in some American Universities.

(b) Exchange of teams to make an in-depth study of such programmes is therefore suggested.

(iii) Industry - University Interaction

The Working Group discussed at length various aspects of Industry-University Interaction. There are many avenues of mutually beneficial interaction which should be carefully screened.

There is a need for improving the mutual confidence at various levels between Industry and Universities. To achieve this objective, the following points of contacts should be established.

Representation should be given to people from Industry and Government. On various academic bodies like Boards of Studies and Research Boards. In addition, individuals from each side should interact frequently discuss and identify areas of mutual interest.

University science and engineering departments might also find it desirable to establish visiting committees with strong participation of industrial R & D managers. These committees could advise on research curricula, industrial openings for staff and postgraduate students, summer openings etc.

There should be interaction between people from both sides in teaching and research programmes. Some courses should be tailored to the needs of industry and offered at the postgraduate level. These courses should be over and above the core or basic courses which are a must for every postgraduate student. Talent from industry should be used for teaching such courses in situations where the industry has competent persons. Competent persons from industry should be appointed as adjunct professors (visiting professors) so as to enable them to participate in the teaching programmes of the university.

Industries should be encouraged to offer fellowships to postgraduate students who take specially designed courses or do thesis research in fields of importance to the Industry. The universities should also conduct special courses which would be of advantage to the people working in the industry as an extension service. The duration of these courses can be 3 to 4 months, 4 to 5 weeks or even 4 to 5 days depending on needs of the industrial worker. Industrial researchers should also be invited to attend seminars organised at the University.

While offering these courses at the universities industry should be constantly consulted and from time to time courses should be changed to suit the interests of the industry.

Consulting plays an important role in identifying meaningful projects of mutual interest. Thus avenues should be explored to encourage consulting, and better incentives should be provided. Consulting should be encouraged as a professional necessity; at the same time it should be ensured that faculty members do not spend more than one day per week in consulting. All disincentives for consulting which now exist in universities should be lifted and instead more encouragement should be given. As far as possible there should be no upper limit on the income / that a faculty member may earn from consulting, provided it does not involve the use of the physical facilities of the University. The faculty members from universities may be permitted to take up positions in the industry and industry should try to provide such opportunities.

Contracts in the major and medium size industry in the public and private sector can play very important role in developing progress of mutual interest and benefit. However, proper care should be taken to see that small scale industry is given due consideration. The universities should make available their facilities to industry at a reasonable charge, but it is understood this facility would be utilised for specialised purposes and not for routine analysis or production.

Students should be allowed to work in industrial research centres/laboratories for post-graduate research degrees provided appropriate facilities are available.

Any new multidisciplinary research laboratories sponsored by Government agencies should be located at a university campus wherever possible.

Universities should explore all avenues for securing sponsored research projects from industry in areas of mutual interest.

(iv) Role of Universities in Technology Assessment

1.0 Technology Assessment

1.1 Definition:

Technology assessment will be defined as an objective analysis of the diverse impacts on the social, economic, environmental and political systems of a given technological policy, practice or development, or of a range of viable technologies* conceived a priori for the accomplishment of certain socio-economic objectives. Its purpose is to delineate the total costs, benefits and opportunities of various technological options and clarify trade-off so that a rational basis for appropriate policy decisions may emerge.

1.2 Role of Universities

Universities are particularly well suited to providing a major lead in technology assessment. For, not only do they possess a high level intellectual capital in a wide range of disciplines and a large body of ever fresh students at their most sensitive and adventurous stage of life, but also the right atmosphere and reputation for objective research - all together providing favourable conditions for studying complex and challenging problems. In particular, they could engage most fruitfully in the formulation and analysis of the following problems:

- a) Definition of the physical, environmental and social constraints on a national, regional and local basis within which technologies are expected to evolve and function.
- b) Articulation of socio-economic goals and objectives as well as of appropriate indicators, both qualitative and quantitative, representing the state of society in terms of which assessments could be made.

* Technology is the systematic and purposeful application of knowledge, skill and expertise towards the solution of a problem useful to man - an array of means social, economic, political and engineering imaginatively designed and orchestrated to achieve the desired goal. It constitutes a set of interrelated innovations, both software and hardware, traditional and modern,

- c) Conceptualisation and definition of a range of viable technologies which a priori appear to be the most promising in fulfilling desired objectives within the given constraints.
- d) Development of techniques and methodologies for assessing the impact of various technologies.
- e) Systematic formulation and refinement of technology assessment issues, problems and methodologies through their incorporation in the curricular structure.
- f) Carrying out exploratory (scenario writing) simulation modelling and case history studies of problems such as those given below, with a view to predicting the potential impacts of alternative technologies in terms of their probability, significance, direction, magnitude and time horizons.
 - i) Analyses of impacts of Governmental policies and programmes on the rate direction and magnitude of socio-economic changes.
 - ii) Assessment of the direct and indirect impacts on society associated with the introduction of new technological approaches or with changes in the role of existing technologies.
 - iii) Appraisals of the feasibility and impacts of site-specific technological decisions and activities.
 - iv) Identification of new technological requirements and alternatives to confront contemporary problems and future needs such as development, conservation and management of human, material and natural resources.

developed for the purpose right from the concept of an idea to its fruition with a product or service to meet the present and potential needs of man.

1.3. Common Approaches and Significant Differences:

The importance of developing sound institutional capabilities in technology assessment is gradually being recognised both in India and the United States. There is a consensus that the universities, in particular should play a more active role in this field and that the National Governments should provide at least some of the financial support.

Development of assessment methodologies needs more attention in both countries. The number of case studies of direct relevance to the Indian scene, in particular, is limited. In both countries there is recognition of the need to assess the impact of national policies on technology choices as well as to study the impacts of alternative technologies on socio-economic development.

In determining the most suitable technologies, there are different priorities in the United States and in India. For example, in the United States high priority is given to increased productivity and to reduced consumer prices whereas in India these would have to be qualified by increased employment opportunities and expansion of the natural resources base. The technologies of greatest interest would vary in each country due to differences in the market demand, basic needs and Government policies.

Finally, there are a few well developed university programmes in the United States concerned with various aspects of technology assessment, and several US Government agencies are providing long-term institutional support for these programmes. In India, however, technology assessment is a relatively new concept, and institutionalised approaches to the conduct or funding of such university programmes are still in the conceptual stage.

1.4 Steps in India to Develop University Capabilities

As a first step, critical masses of a few full-time specialists, drawn from a variety of disciplines, should be assembled at a few Indian universities. The activities of the core staffs should be supplemented by part-time contributions from other faculty members whose specialities and experience are particularly relevant to specific projects undertaken by such a technology assessment unit.

seminar at

In carrying out the activities identified in the proceeding section, the technology appraisal units should sponsor courses and / both the undergraduate and postgraduate level, using theoretical and case study materials. Of special importance is the encouragement of Ph.D. thesis and post-doctoral programmes which contribute to and draw upon the principal activities of the units. Joint activities between the units and other university departments (such as engineering, economics, social sciences and agriculture) could be particularly important in developing and defining thesis topics and major research activities.

A few universities should be identified by the UGC and nurtured as potential centres of excellence. UGC should earmark funds for sustained support of the core activities whilst each unit is expected to find additional funding courses to support specific projects. Evaluation of the quality and the impact of the programmes in each university should be carried out every three to five years.

In identifying the most appropriate universities; special consideration should be given to their commitment and readiness to conduct technology assessment activities, including internal university administrative arrangements to facilitate and give recognition to multidisciplinary activities. Consideration should also be given to regional distribution of the universities and to utilising universities with different types of academic strengths.

These universities should develop strong linkages with the customer for technology approaches, particularly the development agencies and industry. Indeed these customers offer important potential, funding sources for the universities.

1.5 Indo-US Collaboration

There are a number of areas that should be of interest to both US and Indian scholars who specialise in technology assessment. These areas are also of concern to both Governments and could provide a starting point for collaborative efforts between US and Indian universities. They include the development and increased use of coal resources; development and management of small scale industry, impact of national policies in encouraging or inhibiting industrial innovation; and improved and expanded aquaculture activities.

Collaboration could include, among others, exchange visits of scholars and students, assessments conducted jointly by Indo-US teams, cross-country comparative studies of similar problems, and workshops and seminars on educational and research approaches in the respective countries.

(v) UNIVERSITY EXTENSION SERVICE

1. Extension as a Major Function of the University

Extension by the University may be defined as an out-reach to inform the public about information available to give options and alternatives in decision-making.

In the Indian context, it also includes involvement of the University for various public educational purposes, including continuing and adult education, and community services.

2. Benefits to the Universities through Extension.

Extension activity gives a feed-back to the faculty and students on the needs and demands of the society, and helps to orient the research and training programmes. These benefits can come through programmes resulting from the expanded activity, improved communications with the public, extension and consultative arrangements for the faculty, and the possible establishment of centres, institutes, or research parks.

3. Role of the University

Extension activity by the University is a form of continuing education. This continuing education service may involve special groups such as national or local government employees, community groups and organisations and may be geared to a wide ray of society's critical need.

Such involvement in continuing education can create improved employment opportunities for people, manpower development, improved socio-welfare, and direct impact on problems of environmental quality.

It can enhance the use of local resources and give assessment to appropriate technology.

It requires that the faculty of the university get out into the real world to learn and to work with society, industry, and government. It should also make public aware of the universities strength in offering public service. Each university may decide the type of extension activity it could undertake.

4. In the Indian context.

Extension is a good response by the universities to the criticism leveled against them that the educated people have become a small elite cut away from the real world.

The universities should have extension fully coupled with teaching and research if only to see the results of their training and research activities reach the people. The University Grants Commission has recommended this Functional Organisation in its 1973-83 Higher Education Plan.

5. Mechanisms for doing Extension

Some of the avenues for doing Extension functions are:-

1. Direct faculty and student involvement in the problems facing society in generating and diffusing relevant technology.
2. Continuing education in the form of seminars, short courses and workshops.
3. Broad use of the communication programmes of the university such as publications, radio, TV, mobile labs., etc.
4. Use of existing Extension Services of other agencies in the fields.
5. A formal University Extension programme with a specific extension staff.
6. Setting up research parks, research development and transfer corporations on the campus.
7. Programme to acquire and publicise traditional technologies and the improved techniques.

6. Infrastructure Requirement:

1. A clear goal-setting and a firm commitment for Extension as a function of the University.
2. A survey by the University to determine the needs and demands of the society and determine the area in which it could offer Extension based on its strengths and priorities.
3. In situations where a faculty commitment to Extension and is being made, a thorough review of the faculty reward system should ensure that the evaluation system gives suitable reward for Extension performance. The same would apply in development of evaluation techniques for student participation. A care may be taken to give the proper weightages for extension services in agricultural industry, small and large, public health and other areas.
4. Opportunities should be developed for curriculum changes and student involvement in the selected Extension programmes.

5. As each Extension programme is developed, attention must be given to staffing arrangements within university and in the fields. Requirements of core staff time, additional staff and operational funds should be made available to agencies like the UGC, the State Government and other sources, when additional support is needed. The University itself should allocate some seed-money from its own resources. The staffing should provide for programme management, communications and language experts. Linkages may be established between the university and other private and government agencies doing Extension work.

7. Areas for Indo-US Cooperation

The American universities are already rendering Extension in a number of areas. Their experience may be utilised by the Indian universities, recognising however that it should suit the Indian conditions and develop a system of its own. Similarly, the American side may benefit from the varied experiences of India in the field such as in rural development.

There are several areas where American and the Indian universities may fruitfully collaborate in this direction. Some of these are listed below:-

- a) Techniques for communication and use of media for Extension Services. This could include assessment of their effectiveness at all levels of literacy.
- b) Software preparation for communication on different topics.
- c) Administration and program development where decisions and choices must be made between full extension staffing and use of centres and institutes.
- d) Rural development programs could draw on resources and techniques from the Rural Development Centres in the US. It would also afford opportunities for the US Centres to obtain information on Indian programs. These could include use of local resources in various fields of agriculture, industry, and comprehensive manpower development.
- e) Human development and improvement of the quality of life are common needs in both countries, and hence, family studies can be conducted with the village as a unit for planning, rural sociology, and economics.
- f) To study the geography in time, space and direction of the flow of knowledge, men materials, and facilities for development of human life and values.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :-

Dated: 26.10-1979.

Item No. 4.66 To consider a proposal received from the Botanical Survey of India for implementation of an All-India Co-ordinated Project on Development of Herbaria in Colleges/Educational Institutions.

The Botanical Survey of India while considering the need to develop a general awakening amongst the university and college teachers to know the local flora and its preservation and also to conserve the fast depleting flora in the country sent a proposal to the University Grants Commission for implementation of an All-India Co-ordinated Project for the Development of Herbaria in Colleges/educational institutions. The Project has thus been formulated with a view to collecting and preserving samples of flora and the germ-plasm of economic plants. A copy of the proposal is attached Annexure.

The matter was considered by the Biological Sciences Panel at its last meeting held on 27-29th January, 1979. The Panel resolved as under:-

"The Panel considered a proposal received from the Director, Botanical Survey of India for the establishment of herbaria in order to collect and preserve samples of such floras which are being destroyed. The Panel welcomed the proposal of such co-ordinated effect and recommended that specific proposal from identified institutions could be supported. It was also suggested that regional co-ordination committees may supervise such collaboration with regional Botanists of Botanical Survey of India."

The implementation of project would involve financial support both from the Department of Science and Technology and University Grants Commission as indicated below. It is proposed to establish 50 units in different parts of the country (excluding colleges/universities lying within 150 to 200 kms of BSI Stations or other important herbaria of the country):

I- staff

Asstt. Curator- One

(Rs. 550-900)

p.t.o.

: 2 :

Field-cum-mounter- one
(Rs. 210-270)

II- Contingencies

Field work library and Rs. 10,000/- p.a.
expenditure for monitoring
the collections.

Non-Recurring

Almirahs
Herbarium equipment,
Species cover mount boards etc. Rs. 5,000/-

As indicated in the proposal, the Department of Science and Technology would provide funds for the non-recurring expenditure. So far as staff and contingencies are concerned the Commission is expected to bear the expenditure. The tentative expenditure to be borne by the Commission is worked out as indicated below:-

Staff.

Assistant Curator	Rs. 10,000/- p.a.
Fieldman-cum-mounter	Rs. 4,500/- p.a.
Contingencies etc.	Rs. 10,000/- p.a.

The total expenditure to be met by the Commission would thus come to Rs. 12,25,000/- p.a. for the maintenance 50 herbaria units.

As per UGC Act, the Commission cannot give any grants directly to the Botanical Survey of India. However, in case, the Botanical Survey of India identifies colleges in different parts of the country, the Commission would consider giving grants to these colleges in the VI Plan for maintaining the proposed herbaria units.

The matter is placed before the Commission.

Copy of

Telephone -67-3231

Telegram: PHYTON

BOTANICAL SURVEY OF INDIA
OFFICE OF THE DIRECTOR

P.O. Botanic Garden, Howrah-711103

No. BS I-8/87
No. BSI-8/82/78/PA

Dated the 1st January 1978

From Dr. S.K. Jain
Director.....

To

Dear Prof. Chandra,

Subject: All-India Coordinated Project on Development of
Herbaria in Educational Institutions.

The UGC provided financial support for a joint BSI-UGC Workshop on 'Plant Exploration and Herbarium Techniques' held at Howrah from 27th March to 7th April, 1978. Consequent to the training given to some 30 college/university teachers and research scholars working in several universities and research organisations, there is a wide-spread desire that herbaria for local floras should be established in some of the existing degree colleges/universities in remote areas of the country. The importance of preserving samples of local flora in such herbaria spread throughout the country need hardly be stressed: for improving teaching of taxonomic botany to the graduate and post-graduate students; to make them familiar with the potentially rich vegetable wealth with which our country abounds. As you know, due to urbanization, industrialisation and demands for rural development to improve the quality of life of our population, the forests and plant-cover in different parts of the country are being destroyed and development of net-works of roads in forest areas and on the mountainous ranges of the Himalayas for security regions, is telling heavily upon the plantcover.

The Indian Board for Wildlife and the International Union for Conservation of Nature are making serious national/international endeavours to conserve the flora and the germ-plasm of our economic plants. It is estimated that some 20,000/- acres of forests are being cleared

p.t.o.

daily in the tropical regions of the world. Efforts in our country are being made to meet such contingencies in devising ways for conservation of our fast depleting flora, both in nature and in botanical gardens.

It is, therefore, essential to collect and preserve samples of such flora in herbaria around the country before the plants finally disappear due to their wanton destruction. It is high time that a general awakening among the degree college/university teachers and students be developed to make them know the local flora and reserve them in herbaria.

In considering the large size of our country the eight regional circles established up to date by the BSI, where herbaria have been developed are too inadequate to meet the needs of ever-expanding degree colleges/universities in our country. The University/College professors whom I have met and discussed have pressed upon me the necessity to develop and establish herbaria attached to the degree colleges/universities in different parts of the country. I am sure, you will welcome this idea. Botanical Survey of India is prepared to do all it can be way of (a) providing expertise through initial training of Curators both in the Central National Herbarium, Howrah as also in the regional circles, (b) in establishing coordination with the activities of such colleges and universities through occasional get-togethers to watch the progress and particularly to utilise the data and material accumulated in such local herbaria from time to time.

Such a Project to materialise would need financial support from both from the Department of Science and Technology and from the University Grants Commission. For each local herbaria, the following provisions may have to made:-

- 1) Staff: One Asstt. Curator - Rs.550-900/-
One Fieldman-cum-Mounter - Rs.210-270/-

p.t.o.

2) Contingencies:

Non-recurring- two almirahs and herbarium equipments like genus cover, species cover, mount-boards etc. Rs. 5,000/- each.

Recurring:- For field work, library and contingent expenses for monitoring the collections. - Rs.10,000/- each.

While a request has to be sent to the Deptt. of Science & Technology to provide funds for the non-recurring expenditure for all the 50 units to the tune of Rs.2.5 lakhs it will be necessary for the UGC to bear the expenses on salary of the staff and the contingent expenditure for each unit as stipulated above. The details of the financial involvement may be worked out later. At this stage, I would like to know whether the UGC is prepared in principle to consider support the establishment of such herbaria in about 50 units in different parts of the country (excluding colleges/universities lying within 150 to 200 kms. of BSI Stations or other important herbaria of the country).

On having a favourable reply, I am willing to discuss the matter personally with you or any other senior officer of the UGC for working out details.

With best regards,

Yours sincerely,

sd/-

(S.K. Jain)

Prof. Satish Chandra,
Chairman,
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi.

Confidential

University Grants Commission

Meeting:

Dated : 26th October, 1979

Item No. 4.07/b consider a note relating to the implementation of the scheme of assistance for providing common facilities for the colleges located in the Metropolitan Cities (Bombay & Madras)

The Commission at its meeting held on 17th August, 1979 while considering the proposal of the Calcutta University for construction of a building in order to set up Auxiliary Auditorium, Laboratories, Libraries, Study Room, for staff and students, Seminar rooms, research section, canteen and students common rooms for Vidyasagar group of colleges, Calcutta desired that a note relating to the implementation of the scheme of assistance providing common facilities for the colleges located in the Metropolitan Cities (Bombay and Madras) may be brought up before the Commission at its next meeting.

The present position regarding the implementation of this scheme in the two universities as follows:

1) Bombay University

The Bombay University was informed in June, 1975 that an allocation of rupees one crore would be available for the development of colleges in Metropolitan City of Bombay during the fifth plan period and specific proposals were invited. On the basis of proposals received from the University in March 1977, following schemes were approved in principle by the Commission on usual sharing basis:

Sl. No.	Name of the Scheme	Estimated Cost Rs.	U.G.C. Share Rs.	Sharing Basis
1.	Construction of a Women's Hostel (in the Backbay Reclamation Area)	15,00,000	11,25,000	75 : 25
2.	Workshop	5,00,000	5,00,000	100%
3.	Library-cum-Reading Room	25,00,000	12,50,000	50 : 50

contd..2/-

4.	Scientific Equipment	25,00,000	25,00,000	100%
5.	Faculty Improvement Programme	10,00,000	10,00,000	100%
6.	Innovative Programmes	2,00,000	2,00,000	100%
7.	Research in Methods of Evaluation	1,00,000	1,00,000	100%
8.	Facilities for Physically handicapped students	25,000	25,000	100%
9.	Instrumentation Centre	1,00,000	1,00,000	100%
10.	To be allocated for schemes of counselling centres, special coaching facilities, etc.	15,75,000	15,75,000	100%
Total:		<u>1,00,00,000</u>	<u>83,75,000</u>	

The university was requested to send detailed proposals in respect of each scheme for approval by the Commission. Subsequent to this the Bombay University approached the Commission to provide grants on 100% basis for all the schemes, as University had no funds to provide for the matching grants. The Government of Maharashtra was requested to provide the matching funds to Bombay University for implementation of this scheme. Subsequently, the Commission decided to provide funds on 100% basis and the University was informed in November, 1977.

Out of these schemes the university submitted a proposal in May, 1977, for organization of practical training courses for students at the Rural Development Centres under the innovative programmes for which an allocation of Rs.2 lakhs had been approved. This was for students offering 'Rural Development' as a subject at degree level. Under this scheme the Commission also agreed for the appointment of a Reader and one Lecturer at the Rural Development Centre. An 'on account' grant of Rs.50,000/- has also been released for this purpose.

Under the FIP the University has organised in 1978 orientation courses for the teachers in colleges in different new subjects introduced for the first time in the new 3-year degree courses. A total grant of Rs.1,50,000/- has been released under this scheme.

The request of the university to provide an allocation of Rs.20,000/- for purposes of equipment to each college under the jurisdiction of the university which have decided to introduce life

sciences courses at the undergraduate level was also accepted in May, 1978. It has also been decided to provide these grants for the colleges which are located outside greater Bombay. No grant has been claimed by the university so far, for introduction of life sciences courses in the colleges.

2. Madras University

The Commission in June, 1977 approved the following projects of Madras University under the grant of Rs. 1 crore for development of inter-institutional facilities for the Metropolitan Colleges of Madras during the 5th Plan period.

Sl.No.	Name of the Project	Estimated Cost	UGC's basis	UGC sharing basis
1.	(a) Two extension Libraries (one in the North & the other in the South).	20,00,000/-	10,00,000/-	50:50
	(b) Purchase of Text-Books and reference books for (a) above (The books are to be purchased only when the buildings are near completion).	10,00,000/-	7,50,000/-	75:25
2.	A Central Hall as a Study Room for poor students (Books to be provided later).	4,00,000/-	2,00,000/-	50:50
3.	Inter-Collegiate Hostel for 240 students (including building and furniture)	12,00,000/-	6,00,000/-	50:50
Total:		46,00,000/-	25,50,000/-	

The Commission in November, 1977 informed the Madras University that the Commission has agreed that the assistance for the schemes to be taken up for utilising the Metropolitan Colleges grant to Calcutta, Bombay and Madras Universities for development of inter-institutional facilities may be made available on cent per cent basis. The University was requested to take urgent steps to formulate appropriate proposals for utilising the grants expeditiously.

The university requested the Commission to approve the grant for the projects mentioned above on cent per cent basis. The university was informed that in view of Commission's decision the Commission's assistance towards the schemes approved will be available on cent per cent basis and the UGC share towards the schemes accepted will be limited to Rs. 46 lakhs instead of Rs. 25,50,00/-.

The Commission under the above scheme approved the proposal of the Madras University for opening a Science Museum as detailed below:

Sl. No.	Name of the Project	Estimated Cost	UGC share on cent per cent basis
1. SCIENCE MUSEUM			
(i) EQUIPMENT			
	Models & Exhibits	Rs. 10,00,000/-	Rs. 10,00,000/-
(ii)	Books & Films	Rs. 3,00,000/-	Rs. 3,00,000/-
	Total:	Rs. 13,00,000/-	Rs. 13,00,000/-

The Commission's share for the projects so far approved under the grant of Rs. 1 crore for development of inter-collegiate facilities for the colleges located in the Metropolitan City of Madras is Rs. 59 lakhs (Rs. 46,00,000/- + Rs. 13,00,000/-). No grant has been released so far since the university has not furnished the progress report regarding the implementation of the above mentioned projects.

The Madras University has now forwarded to the Commission the following proposals:

1. Building for Science Museum and recurring expenditure	Rs. 15,00,000/-
2. Additional grant for the purchase of furniture for Inter-Collegiate Hostel Building	Rs. 2,00,000/-
Total:	Rs. 17,00,000/-

A copy of the letter from the Madras University is at Appendix-I.

The Madras University has informed that their efforts to get financial help for the Science Museum Project from the CSIR, Department of Science and Technology, Department of Culture, Modi Science Foundation etc. have not borne fruit. The building is the first and foremost requisite for the Science Museum project and, therefore, it would be very difficult if not impossible to take up such a big project for implementation without the grant for a building and recurring items. A copy of the letter received from the university is appended (Appendix-II). In this connection, it may be stated that at the time of approving assistance for equipment for the Science Museum, the Vice-Chancellor, Madras University had given an assurance that the funds for the building would be provided from other sources.

The proposal of the Madras University is placed before the Commission for consideration.

Appendix I to Item No. 4.07

Copy of letter No. 134/(b)/VP/75/C-1/889, dated 20th February, 1979, addressed to Shri P.K. Chharba Secretary, University Grants Commission, New Delhi.

Subject: Fifth Five year Plan-Development of Colleges Located in Metropolitan City of Madras.

Reference: Letter No. F.78-9/76(DIC) dated 2.6-77 of Mrs. S. Ramamurthy, Assistant Secretary, New Delhi.

With reference to your letter cited I wish to inform you that the work of construction of Inter-collegiate Hostel has been taken up and all the preliminary arrangements are being made to carryout the work. In this connection I wish to inform you that the cost of building along works out to Rs. 11.84 lakhs as against the grant of Rs. 12 lakhs already sanctioned for building and furniture. As the balance of Rs. 0.16 lakhs may not be sufficient for the furniture, required for the above building. I request that an additional grant of Rs. 2 lakhs may kindly be sanctioned for the purchase of furniture. In this connection I wish to inform you that the proposals for the grant of Rs. 98 lakhs have already been approved by the Commission under the above scheme as detailed below:-

	<u>Cent percent grant</u>
1. Two Extension Libraries	Rs. 20,00,000
2. Purchase of Text Books and Ref. books for the above	Rs. 10,00,000
3. A central Hall as a study room for poor students	Rs. 4,00,000
4. Inter-Collegiate Hostel for 240 students (including building and furniture)	Rs. 12,00,000
5. Construction of Laboratories for Physics and Chemistry at the A.C. College Campus.	Rs. 19,00,000
6. Science Museum (Models, Exhibits, Books and films)	Rs. 12,00,000

Schemes pending with the University Grants Commission for approval

7. Science Museum (building and recurring expenses)	Rs. 15,00,000
8. Establishment of counselling and guidance centre	<u>Rs. 5,00,000</u>
Total	<u>Rs. 98,00,000</u>

The balance of Rs. 2,00,000/- available under Rs. 1.00 crore project may please sanctioned as an additional grant for the purchase of furniture required for the Inter-Collegiate Hostel building.

↳ very early approval is requested.

2 Appendix II to Item No. 4.07

Copy of Letter No.134(b)/VP/75/C-1/4576 dated 10 Nov. 1978 from Registrar, Madras University, addressed to the Secretary UGC, New Delhi.

Subject: Fifth Five year plan-Development of Colleges located in Metropolitan city of Madras.

Reference: Letter No.F.70-9/76(DIC) dated 7.9.78 of Mrs. S. Ramamurthy, Asstt. Secretary, UGC, New Delhi.

With reference to the above, I wish to inform you that originally the proposal for Science Museum was forwarded to the University Grants Commission for the following grant under the above scheme:-

	<u>Non-Recurring</u>	<u>Estimated Cost.</u>
i)	Building	Rs.12,00,000
ii)	Equipment	Rs.10,00,000
iii)	Books and Films	Rs. 3,00,000
	<u>Recurring</u>	
i)	Staff	Rs. 1,50,000
ii)	Consumables	Rs. 50,000
iii)	Contingencies and Maintenance	Rs. 1,00,000
	Total	Rs.28,00,000

Against the above request the University Grants Commission was kind enough to sanction only Rs. 13,00,000 for the following purposes:-

<u>Science Museum</u>	<u>Est.</u>	<u>UGC Share 100%</u>
1. <u>Equipment</u>		
i) Models & exhibits	Rs.10,00,000	Rs.10,00,000
ii) Books and films	Rs. 3,00,000	Rs. 3,00,000
	Rs.13,00,000	Rs.13,00,000

p.t.o.

: 2 :

In this connection I am to inform you that our efforts to get financial help for the Science Museum Project from the CSIR, Department of Science & Technology, Department of Culture, Modi Science foundation, Jawaharlal Nehru Fund etc. have not borne fruit.

The building is the first and foremost requisite for the Science Museum Project and, therefore it would be very difficult, if not impossible to take up such a big project for implementation without the grant for a building and recurring items. Hence, I have, by direction to request that Rs. 12 lakhs for building and Rs. 3 lakhs for recurring expenses as already requested may also kindly be sanctioned at an early date under the Metropolitan colleges Development grant of Rs. 1 crore.

This may please be treated as most urgent.

SECTION 5

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979.

Item No. 5.01 : To consider a proposal received from the Annamalai University for financial support for its Golden Jubilee Celebration.

The Annamalai University was established as a teaching and residential University in the year 1929. The two departments of marine biology and of linguistics have been recognised as centres of advanced study by the UGC. The University has completed its 50 years in the year 1979. The University proposes to celebrate the Golden Jubilee during September-October, 1979. The University has drawn up an ambitious plan for the introduction of new specialisations in the departments, introduction of new courses of study, reorientation of the existing courses in the various faculties with a view to making them job-oriented and for introduction of new chairs of study etc., job-oriented courses such as Master's degree in banking management, diploma in banking and trade, management of public enterprises, Home Science, salesmanship etc. are also proposed to be started in the jubilee year. The plan includes construction of new buildings for the departments which do not have buildings of their own and also for expansion of the existing buildings to provide additional accommodation for them. The plan envisages the construction of major buildings at an estimated cost of Rs. 3.92 crores in addition, it is proposed to have an independent water supply system in the University system at a cost of Rs. 20 lakhs.

All the proposals indicated above are proposed to be inaugurated on the occasion of the Golden Jubilee of the University has stated that the plan cannot be implemented without financial support from the UGC. The UGC. The University has, therefore requested to sanction a grant of Rs. 50 lakhs for the purpose. A copy of the letter from the Vice-Chancellor Annamalai University is enclosed (Annexure).

In this connection, it may be stated that the University Grants Commission has sanctioned the following special grants to various universities for Golden Jubilee to

p.t.o.

be spent on schemes in consultation with the UGC.

S.NO.	Date of Estt.	UNIVERSITY	Amount of grant
1.	1887	Allahabad	Rs. 10 lakhs (on completion of 70 years)
2.	1916	BHU	Rs. 10 lakhs
3.	1917	Patna	Rs. 10 lakhs
4.	1918	Osmania	Rs. 10 lakhs
5.	1921	AMU	Rs. 10 lakhs
6.	1916	Mysore	Rs. 10 lakhs
7.	1921	Lucknow	Rs. 10 lakhs
8.	1922	Delhi	Rs. 10 lakhs
9.	1923	Nagpur	Rs. 10 lakhs
Original estt. By Statute in 1951.	10. 1916	SNDP Womens	Rs. 7.5 lakhs
	11. 1926	Andhra	Rs. 10 lakhs
@Recognised as deemed Univ.	12. 1963@	Gujarat Vidyapith	Rs. 7.5 lakhs
	13. 1963@	Kashi Vidyapith	Rs. 7.5 lakhs
	14. 1961@	Jamia Millia Islamia	Rs. 7.5 lakhs

While considering the proposal of Andhra University, The Commission desired that the universities be advised that at least 2/3rd of this grant may be used for augmenting the research facilities in the universities (Item No.2 of UGC meeting 14th April 1975). The above decision of the Commission is still operative.

The UGC at its meeting held on November, 1976 (Item No.23) considered the question of providing matching grant to the BHU against funds to be collected by it on its own on the occasion of its Diamond Jubilee. The Commission agreed to provide an amount of Rs.10 lakhs as an out-right grant to the university on the occasion of their Diamond Jubilee. A further matching grant of Rs. 10 lakhs costs be provided to the

universities which would collect atleast Rs. 10 lakhs with their own efforts from various sources on the occasion of their Diamond Jubilee. The grants obtained by the university from the UGC and the amount collected from other sources could be utilised for projects to be accepted by the Commission. It was also agreed that the proposals of the universities which have already applied for assistance on the occasion of their Diamond Jubilee may be reconsidered in the light of the above decision. At its meeting held on 16-5-1977 (Item No.42), the Commission considered further the question of providing matching grant to the BHU against the funds to be collected by it on the occasion of its Diamond Jubilee. The Commission, interalia, was of the view that for purposes of additional assistance beyond Rs. 10 lakhs payable to the universities on the occasion of Diamond Jubilee, only the amount collected by the universities within a period of one year from the date of the Diamond Jubilee may be taken into consideration.

In view of the likely resources to be made available to the UGC for the current plan period, the entire question of providing Jubilee grants to the universities and also pre-proposal of the Annamalai University under reference are placed before the Commission for consideration.

Copy of letter No. Nil dated June 29, 1979 received from Sh. B.S. Somasundaram, V.C., Annamalai University addressed to Prof. Satish Chandra, Chairman, UGC.

Subject: ANNAMALAI UNIVERSITY- GOLDEN JUBILEE
- CELEBRATION- DEVELOPMENT PLANS - GRANT-
REQUESTED.

The Annamalai University was found in the year 1929 as the only teaching and residential University in the Madras State through the munificence and large heartedness of a single individual, Rajah Sir Annamalai Chettiar of Chettinad. He had the vision and the wealth necessary to transform what had once been a fond idealistic dream into a reality of great dimension and portent. The Meenakshi College which was established in 1929 was housed at that time in the modest premises of a high school at Chidambaram and it grew through the untiring and generous efforts of its distinguished patron into an unitary residential University.

The Annamalai University was inaugurated in the year 1929, three years after the establishment of the Andhra University and eight years before the Travancore University came into existence, all the three branching off from the Madras University which completed 100 years in 1957. Its constitution differs from the rest in that it is an unitary and completely residential University whereas the others are federal Universities affiliating Colleges. The University has now more than eight Faculties and 30 Departments of Study offering the best opportunities for the training and research in several subjects .

2. From the beginning, it has been the aim of the University to give special attention to Study and research and not merely to teach "the time worn subjects in the time worn". As a Unitary University, it has not been hampered as an affiliating University would be in developing the true academic spirit and in making daring excursions into the unknown, as it were, and extending the bounds of knowledge.

The University can claim a high record of research, as a result of the spirit of enthusiasm of teachers and earnestness of the students striving to conquer fresh fields. Investigation of highly technical and scientific matters has always been going on behind the closed doors in our laboratories and results have been published in learned articles in journals of international repute. The two centres of Advanced study in Marine Biology and in Linguistics are internationally recognised for their standards. The University has now established itself firmly as a Centre of modern knowledge and Science as well as of Tamil culture and Tamil learning in the whole of India.

3. The University would now complete 50 years of its existence. The University, as a reputed residential University of national stature, has got every reason to feel proud and jubilant over its multi-faceted and varicoloured achievements during the course of last half century. It has been decided to celebrate the Golden Jubilee during September-October, 1979 in a befitting manner. The occasion will be a memorable event of significance in the academic history of the University. The University has now drawn up an ambitious plan for all the departments for the introduction of new courses of study, re-orientation of the existing courses in the various faculties with a view to make them job-oriented and for introduction of new chairs of study, etc. Job-oriented courses such as Master's Degree in Bank Management, Diploma in Banking and Trade, Management of Public Enterprises, Home Science, Salesmanship, etc., are also proposed to be started in the Jubilee year. The plan includes construction of new buildings for the departments which do not have buildings of their own and also for expansion of the existing buildings to provide additional accommodation for them.

The Plan envisages the construction of major buildings for the following:

	Rs.
1. Stadium	.. 35,00,000
2. Examination Centre-cum-Auditorium	.. 50,00,000
3. Hostel for 1,500 students (Men and Women)	..1,80,00,000

4.	Air-Conditioned Guest House with 20 suites.	10,00,000
5.	Canteen and Day Scholars Buildings.	10,00,000
6.	Bachelor Teachers Hostels to accomodate 50 teachers.	6,00,000
7.	Faculty Complex for 48 Lecturers.	47,00,000
8.	Faculty Complex for 250 Teachers.	27,00,000
9.	Administrative buildings, Senate Hall, etc.	27,00,000
	Total	<u>3,92,00,000</u>

A proposal for the introduction of an independent Water Supply System for the University Campus at a total cost of Rs. Rs.20,00,000/- is also under way.

4. All the proposals included in the Plan are to be inaugurated on the occasion of the Golden Jubilee of the University. It is needless to point out that the Plan cannot be implemented without a liberal financial grant specially earmarked for the Golden Jubilee of the University. In this context, it may also be pointed out that the University Grants Commission sanctioned a grant of Rs. One Crore. for the Centenary Celebration of the Madras University which came off in the year 1957.

: 4 :

In the above circumstances, I request that the University Grants Commission may be good enough to sanction not less than Rupees Fifty lakhs for the Golden Jubilee of the University towards the implementation of the Plan.

SLK

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979.

Item No. 5.02 To consider a proposal from the Poona University to include the Centre for Development Studies and Activities, Poona, under section 2(f) of the UGC Act.

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Under the latest regulations framed under section 2(f) read with section 26(i) of the UGC Act, 1956 modified upto 17th June, 1972, various types of colleges and institutions recognised by the universities as provided in the respective University Act can be brought within the purview of the UGC Act and included in the list under Section 2(f) provided they satisfy the conditions prescribed for it. The Commission at its meeting held on March 11, 1974 agreed that in the case of recognised institutions, on the basis of recommendations made by the University concerned, such institutions could be included in the Section 2(f) list. The Commission further decided that this provision, included in the modified regulations within the purview of Section 2(f) of the UGC Act will not automatically entitle a recognised institution to be included in the list prepared under Section 2(f) of the UGC Act and that each case would have to be examined and placed before it for consideration before it is included in the proposed list (Item No.10, as confirmed in April, 1974 meeting).

The Poona University has forwarded the particulars of the Centre for Development Studies and Activities, Pune in the prescribed proforma for its inclusion under Section 2(f) of the UGC Act. A copy of the proforma as filled in by the Institute is enclosed (Annexure).

The Centre for Development Studies & Activities, Pune was established on June 12, 1978. It has been recognised by the University of Poona for a period of 3 years as a research institute in specialised studies in the area of development planning. The Centre prepares students for two-year Postgraduate Diploma in Development Planning through its subsidiary School of Development Planning. It has 10 students on roll in the first year and 7 faculty members. The School is run by a public trust and has been registered under the Societies Registration Act, 1860 (Act XXI of 1860).

P.T.O.

It has been stated that the above Centre which is a registered Non-profit public trust, has brought together a group of professionals with technical and social science backgrounds as well as training and experience in planning to work as a team to study and to do research, to offer consultancy services and to train future professionals in the area of development planning. The ICSSR and the Department of Revenue and Banking, Government of India have recognised the Centre as a Social Science Research Institute. The Centre has a number of research and consultancy projects on hand. These have been awarded by the Ministry of Home Affairs, Government of India, Government of Maharashtra, ICSSR, Maharashtra Housing and Area Development Authority, Hyderabad Urban Development Authority, Pune Municipal Corporation, etc. In order to facilitate and streamline its activities, the Centre has designed the following units viz: School of Development Planning, Advisory Division, Voluntary Action for Development, Development Library and Documentation Centre and Development and Planning Research Institute. The programme of study at the School of Development Planning, Poona consists of various courses namely economic analysis for Planners, social system and planned social change, planning geography, analytical techniques, planning and management processes, problems and issues of poverty and inequality, planning laboratory, young professional programmes, etc.

The Poona University has recognised the above centre under section 26 of its act, 1974, which inter-alia reads as follows:

"The Executive Council shall have the power, after consulting the Academic Council, to recognise as a recognised institution any institution of research or specialised studies other than a college."

Incidentally, it may be stated that even if the above centre is brought within the purview of Section 2(f) of the UGC Act, it cannot be declared fit to receive assistance under Section 12-A of the UGC Act, as the centre was established on 12-6-1978, and is on temporary affiliation for a period of three years.

US(CP)/DS(CP)

STATEMENT SHOWING THE NAMES OF COLLEGES TO BE BROUGHT UNDER SECTION 2(f) OF THE UGC ACT 1956

Name of the University POONA UNIVERSITY

Previous reference (if any)

No. _____

No. _____

Dated _____

Dated _____

Sl. no.	Full name of the College as affiliated to the University.	Degree (Diploma) for which college prepares students.	Subjects taught	No. of students on roll	No. of teachers employed	Has the college been granted permanent or temporary affiliation (recognition) if latter for what period	Does the college fulfil all the conditions laid down by the UGC for being brought on the approved list of affiliated colleges under Section 2(f)	Is the college being run by private management or by Central/ State Govt. or is it University college?
1	2	3	4	5	6	7	8	9
1.	Centre for Development Studies and activities (CDSA) - recognised by University of Poona as a research institute in specialised studies in the area of Development Planning.	Two-year post-graduate diploma in Development Planning through its subsidiary, School of Development Planning.	Syllabus attached separately	10 (first year)	Seven faculty members	Recognition from University of Poona as an institute in specialised studies from 12 June 1978 for a period of three years.	Yes	Public Trust

Centre for Development Studies
and Activities (CDSA)Sd/-
Director

Is the college registered under the Societies' Registration Act 1860 (21 of 1860) or is a body corporate under a Central or State Act or is a trust with trustees being appointed and vested with legal powers and duties. If so, a copy of the Memorandum of Association or the University Colleges of the Trust deed may be attached.

In the case of colleges falling under Clause (1) (iv) of regulations prescribed for recognition of colleges with effect from 1 July 1974, please indicate whether a surety Bond and other documents prescribed have been attached or not.

Name of the Principal

Any other remarks year of Estt. (as a degree Institute) Year of Affiliation (Recognition).

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Registered Trust under SRA 1860 and Public Trust.

Copy of Memorandum of Association enclosed.

Surety bond endorsed by all the trustee members has already been submitted (refer letter No. PU/DEV/C-16/11372-73 dated 13 November 1978 by the Registrar, University of Poona).

Professor Christopher C Benninger

(Honorary Fellows)

*(M.Arch-Harvard, MCP-MIT); A.I.I.A., A.I.T.P.

*Master of Architecture (Harvard).

Master of Planning (M.I.T.) Associate, Indian Institute of Architects, Associate, Indian Institute of Town Planners

1. Dr. Chitra Naik, Director, Indian Institute of Education

2. Professor A. R. Kamat, Gokhale Institute of politics and Economics

3. Dr. Sulabha Brahme, Gokhale Institute of Politics and Economics

4. Professor Y B Damle, Head Dept. of Sociology, University of Poona

5. Dr. K R Dikshit Dept. of Geography, University of Poona

10 11 12 13

6. Professor J G Krishmayya
Executive Director
Systems Research Institute

1 August 1976

As a School of Development
Planning from August 1978

Centre for Development Studies
and Activities (CDSA)

Sd/-
Director

...4...

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In addition to the recognition awarded by the Poona University, the Centre is recognised by the Indian Council of Social Science Research (through department of Revenue and Banking under section 35(1) (ii) and the department of Social Welfare, Government of India vide their circular no. 16-38/78 CW dated 19 January 1979 (Copy enclosed)

Sd/- Registrar
Registrar University of
Name of the University..... Poona

The Secretary
University Grants Commission
Bahadur Shah Zafar Marg
New Delhi.

Centre for Development Studies
and Activities (CDSA)
Sd/-
Director

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated: 26th October, 1979.

Item No. 5.03 To consider a proposal received from Jadavpur University for the construction of a Common Guest House Complex for the three Universities in Calcutta.

The Vice-Chancellor, Jadavpur University has sent a proposal for the construction of a Common Guest House Complex for use by the three Universities in Calcutta viz. Calcutta, Jadavpur and Rabindra Bharati Universities. It has been stated that the three Universities have no suitable Guest House for accommodating University Guests who visit Calcutta for official work such as attending Committee meetings, examinations, etc., and that the three Universities find it very difficult to accommodate the visiting faculty from other States and abroad, who are invited for varying periods for research and teaching work. The Universities have also in recent years, found it difficult to sponsor workshops, Seminars, Summer Schools and Quality Improvement Programmes because of the difficulty of accommodating the participants coming from outside Calcutta.

The problem of accommodation was discussed at a meeting of the Committee of Vice-Chancellors of State Universities of West Bengal and the Vice-Chancellor, Jadavpur University has sent the above proposal on behalf of the Committee. A copy of the proposal received from the University is enclosed as Annexure. It has been stated that the estimated cost of the project will be worked out after the proposal is accepted by the Commission in principle.

The matter is placed before the Commission for consideration.

US(E.1/DS(E))

COMMITTEE OF VICE-CHANCELLORS

Proposal for establishment of a Guest House-cum-Office accommodation

At the last meeting of the Vice-Chancellors of the State Universities of West Bengal held on 13th January, 1979, Professor S.K. Mukherjee, ex-Vice-Chancellor of Calcutta University mentioned about the suggestion from the Vice-Chairman, University Grants Commission for building up a Guest-House-cum-Office accommodation complex in West Bengal for the UGC and University officials as well as the guests of different universities visiting Calcutta. The dearth of a suitable Guest-House has been keenly felt for sometime and it has not been possible to arrange for seminars, workshops etc., quite often for want of suitable accommodation for housing the participants during their stay in Calcutta. Officials of different universities in West Bengal situated outside Calcutta have also to visit Calcutta for university work. Besides, many universities have to maintain city camp offices in Calcutta for various purposes such as meetings of the Selection Committees, meetings of the Executive Councils etc.

It is proposed that a Guest-House cum-Office accommodation may be built up in Calcutta with the aid of the UGC and the State Government, for the purpose of accommodating guests and officials of different universities visiting Calcutta, and also to provide accommodation for city offices of universities located outside Calcutta. It is also proposed that the same complex may also provide suitable furnished rooms for holding seminars, workshops etc.

As the complex will be used by the Universities in West Bengal, it may be considered whether it may be constructed and administered by a Board of Trustees of which Vice-Chancellors of all the universities in West Bengal will be members.

DETAILS OF ACCOMMODATION: The proposed complex may provide for:

- 1) 6 suites of rooms, each with twin beds and other furniture attached bathrooms and toilets, a living room with a sofa-cum-bed, and a kitchenette; the suites will be for visiting professors appointed by the universities who have to stay for more than 15 days.
- 2) 25-26 rooms with attached bath and toilet room, 2 beds and other furniture in each room. These rooms will be for visiting officials, academics and participants in seminars, workshops, etc.
- 3) One office room fully furnished and provided with a phone for a visiting Vice-Chancellor.

- 4) 6 office rooms for the city offices of universities located outside Calcutta.
- 5) One Committee Room with audio-visual aids for 100 persons.
- 6) One Committee Room for 25 persons.
- 7) A common lounge for 25-30 persons.

The complex will be provided with its own cafeteria and the dining room should preferably be located on the 2nd floor of the building. Offices may be accommodated on the ground floor. Provision should also be made for 2 garages for the staff cars.

It will be necessary to provide residential quarters for a caretaker, watch and ward staff and staff car drivers.

Calcutta University may be approached to make available on suitably agreed terms, a piece of land in South Calcutta, near Lower Circular Road.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979

Item No. 5.04 To consider the proposal of Rajasthan University for allocation of teachers fellowships under the Centre for Development of Physics Education.

The University Grants Commission in May, 1978, accepted the recommendations made by the Committee which evaluated the progress of the implementation of follow-up activities made by the Department of Physics, Rajasthan University under COSIP-ULP in Physics and also examined the proposals of the department for the establishment of a Centre for the Development of Physics Education at the Department of Physics, Rajasthan University as a Continuing activity of COSIP-ULP and agreed to provide over the next three years a non-recurring grant upto Rs. 1,00,000/- and recurring grant upto Rs. 2,60,000/- per annum. The recurring expenditure is to be taken over by the University/State Government as committed expenditure so that the activities of the Physics Education Centre would be continued after the Commission's assistance ceases at the end of 3 years.

Prof. B.Saraf, Director of this Centre has stated that the involvement of college teachers in the programmes taken up by the Centre for Development of physics Education will be beneficial to both sides. The teachers will get essential training and the project will gain by their imaginative contribution. The M.Phil programme under the FIP in the university at present is teaching oriented. There is need for teachers to be concerned with Science Teaching Developments as well. It is therefore proposed to take the research programme towards improving the laboratory conditions and teaching competence of the teachers from this session beginning August, 1979, under Centre for Development of Physics Education. The university has therefore requested to allot to this Centre 10 teacher fellowships.

Under the general Faculty Improvement Programme, the UGC have allocated to identified subject departments 10 teacher fellowships for enabling college teachers doing M.Phil/Ph.D. work. In addition the departments recognised as CAS/DSA

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have 5 more teacher fellowships of one year duration. The Department of Physics, Rajasthan University is one of the identified departments which can take 10 teachers under FIP. The present request for allocation of further 10 teacher fellowships separately under the Centre for Development of Physics Education of Rajasthan University is placed before the Commission for consideration.

E. O. (S.R-I)/JSSR

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CONFIDENTIAL

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 5.05 To consider the request of Saurashtra University, Rajkot to allow it to proceed with the construction of buildings approved during the fifth plan period which have not been started so far, as a special case.

The University Grants Commission at its meeting held on 13-14 July, 1979 while considering the budget estimates for 1979-80 (vide item No. 1.05) decided that keeping in view the likely allocation during the year 1979-80, the Universities and Colleges may be advised to defer the construction work for the present in cases where the building proposals have been accepted for assistance but actual construction work has not been started. In the light of this decision all the Vice-Chancellors were requested to defer the construction of buildings for which construction has not been started (Chairman's letter No. F. 15-10/79 (CP) dated 25th July, 1979).

For Saurashtra University, Rajkot the Commission has approved following building projects as a part of V Plan allocation on usual sharing basis:

Name of the proposal of Buildings accepted	UGC share approved	Grants released
1. Chemistry	1,25,000/-	-
2. Economics, History, Sociology & Law	2,50,000/-	2,00,000/- dated July, 1979
3. Commerce, Education & Economics	2,50,000/-	-
4. Physics & Maths	5,00,000/-	-
5. Bio-Science	2,50,000/-	1,00,000/- dated July, 1979.
6. Hostel	2,50,000/-	-

p. t. o.

7. Staff Quarters/ Teachers Hostel	7,50,000/-	-
8. Workshop Shed	1,00,000	75,000/- dated July, 1979
9. Guest House	1,50,000	-
10. Health Centre including furniture and equipment	3,00,000	-

Out of these projects, construction work for i) Physics, Chemistry and Maths, (ii) Commerce and Education and (iii) Teachers Hostel/Staff Quarters have not been started so far. The detailed estimates and plan have also not been received.

The Vice-Chancellor, Saurashtra University has now requested that in view of special circumstances the University may be allowed to proceed with the construction work of these three buildings. He has indicated that the University has already appointed staff members for the new departments. The post-graduate classes have also been started and the equipment purchased. Now without the construction of buildings, it would be very difficult to run these classes, which are at present being accommodated temporarily in other buildings of the University. The State Government has also allocated necessary quota of cement and the university has paid the amount. A copy of the letter from the Vice-Chancellor addressed to Chairman, UGC is attached as Annexure-I.

In view of this the matter is placed before the Commission for consideration.

E.O.(B.2)/D.S.(B)

A copy of the letter No. 4-2/264 dated 3rd August, 1979 received from Prof. D.N. Pathak Vice-Chancellor, Saurashtra University, Rajkot addressed to Dr. Satish Chandra, Chairman, University Grants Commission, New Delhi.

Dear Dr. Satish Chandra,

I am in receipt of your letter dated July 25, 1979, conveying to us the UGC's directive that the construction of buildings that have not actually been started may not be started.

If, without taking into account our circumstances, the directive is applied to our University we shall be placed in a grave difficulty. As you are aware, we have in the course of last few months, appointed as many as 16 new teachers (4 professors, 3 readers and 9 lecturers) for the new departments of Commerce, Education, Law, Mathematics and Physics. These teachers are presently being accommodated in Students' Home, Library and other departments with temporary arrangements for laboratory, an ad hoc and none too satisfactory arrangement.

The Post-graduate classes for the new departments have started through the staggering of the class hours; but this can be for a short period only.

The proposed buildings for Physics, Mathematics and Chemistry are an absolute must for the new departments. Similarly for Commerce as well as Education.

As you are aware, our campus is rather far away from the City and it is absolutely essential that we build residential buildings for the faculty whose number has gone upto the total of 47.

We have made 85 to 90% of appointments out of the sanctioned posts and the teachers have already joined. Equipment to the tune of 90% of sanction is purchased already and, last but not the least, we have a committed expenditure of Rs. 1,20,000/- for the furniture for the new departments.

In other words, in all matters i.e. appointments, equipments and furniture we have committed ourselves to the extent as was necessary. All these would be in vain without buildings for which the U.G.C. share is hardly Rs. 16.25 lakhs.

The Government has allocated the necessary quota of cement and we have already paid the amount to the cement factories.

Agreements with the architects are finalised and 3% of the estimated cost has been committed for all the buildings.

In view of the above, the following constructions namely (1) Science building (2) Commerce and Education building and (3) the residential buildings for the faculty members - the tenders for which have already been accepted, may please be accepted and accorded the necessary permission, if need be as a special case, so as to save the University from the predicament that it would otherwise be placed in.

I shall be grateful to you if you would kindly treat this as most urgent and issue the necessary instructions as early as possible.

Yours faithfully,

Sd/-

(D.N. Pathak).

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated: 26th October, 79

Item No.5.6: To consider the proposal of the Andhra University for establishment of Rural Institute of Higher Education & Technology in the rural area of Nuzvid, Krishna Dt.,
Andhra Pradesh

The Andhra University has sent a proposal for the establishment of Rural Institute of Higher Education and Technology in the rural area of Nuzvid, Krishna Distt., Andhra Pradesh at a total estimated cost of Rs.110 lakhs spread over a period of 5 years, as detailed below, and has sought Commission's approval for the same:-

1.	For the Purchase of Library books & Journals and equipment, Chemicals etc., and towards the appointment of additional staff	<u>Estimated cost</u>
		Rs.
	a) Organisation of Intermediate courses (2 years)	20,00,000
	b) Organisation of BA (Rural Services) (3 years)	15,00,000
	c) Organisation of B.Sc.(Rural Services) (3 years)	30,00,000
	d) Organisation of Diploma Courses	10,00,000
	e) Administrative Expenditure	5,00,000
II.	<u>Buildings</u>	
	(School of Arts, School of Sciences, School of Home-Sciences, Library, administrative building, hostel for boys & girls, students cooperative society etc.)	<u>30,00,000</u>
	Grand Total:	<u>Rs.110,00,000</u>

from

An extract of a letter dated 31st July, 1979 from the Vice-Chancellor, Andhra University along with a detailed proposal is enclosed as Annexure.

The Vice-Chancellor, Andhra University, has also sent a copy of the proposal to the Education Minister. The Ministry of Education have invited the comments of the Commission on the proposal. The primary objective of the Institute is to serve the people of the locality by educating them to utilise the natural resources of the locality and make them self-reliant in their daily avocations. The establishment of the Institute is based on Gandhian principles of basic education. The Gandhi Gram Rural Institute of Tamilnadu is one such institute which appears to be a solitary survival today. This Institute stands out as a monumental example of selfless service to the rural folk. So it is advisable that the institute is located in a predominantly rural area. The students, both boys and girls, are to be drawn from the villages. The courses of instruction are aimed at developing their own vocations and modernising them. The Institute will also undertake surveys in order to unravel the social problems.

The aims and objectives of the Rural Institute of Higher Education and Technology are:-

1. To provide for such instruction and training in branches of learning as will promote a class-less and casteless society;
2. To provide for research and the advancement and dissemination of knowledge; and
3. To function as a Centre for extension work leading to integrated rural development

The Rural Institute will be an educational experiment, representing the art of learning providing work, community life, research and extension for integrated rural development.

In this connection, it may be mentioned that the Commission has already agreed to the introduction of post-graduate courses in Mathematics, Physics and Chemistry at Nuzvid under the direct supervision of the Andhra University and these courses are being treated at par with the Post-graduate courses in the affiliated colleges. (Commission's Resolution No.47 of 20th July, 1977). Besides there is another undergraduate college named Dharma Apparao College, Nuzvid affiliated to the Andhra University. It may be added here that the Commission normally does not provide assistance for the

construction of administrative buildings and students cooperative society building and for meeting expenditure on administration.

The matter is placed before the Commission for consideration.

US(A-I)/DS(A) .

Annexure to Item No.5.06

from

Extract/letter dated July 30, 1979 from
Shri MR Apparow, Vice-Chancellor, to
Professor Satish Chandra, Chairman, UGC

The primary objective of the Institute is to serve the people of the locality by educating them to utilise the natural resources of the locality and make them self-reliant in their daily avocations. The establishment of the Institute is based on Gandhian principles of basic education. The Gandhi Gram Rural Institute of Tamilnadu is one such institute which appears to be a solitary survival today. This Institute stands out as a monumental example of selfless service to the rural folk. So it is advisable that the institute is located in a predominantly rural area. The students, both boys and girls, are to be drawn from the villages. The courses of instruction are aimed at developing their own vocations and modernising them. The Institute will also undertake surveys in order to unravel the social problems.

The aims and objectives of the Rural Institute of Higher Education and Technology are:-

1. to provide for such instruction and training in branches of learning as will promote a classless and casteless society;
2. to provide for research and the advancement and dissemination of knowledge; and
3. to function as a Centre for extension work leading to integrated rural development.

The Rural Institute will be an educational experiment, representing the art of learning providing work, community life, research and extension for integrated rural development.

Appendix to Annexure

PROPOSAL OF THE ANHRA UNIVERSITY FOR ESTABLISHMENT OF A RURAL INSTITUTE OF HIGHER EDUCATION AND TECHNOLOGY

1. INTRODUCTION:

Many educationists, social workers and political leaders have been expressing deep concern over the neglect of educational needs of the villages. Long ago, Dr. M. S. Shrinani, as Chairman of the Rural Higher Education, started rural institutes in various parts of India. These were based on Gandhian principles of basic education. Gandhi Gram Rural Institute of Tamilnadu is one such institute which appears to be a solitary survival today. This Institute stands out as a monumental example of selfless service to the rural folk.

The primary objective of these institutes is to serve the people of the locality in educating them to utilise the natural resources of the locality and make them self reliant in their daily avocations.

For this reason, these institutes should be located in a predominantly rural area, away from cities or towns. The students, both boys and girls, are to be drawn from the villages. The courses of instruction are aimed at developing their own vocations and modernizing them. The Institutes will also undertake surveys in order to unravel the social problems.

2. AIMS AND OBJECTIVES OF THE RURAL INSTITUTE OF HIGHER EDUCATION AND TECHNOLOGY

Andhra Pradesh has several areas in which the country is under developed. Rural Institutes of the type of Gandhi Gram Institute will serve the locality for its upliftment. It is, therefore, proposed that an autonomous Rural Institute of Higher Education and Technology should be started to train students in Gandhian ideals in education with plans.

1. to provide for such instruction and training in branches of learning as will promote a classless and casteless society;
2. to provide for research and the advancement and dissemination of knowledge and
3. to function as a Centre for extension work leading to integrated rural development.

The Rural Institute will be an educational experiment, representing the art of learning providing work, community life, research and extension for integrated rural development.

3. LOCATION

Andhra Pradesh is predominantly an agriculture State Krishna and Godavari deltas are the areas of intense agriculture. A large variety of food and commercial crops are grown in these areas. Nuzvid is within this area, and is, therefore, suggested for locating the rural Institute. Further, Nuzvid is in an under-developed part of this delta-area with extensive mango gardens and forest area. The Nuzvid Taluk presents special economic social problems and deserves to be studied.

In fact, Nuzvid appears to be the centre from which teams of Investigators, Students and Operators can reach any area of intensive agricultural operations. There is also a variety of crops grown in this area within a radius of 100 miles with both wet and dry cultivations. Besides there is a large forest within 10 or 20 miles of Nuzvid.

Further, in Nuzvid, there are two High Schools, one Degree College, one I.T.I. and a Postgraduate Centre of Andhra University. Recently, a Fruit Canning Centre, with foreign collaboration, is also established in Nuzvid.

It is therefore felt that it is a fit place for locating the Rural Institute.

4. COURSES OF INSTRUCTION:

The course pattern will be analogous to that of any Indian University and consists of

- a) Predegree or Intermediate Courses of 2 years duration.
- b) Degree (B.A., and B.Sc.) Courses of 3 years duration

Besides the above, the institute wishes to organise the following diploma courses of one year (or nine months) duration for students with matriculation or an equivalent qualification.

- i) Diploma in Sanitary Services
- ii) Diploma in Food Preservation Technology,
(Fruits canning, Fish and meat canning
and other preservation techniques)
- iii) Diploma in Poultry Farming
- iv) Diploma in Home Science (for ladies)

Predegree or Intermediate Courses:

Duration: 2 years

Subjects: Core Subjects:

1. Telugu/Sanskrit
2. English
3. Hindi
4. Agriculture

Optional Subjects: Humanities:

1. Elements of Economics
2. Cooperature
3. Elements of Sociology

B.Sciences:

1. Mathematics
2. Physics
3. Chemistry
4. Biology

C.Home Science (Ladies only)

1. General Science
2. Food Nutrition and Home management
3. Clothing and Mather Crafts

Eligibility:- Matriculation or equivalent certificate from a recognised University or Part Basic Certificate recognised by the State Government as equivalent to matriculation.

DEGREE COURSES:

These may be designated as BA/B.Sc., Courses in Rural Services with the following courses of study.

Eligibility:- These courses are open to candidates who have passed Intermediate course of this institution or any equivalent examination recognised for this admission.

Duration of the Courses: Three years of Six semesters

Courses of Study: for B.A.,/B.Sc., in Rural Services

- A. Core Subjects:-
1. Telugu/Sanskrit
 2. English
 3. Hindi
 4. Gandhian Thought with special reference to Science and Technology
 5. Community Services
 6. Rural Fine Arts.

It is proposed that Community Services for Degree Courses include both theoretical and practical work with village people, including one month planned compulsory development and extension services, immediately after the completion of B.A., Courses.

For students of B.Sc.(Rural Services), a planned Programme of application of Science to areas of rural development will be taken up after the completion of B.Sc., Course.

B. Subjects of Specialisation:

- i. a) B.A., (Rural Services)
 - i) Political Science
 - ii) Cooperation

- b) Second optionals
 - i) Economics
 - ii) Sociology
- ii. B.Sc. (Rural Services)
 - a) Ancillaries
 - i) Mathematics
 - ii) Physics
 - iii) Chemistry
 - b) i) Mathematics (Major)
 - ii) Physics (Major)
 - iii) Chemistry (Major)
- iii. Home Science (for ladies only)
 - a) Ancillary Subjects:
 - Physics
 - Chemistry
 - Biology
 - b) Special Subjects:
 - Microbiology and Physiology
 - Food and Nutrition
 - Textiles and Clothing
 - Sociology and Home Science Extension
 - Housing and Home Management
 - Child Development

DEPARTMENTS:

These Courses will be supervised by the following departments:-

1) <u>Faculty of Languages</u>	<u>Teachers</u>
Telugu	3 (R+2L)
English	3 (R+2L)
Sanskrit	1 (1L)
Hindi	1 (1L)

2) Faculty of Rural Oriented Arts

- | | |
|--------------|-----------|
| 1) Politics | 2 (2L) |
| 2) Sociology | 3 (1R+1L) |
| 3) Economics | 3 (1R+1L) |

3) Faculty of Rural Oriented Sciences

- | | |
|--------------|-----------|
| Mathematics | 4 (1R+3L) |
| Chemistry | 6 (1R+5L) |
| Physics | 6 (1R+5L) |
| Home Science | 3 (1R+2L) |
| Biology | 2 (2L) |

..... The Staff pattern and their salaries are to be governed by the UGC rules.

Each faculty will be supported by appropriate Non-teaching services.

Medium of Instructions:

The medium will be TELUGU so that the rural folk can fully exploit the benefits of these courses and carry them home in their normal vocations.

6) Student Strength:

It is proposed to follow the University general rules in this matter, i.e., normally 60 in Intermediate Course per year and 40 per year in Degree Course. In Diploma Course, about 24 will be taken per each course.

7) Development and organisation:

It is, of course, not visualised to start all the above courses in the first year of the inception of the Institute. Normally, it is proposed to develop all these courses of study during a period of five years and the course of development and organisation of these courses will be left to the Institute administration after it is started. However, it is visualised that a third of these courses can be started in the first year, completing the full complement of courses of study in the course of the next five years.

The period of gestation for this institution is expected to be about two years. The Rural Institute will be administered by an autonomous body or Council (of elders and academicians) and an executive body (syndicate). An academic Council will take charge of all academic matters of the courses.

The pattern of administrative set up will be in the first instance simple, but patterned as in any educational institution or University. However, this can be decided once the proposal is accepted. Also, the exact Course pattern to be started at first may be decided similarly by competent Committees.

8) Status of the Rural Institute:

It is proposed that this institute is to be styled as Rural Institute of Higher Education and Technology. Since this institute is to be organised on similar lines as that of Gandhi Gram Institute of Tamilnadu, it should be deemed autonomous and given a University status.

In this connection, it may be pointed out that the A.U. Postgraduate Courses, Nuzvid, may be regarded at the core of this institute and the facilities already existing may be utilised to start, this institute. These Postgraduate Course will be absorbed finally into the Rural Institute and form an intrinsic part.

9) Finances:

The financial pattern is again suggested on the basis of UGC norms, and on the basis of Gandhi Gram Institute. The Rural Institute should be supported by the Ministry of Education, Government of India, and the State Government (Andhra Pradesh) many contribute later. However, the approximate expenditure for the first five year period is given below:

A)	Organisation of Intermediate Courses (Two years)	Rs. 20,00,000
B)	Organisation of B.A.(Rural Services) (Three years)	15,00,000
C)	Organisation of B.Sc.(Rural Services) (Three years)	30,00,000

contd...

D) Organisation of Diploma Courses	10,00,000
E) Administration	5,00,000
	<hr/>
	Rs. 80,00,000

These financial estimates include Library books, Journals, Equipment, Chemicals, Apparatus and Staff salaries but do not include the cost of buildings. The building estimates are given separately below:

	<u>Area</u>	<u>Rs.</u>
1) School of Arts	12,000 sft.	6,00,000
2) School of Sciences	12,000 sft.	6,00,000
3) School of Home Science	4,000 sft.	2,00,000
4) School of Vocational guidance	6,000 sft.	3,00,000
5) Library	4,000 sft.	2,00,000
6) Administration Building.	6,000 sft.	3,00,000
7) Gymnasium and Sports pavilion and funds		3,00,000
8) Dispensary and Social Services	2,000 sft.	1,00,000
9) Hostels for boys and girls	6,000 sft.	3,00,000
10) Students Cooperative Society	2,000 sft.	1,00,000

Grand Total : 30,00,000

Scientific equipment, Books, Journals
Staff salaries etc., for 5 years.

Abstract of financial requirement for 5 years.

<u>Description</u>	<u>Expenditure in</u> Rs. (lakhs)
1) Organising courses in Intermediate B.A./B.Sc.(Rural Services) and in Diploma Courses.	Rs. 80 lakhs.
2) Buildings for the above courses and administration.	Rs. 30 lakhs.
Grand Total for 5 years:	Rs. 110 lakhs.

This amounts to Rs. 22 lakhs per year and over 30 villages (see below); it will be less than a lakh per village.

10. Area of Operation and Jurisdiction of the Rural Institute:

Normally, the Institute will adopt about 30 villages for various programmes' and the field of operation will be extended over these villages around Nuzvid. It is proposed to conduct economic and social surveys over these villages as outlined in the objectives and therefore the departments will be expected to take up research in all aspects of study at the Rural Institute. Indeed, it is proposed that the students of these courses will be involved in all these surveys. It is hoped that such involvement will encourage an objective assessment of a social or scientific or agricultural problem, a student (or a villager) is expected to solve in his later life.

11) Conclusion:

In conclusion, it is the ardent hope of this proposal that the students coming out of this institute, will develop a scientific outlook to solve the problems of Rural India, whether they are social, Agricultural or Health origin. The students of the Rural Institute will thus make Ideal citizens of India.

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CONFIDENTIAL

University Grants Commission

Meeting:

Dated: 26th October, 1979

Item No. 5.07 : To consider the question of providing assistance for substitutes appointed by Bishop Heber College, Tiruchirapalli in place of the Principal and Professor of Tamil who have been awarded teacher fellowships under the scheme of development of undergraduate education.

The University Grants Commission approved on 17th October, 1978 in principle an allocation of Rs. 1.22 lakhs for faculty improvement programmes under the scheme of "Development of Undergraduate Education in Colleges" at Bishop Heber College, Tiruchirapalli. It was made clear to the college that the final approval for faculty improvement programme will be conveyed on receipt of the details of teachers deputed for higher studies under faculty improvement programmes and of substitutes appointed in the prescribed proforma with the necessary certificate.

The College, however, informed on 13th February, 1979 that they have relieved Professor D. Swamiraj, Principal and Professor of English on 12th February 1979 to join the Department of English, Postgraduate Centre, University of Madras, Trichy for Ph.D. work on "19th Century Romantic Drama with particular reference to the plays of Byron, Shelley, Wordsworth, Coleridge and Keats" and Shri P.S. Jesudasan, Professor of Tamil to join M.Phil course at Annamalai University on 17th November, 1978. The college was requested to send their particulars and on 23rd March 1979 in the college sent the particulars of Shri D. Swamiraj and Shri P.S. Jesudassan. Shri D. Swamiraj who is 42 years old has first class in SSLC, Third Class in Intermediate, third Class in BA and Second Class 'B' grade in M.A. (1960). Shri Jesudassan is 43 years old and has third-class in Matric, second class in Intermediate and first-class in BA(Hons). According to guidelines laid down by the Commission for award of teacher fellowships under the scheme of development of undergraduate education, a teacher would have at least second-class in Bachelor and Master's degree examinations. The proposal of the college for award of teacher fellowships to both the persons was approved on 19th June, 1979. The college was, however, asked to clarify how they have given higher start to the substitutes appointed in their places which is not allowed under UGC rules.

The College has now requested that assistance be provided to them for appointing Mr. Samuel who is already working in the

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College as Professor of Mathematics on Rs.1400/- p.m. in the scale of Rs.1100-1600 as Principal on Rs.1670/- in the scale of 1200-1900 including allowances and Mr. S. Subbayan as substitute professor of Tamil at Rs.1375/- p.m. inclusive of allowances in the grade of Rs.1100-1600, since Mr. P.S. Jesudassan who has been given teacher fellowship was in the grade of Rs.1100-1600.

The following points are for consideration:

(a) Whether in such cases where teacher fellowship has been given to a Principal of the College in the scale of Rs.1200-1900 or a Professor in the college in Rs.1100-1600 scale, salary of the substitutes be given for appointment of a fresh lecturer in Rs.700-1600 scale and the college should fill the posts of Principal and Professor by promotion from the existing staff and meet differences in the salary from their own funds or the Commission should meet the salary of the Principal and Professor who will be promoted from the existing staff of the college as requested by the college without insisting on the appointment of fresh lecturer in their place.

(b) Whether teacher fellowships be given to Principals and to college professor in the scales indicated above under the scheme of "Development of Undergraduate Education". or award of teacher fellowship under this scheme be confined only to lecturers who are working in 700-1600 scale, it may be pointed out that in the case of colleges of Madras University there are two scales for lecturers after the revision i.e. Rs.700-1600 and Rs.1100-1600 and the later are designated as Professor and the former as Assistant Professors.

The matter is placed before the Commission for consideration.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION.

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Meeting :

Dated: 26th October, 1979.

Item No 5.08: To consider the report of the Committee set up by the Commission to examine the details of the Fifth Plan Development Schemes of the Men's and Women's Polytechnics, A.M.U.

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The Commission at its meeting held on 19th December, 1977 accepted the recommendations of the visiting Committee appointed to assess the development proposals of the faculty of Engineering and Technology, Aligarh Muslim University. The Visiting Committee had recommended a provision of Rs. 22 lakhs (Rs. 14 lakhs under first priority and Rs. 8 lakhs under second priority) for Men's Polytechnic and Rs. 5 lakhs for the Women's Polytechnic. The Commission approved the provision recommended for the Men's Polytechnic under first priority and for the Women's Polytechnic. To examine details of the proposals received from the University pertaining to the two Polytechnics within the approved allocation, a Committee consisting of the following was set up:

1. Professor S. Venkateswaran,
Department of Electrical Engineering,
Indian Institute of Technology,
Kanpur.
2. Professor P.K. Som,
Department of Civil Engineering,
Jadavpur University,
Calcutta.
3. Dr. (Smt.) Kalindi Randeri,
Principal,
Women's Polytechnic,
SNDT Women's University,
Bombay.
4. Dr. S.P. Gupta,
Deputy Secretary,
University Grants Commission,
New Delhi.

The Committee visited the Aligarh Muslim University on 8th August, 1979 and had discussions with the Dean,

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Principal and Members of the teaching staff of the Polytechnics. The report of the Committee is enclosed as annexure.

The Committee has recommended non-recurring and recurring grants amounting to Rs. 14,01,100/-, under first priority and Rs. 8 lakhs under second priority for the Men's Polytechnic and Rs. 5.23 lakhs for the Women's Polytechnic. As regards the proposals under the second priority for Men's Polytechnic which relate to the starting of new courses, the Committee has recommended that these may be taken up as and when the position of funds improves.

The matter is placed before the Commission for consideration.

US(E)/DS(E)

Report of the Committee set up by the Commission to examine the details of development schemes to be implemented under the V Plan of the Polytechnics of Aligarh Muslim University.

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The Commission at its meeting held on 19th December 1977 generally accepted the recommendation of the visiting Committee and agreed to provide assistance to the Aligarh Muslim University for development of engineering and technology. Accordingly approval of the Commission was conveyed for the development of the University Polytechnic and the Women's Polytechnic with grants of Rs. 14 lakhs and Rs. 5 lakhs respectively. The visiting Committee had also recommended in the second priority a grant of Rs. 8 lakhs for the introduction of new courses at the University Polytechnic.

Since the visiting Committee did not give the details of schemes for which it had recommended the grants, the Aligarh Muslim University was requested to send its requirements to the Commission under the approved amount. It was desired that the detailed proposals of the university may be examined by a Committee. Accordingly a Committee of the following was set up:

1. Professor S. Venkateswaran,
Department of Electrical Engineering,
Indian Institute of Technology,
Kanpur.
2. Professor P.K. Som,
Department of Civil Engineering,
Jadavpur University,
Calcutta.
3. Dr. (Smt.) Kalindi Randeri,
Principal,
Women's Polytechnic,
SNDT Women's University,
Bombay.
4. Dr. S.P. Gupta,
Deputy Secretary,
University Grants Commission,
New Delhi.

The Committee visited the university on 8th August, 1979. Professor Venkateswaran and Professor Som could not attend. The proposals of the university were discussed with the Dean of Engineering, Principal of the

contd....

Polytechnic, members of the teaching staff of the Polytechnic and Officer on Special Duty of AMU. The Committee also visited the laboratories, libraries and workshops of the Polytechnics. The Committee noted that the Commission has already sanctioned some grants for the University Polytechnic for equipment, furniture, books etc. details of which are given under column No. 4 below. The Committee has now recommended further grants for the above items and also grant for other requirements of the University within the approved amount as follows:

For developing Existing Facilities at the University Polytechnic.

S.No.	Item	Grants recommended by the Visiting Committee. (Rs)	Grants already sanctioned by the UGC. (Rs)	Further Grants to be made available by the UGC. (Rs)
1.	2.	3.	4.	5.
<u>A. Non-Recurring</u>				
1.	Equipment.	7,00,000	2,00,000	5,00,000
2.	Curriculum Development.	20,000	20,000	-
3.	Furniture	1,10,000	50,000	60,000
4.	Ramp for Workshop, Coal Shed, & development of land.	48,200	33,200	15,000
5.	Student & library amenities-(Water coolers & evaporative coolers for library).	18,000	-	18,000
6.	Staff amenities (water & evaporative coolers).	4,000	2,000	2,000
7.	Job-Simulation Centre.	70,000	70,000	-
8.	Stencil cutting machine.	17,800	-	17,800

contd....

1.	2.	3.	4.	5.
9. Books.		50,000	16,000	34,000
10. Boundary wall for Workshop.		53,100	53,100	-
11. Ceiling fans & exhaust fans.		50,000	-	50,000
12. Library extension of plinth area. 2500 sq. ft.		1,75,000	-	1,75,000
13. Toilet for staff & students at the w/S and Office for workshop Superin- tendent.		40,000	-	40,000
14. Racks for library.		25,000	25,000	-
<u>B. Recurring.</u>				
1. Staff : Technician (for blue-print- ing machine) Scale -Rs. 260-350.		20,000	-	20,000
Total :		14,01,100	4,69,300	9,31,800

Under the second priority the V Plan Visiting committee has recommended a grant of Rs. 8 lakhs for the development of new courses. The present Committee held discussions with the Faculty regarding new courses and would like to start the following courses:

1. Post Diploma Course in Applied Electronics.
2. Post Diploma Course in Electric Power Systems.
3. Post Diploma Course in Machine Tools.
4. Post Diploma Course in Industrial Development & promotion.
5. Post Diploma Course in Construction Technology.

contd....

6. Post Diploma Course in Rural Engineering,
7. Diploma Course in Drafting & Designing (Civil).
8. Diploma Course in Drafting & Designing (mech.).

For running the above courses the Committee recommends grant as below:

S.No.	Item	Grants recommended by the Visiting Committee (Rs.)
-------	------	--

A. Non-Recurring.

1.	Equipment	1,75,000
2.	Furniture	10,000
3.	Books	7,000
Total of 'A'		<u>1,92,000</u>

B. Recurring:

(For a period of
4 years ending
on 31 st March,
1983)

1.	<u>Staff:</u> 8 Lecturers (one lecturer for each Course).	4,58,000
2.	Honorarium & Contingencies -Lump-sum.	1,50,000
Total of 'B'		<u>6,08,000</u>

Women's Polytechnic.

The Committee noted that the Faculty was keen on the introduction of a one-year post diploma course in television engineering. The students of the Women's Polytechnic approached the Committee with the request for providing a Bus for the Women's Polytechnic. The Committee makes the following recommendations:

contd...

I. For Developing Existing Facilities:

S.No.	Item	Grants recommended by the Visiting Committee. (Rs)	Grants already sanctioned by the UGC. (Rs)	Further grant to be made available by the UGC. (Rs)
<u>A. Non-Recurring.</u>				
1.	Equipment	1,10,000	99,500	10,500
2.	Furniture	11,000	-	11,000
3.	Students & Library amenities (Evaporative coolers-2 nos)	4,000	-	4,000
4.	Bus	1,70,000	-	1,70,000
Total of 'A'		2,95,000	99,500	1,95,500
<u>B. Recurring:</u>				
(for 4 yrs. ending on 31.3.83)				
<u>1. Staff.</u>				
i) Driver for Bus				
	- 1 No. -	30,000	-	-
	scale - Rs. 330-500.			
ii) Cleaner - 1 no. -20,000				
	scale - Rs. 260-370.			
Total of 'B'		50,000	-	-

Total of Non-Recurring and Recurring Grants recommended by the Committee for the development of Existing Facilities = Rs. 3,45,000/-.

II. For Starting New Courses.

The committee recommends that a one-year Post-Diploma Course in Television Engineering with an intake

contd...

of 20 students may be introduced at the Women's Polytechnic and the following grants may be given:

A. Non-Recurring:

1. Equipment Rs. 1,00,000

2. B. Recurring:
(for a period of
4 yrs. ending
on 31.3.1983)

1. Staff

Lecturer- 1 No. Rs. 60,000

2. Honorarium
& Contingencies
lump-sum Rs. 18,000

..... Total.:Rs. 1,78,000. . .

It is therefore suggested that the above noted recommendations within the approved amount of Rs. 14 lakhs for the University Polytechnic and Rs. 5 lakhs for the Women's Polytechnic may be approved. The provision has already been approved by the Commission and schemes of Rs. 5.63 lakhs have already been approved.

As regards the second priority grant of Rs. 8 lakhs for the University Polytechnic under which the committee has recommended introduction of new courses, the matter is for the consideration of UGC. Perhaps this may be taken up subsequently as and when the position of funds improves.

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Confidential

University Grants Commission

Meeting:

Dated : 26th October, 1979

Item No.5.09 : To consider the proposal of the University of Delhi for revising the scales of pay of the post of Controller of Examination from Rs.1500-1800 to Rs.1500-2000.

The Commission accepted the recommendations of the UGC Standing Committee on Establishment Matters as under for the revision of scale of pay for the posts of Registrars, Deputy Registrars, Assistant Registrars and other equivalent posts:

"The Committee agreed to the following revised scales of pay for the posts of Registrars, Deputy Registrars, Assistant Registrars, etc:-

Designation of the Post	Existing scale of pay	Revised scale of pay
Registrar and other equivalent posts	Rs.1100-50-1300-60-1600	Rs.1500-60-1800-100-2000
Deputy Registrar and other equivalent posts	Rs.700-50-1250	Rs.1100-50-1600
Assistant Registrars and other equivalent posts.	Rs.400-40-800-50-950	Rs.700-40-1100-50-1300

In this connection, it was noted that while the revised scales for Deputy Registrars and Assistant Registrars were replacement scales, it had been agreed to recommend the revised scale for Registrars as Rs.1500-2000 keeping in view the fact that earlier the scale of the post was the same as that of the Professor and that the Commission had recommended a similar revised scale of pay for the Librarians of the Universities".

As per orders of the Government of India for implementation of the recommendations of the Third Pay Commission, the matter was taken up with the Ministry of Education, Government of India for getting the approval for the revision of the above scales of pay. The Government of India agreed to the revision of scales of pay of

contd..2/-

Deputy Registrars and other equivalent posts and Assistant Registrars and other equivalent posts as under:-

<u>Post</u>	<u>Existing Scale</u>	<u>Revised Scale</u>
Deputy Registrar and other equivalent posts.	Rs. 700-50-1250	Rs. 1100-50-1600
Assistant Registrar and other equivalent posts.	Rs. 400-40-800-50-950	Rs. 700-40-900-EB-40-1100-50-1300

As regards the post of Registrar and other equivalent posts including that of Controller of Examination and Dean of Students Welfare, the Government of India agreed to the revision of scale of pay of the post of Registrar in Central Universities from Rs. 110-1600 to Rs. 1500-2000 w.e.f. 1.1.1973 but it did not indicate its decision about other equivalent posts. On a reference from the Commission, the Government of India agreed to the revision of scale of the posts of Controller of Examinations and the Dean of Students Welfare in the Central Universities from Rs. 1100-1600 to Rs. 1500-1800 w.e.f. 1-1-1973. The matter was taken up with the Government of India that the scale of pay of the posts equivalent to the Registrar should carry the same scale of pay as that of Registrar i.e. Rs. 1500-2000. The Government of India regretted its inability to agree to this proposal of the Commission. The revised scale of Rs. 1500-1800 for the posts of Dean of Students Welfare and Controller of Examinations was conveyed to the Central Universities accordingly.

of pay

The Vice-Chancellor, Delhi University approached the Commission and desired that the pay scale of the post of Controller of Examinations should be the same as that of Registrar of the University as he has to deal most important and sensitive areas of work. Moreover the H.P. University had also advertised the post of Controller of Examinations in the scale of Rs. 1500-2000. In such a big University as that of Delhi it would be unconceivable if the Controller of Examinations should continue in the scale of Rs. 1500-1800. A copy of the letter from Vice-Chancellor, Delhi University is attached (Annexure-). The matter was taken up with the Government of India in March, 1978 for re-consideration of the revision of scale of pay of Controller of Examinations and Dean of Students Welfare.

After prolonged correspondence with the Ministry of Education and Social Welfare, the Ministry desired that the file relating to the revision of scale of pay of the Controller of Examination where it was revised to Rs. 1100-1600 w.e.f. 1-1-1973 instead of 1-3-1973 in the pre-revised scale may be made available to the Ministry of Education for their perusal, alongwith a comparative statement indicating the pre-revised scale of pay of posts, recruitment qualifications and duties and responsibilities of the post of

Controller of Examinations in the University of Delhi and in other Universities, if such posts exist elsewhere, may also be sent to enable the Ministry to examine the matter further. The Commission informed the Ministry of Education as Under:

"Kindly refer to your letter No.F.4-139-Desk-(U) dated March 28, 1979 regarding the proposal for the revision of scales of pay to the post of Controller of Examinations and Dean of Students Welfare.

The revision of the scale of pay of the post of Controller of Examinations w.e.f. 1-1-1973 instead of 1-3-1973 was agreed to in the light of the suggestions made by the Ministry of Education and Social welfare in its letter No.F.16-43/76(LU) dated 11-11-1977. The posts of the Controller of Examination exist in University of Delhi and BHU. A similar post also exists in the JNU and is designated as Coordinator. The incumbents of these posts are solely responsible for the conduct of the examination in all spheres of the Central Universities concerned.

In this connection, it may also be pointed out that the Ministry of Education have recently referred to the Commission an amendment to the Statute wherein the University has decided to abolish the posts of Controller of Examination and to have two posts of Registrars i.e. Registrar (Admin.) and Registrar (Academic).

In case any further clarification is required, it is suggested that a meeting of the representatives of Ministry of Education and UGC may be arranged".

The Ministry of Education and Social Welfare have again asked for the following information and necessary records taking up the matter with the Ministry of Finance:

"As the posts carry standard scales of pay and the Third Pay Commission has made specific recommendations in respect of comparable posts, it is necessary to obtain the approval of the Government of India to the upgrading of the scale of pay. The Ministry of Finance will be able to consider this matter further only after receiving the following papers/information:

1. The Commission's file in which the scale of pay of the post of Controller of Examinations was raised to Rs.1100-1600 from 1-1-1973.
2. A comparative statement indicating the pre-revised scale of pay of the post of Registrar and Controller

contd...4/-

of examinations in Central Universities and the respective recruitment qualifications and duties and responsibilities".

It will thus be seen that the Commission has been requesting the Government of India for the revision of scale of pay of the post of Controller of Examinations for a pretty long time and it has not been possible for them to agree to the proposal of the Commission. The proposal to upgrade the scale of pay of the Controller of Examinations in Central Universities from Rs. 1500-1800 to Rs. 1500-2000 is placed before the Commission for consideration.

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Annexure to Item No. 5.09

Copy of letter No. Estab. II/78/66/VC dated 20th January, 1978 from Vice-Chancellor, Delhi University addressed to Shri R.K. Chhabra, Secretary, UGC, New Delhi.

I had written to the Chairman in detail on 23rd September 1977 (letter No. Estab. II/77(PS-VC) in regard to the pay scale of the Controller of Examinations of this University. The Controller of Examinations as stated earlier deals with the most important and sensitive areas of work, therefore, needs special attention and consideration on priority basis. I had conveyed my strong feeling that in the case of present incumbent this needs to be done without delay in the interest of the reputation of the examination work in the University which has become much more complex over the years and even more so during the last 2-3 years due to a number of far-reaching changes like grading system etc. which we are trying to introduce.

My attention has been drawn to an advertisement issued by Himachal Pradesh University in the leading daily newspapers seeking applications among other posts for the post of Controller of Examinations in the scale of Rs. 1500-60-1800-100-2000. In such a big University as that of Delhi it is unconceivable that the Controller of Examinations should continue to be in the scale of Rs. 1500-60-1800. It may be impossible for the University immediately to get another person who could be able to control the examinations with the same efficiency as the present incumbent has been able to do and unless we do something immediately, we may lose his services and the University may be faced with a very difficult situation.

I had also in my letter delinked the question of revision of pay of the Controller of Examinations from that of the Third Pay Commission. Accordingly, I am again suggesting that the scale of pay of Rs. 1500-60-1800-100-2000 may be made effective with effect from 1-1-1978. I might add no immediate financial implications are involved.

I shall be grateful for an early decision in the matter.

With kind regards;

of 20 students may be introduced at the Women's Polytechnic and the following grants may be given:

A. Non-Recurring:

1. Equipment Rs. 1,00,000

2. B. Recurring:
(for a period of
4 yrs. ending
on 31.3.1983)

1. Staff

Lecturer- 1 No. Rs. 60,000

2. Honorarium
& Contingencies
lump-sum Rs. 18,000

..... Total : Rs. 1,78,000

It is therefore suggested that the above noted recommendations within the approved amount of Rs. 14 lakhs for the University Polytechnic and Rs. 5 lakhs for the Women's Polytechnic may be approved. The provision has already been approved by the Commission and schemes of Rs. 5.63 lakhs have already been approved.

As regards the second priority grant of Rs. 8 lakhs for the University Polytechnic under which the committee has recommended introduction of new courses, the matter is for the consideration of UGC. Perhaps this may be taken up subsequently as and when the position of funds improves.

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CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 26th September, 1979

Item No. 5.10 To consider a proposal from the Roorkee University for financial assistance for the maintenance of the School of Research & Training in Earthquake Engineering.

The Commission at its meeting held on 16th January, 1974 agreed to provide an annual maintenance grant on net deficit basis after taking into account the income through consultancy services, student fees etc. for the School of Research & Training in Earthquake Engineering at Roorkee University for a period of 5 years from 1974-75 onwards. The grant was limited to Rs. 2,50,000/- per annum or the net actual deficit whichever is less and subject to review of the financial position of the School every year to see how the school was moving towards self-sufficiency. The university was requested to make every effort to make the School self-supporting by increasing its income from consultancy and other fees. However, to meet the additional liability of the School on account of revision of scales of pay and payment of additional p.A. etc. the Commission had agreed to pay grant to the School over and above the ceiling of Rs. 2,50,000/- p.a. on the basis of actual expenditure. The details of the payments made to the university on this account are given below (year-wise):-

Year	Amount paid by the UGC Rs.
1974-75	2,90,396.00
1975-76	3,07,402.00
1976-77	3,48,000.00
1977-78	4,01,591.38
1978-79	3,00,000.00

The Commission at its meeting held on 16th February, 1976 had desired that since the assistance for maintenance of the School had been given for a considerable long time, the Govt. of India might be approached to treat the expenditure as a committed expenditure to be provided to the Commission as part of non-plan assistance as has been agreed to in the case of W.R.D.T.C. The matter was consequently taken up with the Govt. of India, Ministry

p.t.o.

of Education and Social Welfare. The Ministry desired to have information on following points:-

1. A note giving details regarding specific purpose of grant.
2. The extent of target achieved pertaining to the grant in question of the situation under which the expenditure is desired to be made committed expenditure under Non-plan funds.

A note incorporating the above information (Annexure-I) received from the Roorkee University has been sent to the Ministry of Education and Social Welfare. The decision from the Ministry of Education and Social Welfare is still awaited. In this Connection it may be stated that the period of five years for which the assistance was to be provided by the Commission has already expired on 31st March, 1979. The Vice-Chancellor, Roorkee University has requested in his letter of 25th July, 1979 (copy enclosed) Annexure-II that status quo be maintained for the year 1979-80 and the sixth plan period, till such time the decision of the Government of India is received and this will be the first charge to the VI plan allocation.

The University of Roorkee has therefore requested for sanction of grant of Rs. 4,86,000/- for meeting the expenditure towards the salaries of staff and other items for the year 1979-80 as detailed below:-

1.	<u>Expenditure towards salaries of staff</u> (teaching, technical and office staff)	Rs. 5,17,203.00
2.	<u>Other expenditure</u>	
	Materials, stores, labour, Computer travel and other contingent expenses	Rs. 5,68,500.00
	Total	<u>Rs. 10,85,703.00</u>
3.	Less anticipated receipts from sponsored projects	Rs. 6,00,000.00
		<u>Rs. 4,85,703.00</u>
	or say	<u>Rs. 4,86,000.00</u>

The matter is placed before the Commission for consideration.

US(E-I)/DS(E)

DRAFT NOTE REGARDING NON-PLAN FUNDING OF DEPARTMENT
OF EARTHQUAKE ENGINEERING, UNIVERSITY OF ROORKEE;
FOR MINISTRY OF EDUCATION, GOVERNMENT OF INDIA

The School of Research and Training in Earthquake Engineering was set up in 1960 and has shown continued steady progress in imparting postgraduate training and in basic research investigations for earthquake resistant design and construction of engineering structures, both solving basic problems as well as its application for actual problems in the field. The School has been functioning as a National Centre for Earthquake Engineering.

This organisation has now reached a status by which import of technology in this field has been completely eliminated and design of major structures like large dams, refineries nuclear power plants, fertilizer projects, multi-storeyed buildings and other important structures are now being designed in the country with the help and assistance of this organisation. Some of the major projects handled by this organization include Ramganga, Pandoh, Idduki, Salal Navagam, Kadana, Koyna dams, Narora Atomic Power Plant, Cable stayed Bridges at Hoogley and Allahabad, UNESCO sponsored project on Educational Buildings, Seismic studies for Haldia, Bongaigaon and Mathura Refineries. Thermal Power Station at Muzaffarpur, various Fertilizer Projects in the country, Vishakhapatnam Steel Plant, besides a large number of multistoreyed industrial buildings and other important engineering structures. This organisation has also helped in assimilation of technology in this field in various public sector undertakings, government departments and other organisations within the country. The targets achieved in establishing a full fledged national organisation in Earthquake Engineering at the University of Roorkee have thus been completely achieved and in order to have continuing benefit for the nation this organisation has to be given a permanent status and the expenditure required is therefore, recommended to be provided as committed expenditure.

This organisation has received international recognition and has brought laurels to the country. Recognising the contributions made by the scientists and engineers of this organisation, the International Association for Earthquake Engineering held its 6th World Conference on Earthquake Engineering in India in January, 1977. Such an international recognition of the work being

done in this organisation needs all encouragement and assistance from the Government of India. This organisation is helping the national projects from all over the country and therefore the University though being supported by U.P. State Government needs full support for the maintenance of this unique department from the Government of India funds.

The following gives the statement of receipts from U.G.C. and sponsored projects by the School of Research and Training in Earthquake Engineering:

STATEMENT OF RECEIPTS FROM UGC AND SPONSORED PROJECTS

Year	Receipts from UGC Rs.	Receipts from Sponsored projects Rs.	Total Receipts Rs.
1974-75	2,90,396.29	3,95,001.54	6,85,397.83
1975-76	3,07,402.42	4,16,758.54	7,24,160.96
1976-77	2,83,427.52	4,35,546.52	7,18,974.04
1977-78	4,01,591.38	6,24,912.34	10,26,503.72
1978-79	3,01,107.91*	6,33,632.04	9,34,739.95
	12,82,817.61	18,72,218.92	31,55,036.55

* Subject to finalisation of accounts.

The Fifth Plan Visiting Committee in Engineering and Technology for University of Roorkee appointed by the UGC recommended that

" After carefully examining the plan proposals prepared by the School and detailed discussions, the committee would like to make the following recommendations. The School should be given the status of a "Centre of Advanced Study". This recommendation is a reiteration of the two earlier recommendations by the UGC committee (August 1970) and NCST Report on Housing

and Construction Technology (July 1975). The Committee sincerely hopes that the Commission will take early steps in this direction. Pending this the recurring expenditure of the School at the end of the Fourth Plan, less the income from consultancy should be funded by UGC under non-plan Budget of UGC beginning 1977-78".

The estimated expenditure for the year 1979-80 for the School comes to Rs. 10.85 lakhs. It is requested that the funding on deficit basis, which was initiated in the year 1974-75 by the UGC, be now changed to full support by UGC on 100% basis from the non plan w.e.f. April 1, 1979, and elevated to a " Centre of Advanced Study" in Earthquake Engineering. This department will then be able to fully develop its academic, research and consultancy programmes on the same basis as the other departments of the university.

Annexure-II to Item No. 5.10

Copy of d.o. letter No. Dev/242/C-214 dated 25th July, 1979 received from Shri Jagdish Narain, Vice-Chancellor, University of Roorkee, Roorkee addressed to Shri R.K. Chhabra, Secretary, University Grants Commission.

Please refer to your letter No. F. 22-1/69(T) dated 21.2.1974 (copy attached) in which the financial assistance to the School of Research and Training in Earthquake Engineering has been sanctioned upto the end of Vth Plan period.

In this connection, it is to inform you that the terms of the above sanction have expired on 31.3.1979. Further, I understand that the University Grants Commission has forwarded the proposal of the School of Earthquake Engineering for giving financial assistance beyond Vth plan period to the Ministry of Education/ Ministry of Finance, Government of India.

Since the School of Earthquake Engineering has been supported by the Commission upto the end of Vth Plan on net deficit basis, it is requested that the Status-quo be maintained for the year 1979-80 and the Sixth Plan period, till such time the decision of the Ministry of Education/Ministry of Finance is received. This will be the first charge to the VIth Plan period.

In view of the above, it is, requested that an 'on account' grant of Rs. 3.00 lacs as requested by the University vide letter No. Dev/202/C-214 dated 5.7.79 (copy attached) may please be released to the University immediately as the University has already made commitments since April 1, 1979.

An early decision in the matter is requested.

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SECTION 6

Confidential

University Grants Commission

Meeting:

Dated: 26th October, 1979.

Item No. 6.01 Payment of Conveyance allowance to non-official members of the Commission and Travelling Allowance to non-official members of the Committees constituted by the University Grants Commission viz. Daily Allowance, Conveyance Allowance and permission to travel by air.

(I) Conveyance Allowance to non-official members of the Commission

Section 25 of the UGC Act, 1956 provides that the Central Government may, by notification in the Official Gazette, make rules to provide inter-alia the terms and conditions of service of members of the Commission. In exercise of this power, the Central Government have issued University Grants Commission (Disqualification, Retirement and Conditions of Service of Members), Rules, 1956. Sub-rule (ix) of Rule 5 of these Rules provides as under:

"(a) Except as otherwise provided in these rules, every non-official member of the Commission, while on duty outside his place of residence, shall be paid travelling allowance in accordance with the orders issued by the Government of India in the Ministry of Finance in relation to the non-official members of the Committees, Commissions of enquiry and such like category of persons:

Provided that daily allowance payable to every such non-official members, while on duty outside his place of residence, shall be Rs.50/- per day.

(b) Every non-official member of the Commission while attending any meeting/a place where his normal place of residence is situated, shall be paid the actual cost of conveyance subject to a maximum of Rs.20 per day."

/at

2. The proviso to sub-clause (a) of above sub-rule was amended on 18th January, 1979. Prior to that the rate of daily

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allowance to non-official members was Rs.30/-. On receipt of this amendment, it was considered desirable that it may be in the fitness of things if the existing proviso to sub-rule 5 (ix) (b) is also amended so as to provide that every non-official member of the Commission while attending any meeting at a place where his normal place of residence is situated is paid Rs.50/- per day instead of actual cost of conveyance subject to the maximum of Rs.20/- per day. Accordingly, a reference was made to the Ministry of Education and Social Welfare on 25th May, 1979 for obtaining necessary approval of the Government of India in the matter (Appendix-I). This was not approved by the Ministry of Education (Appendix-II).

(II) Travelling Allowance to non-official members of the Committees constituted by the UGC.

3. The payment of Travelling Allowance to non-official members of the Committees appointed by the UGC is governed by the Government of India, Ministry of Finance, Department of Expenditure, Office Memorandum No.F.19020/2/75-E.IV.B dated 17th January, 1976 as amended from time to time (Appendix-III). In this connection, the following points have arisen:

(a) Payment of Daily Allowance

As per Government of India orders referred to above, a non-official member is entitled to daily allowance at the highest rate applicable to the Central Government employees of the First Grade. However, in exceptional cases where the administrative Ministries concerned are satisfied that the work of a Committee/Commission, etc. is of such continuous and responsible nature to necessitate the non-official member devoting far greater time and energy to it than he can be ordinarily expected to spare, rate of daily allowance for stay at the place of meeting may be increased to a maximum of Rs.50/- per day.

It was represented by a number of non-official members of the Committees appointed by the University Grants Commission visiting Delhi to attend the meetings that they find it extremely difficult to meet the expenses connected with their visits with the existing rate of daily allowance and that it should be increased in view of the heavy responsibility cast on them for the work done and also non-payment of sitting fees. Such members desired that on the analogy of the practice followed in other organisation such as ICSSR and the UGC may also pay them Rs.50/- per day. Accordingly, a reference was made on 16th June, 1978 to the Ministry of Education and Social Welfare to allow the Commission to pay to such members Rs.50/- per day (Appendix-IV). In March, 1979, the Ministry of Education and Social Welfare intimated that the Government have no objection to the payment of daily allowance at

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the rate of Rs.50/- per day to non-official members who are of the rank of Professors/Vice-Chancellors of the Universities subject to the condition that non-official members are not compensated in other form and the Commission is satisfied that the work done by each of them is of such a continuous and responsible nature or both as to necessitate them devoting far greater time and energy to it than they can ordinarily be expected to spare. As regards non-official members, who are below the rank of Professors, the Ministry of Education and Social Welfare mentioned that each individual case in which the Commission feels daily allowance at the rate of Rs.50/- is justified should be referred to the Ministry for decision (Appendix-V). The matter was examined further and it was felt that the Ministry of Education and Social Welfare may again be approached for payment of fixed daily allowance of Rs.50/- per day irrespective of the distinction and the stipulated conditions. Accordingly, another reference was made on May 9, 1979 (Appendix VI). The Ministry of Education and Social Welfare have now communicated that the Government of India have no objection to the payment of daily allowance at the rate of Rs.50/- to all the non-official members provided that they are not compensated in any other form and that the Commission is satisfied that the work done by each of them is of such a continuous or responsible nature as to necessitate their devoting far greater time and energy to it than they could ordinarily be expected to spare (Appendix-VII). Since it will not be possible to place each case before the Commission which generally meets once a month, it is considered that the power in this regard may be delegated by the Commission to the Secretary who is at present acting as the Controlling Officer in respect of non-official members of the Committees.

(b) Conveyance Allowance

The Ministry of Education was also requested on May 9, 1979 that the local non-official members of the Committees appointed by the Commission may be permitted to be paid a fixed allowance of Rs.50/- per day instead of conveyance charges upto a maximum of Rs.20/- for each day of the meeting. The Ministry of Education and Social Welfare have not agreed to this suggestion (Appendix-VIII).

(c) Permission to travel by air to non-official members of the Committees appointed by the Commission

In the course of audit of the accounts of the University Grants Commission for the year 1977-78, the audit had observed that non-official members of the Committees, etc. set up by the Commission are authorised to travel by air as a matter of course and wanted to know the circumstances in which permission to travel by air was granted to them in all the cases.

As generally members of the teaching staff of the universities/colleges are appointed to serve as members of the Committees in an honorary capacity and to avoid loss of teaching hours and consequent disruption of studies, such members are generally allowed to travel by air at their discretion. Keeping in view this position, the Ministry of Education and Social Welfare was requested on 5th May, 1978 to obtain the necessary approval of the Government authorising non-official members of the Committees appointed by the Commission to travel by air at their discretion (Appendix-IX). The Ministry of Education and Social Welfare in their replies dated 21st April, 1979 and 18th June, 1979 (Appendix-X) have intimated that there is no objection to the non-official members of the various Committees of the UGC to travel by air, at their discretion provided their pay exceeds Rs. 2,250/- per month and that the Commission may allow other such members, within the pay range of Rs. 1800-2250 also to travel by air on the conditions normally applicable to Government officers in this regard. It has also been mentioned in the Ministry of Education and Social Welfare letter dated the 18th June, 1979 that the non-official members appointed to serve on the Committees, etc. drawing less than Rs. 1800/- p.m. cannot be permitted to travel by air. According to the Government of India orders, officers drawing pay within the range of Rs. 1800/- and Rs. 2250/- can travel by air provided the journey by road exceeds 500 Kms. and cannot be performed overnight.

Regulation 10 of the University Grants Commission (Supplement Terms and conditions of Service of Employees) Regulations, 1967 reads as under:-

"In respect of matters not provided for in these regulations the rules regarding general conditions of service, pay, allowances, including travelling and daily allowance, leave salary, joining time, foreign service, and deputation in India or abroad as contained in Fundamental and Supplementar Rules and orders and decisions issued therein applicable to the Central Government Servants shall apply mutatis mutandis the employees of the Commission."

In terms of the above provisions, the Commission has been following Government of India orders in respect of grant of travel and daily allowance. The Government of India have now issued instructions for taking various measures to effect economy in expenditure. One of the measures suggested is that there will be a total ban on air travel of non-entitled categories. Under the circumstances, it is for consideration if the non-entitled officers of the Commission as also non-entitled non-official members of the Committees appointed by the Commission may be permitted to travel while on Commission's work.

4. The matter is placed before the Commission for consideration

Copy of D.O. letter No. F.8-5/79 (Admn.I)
dated 25th May, 1979 addressed by Shri R.K.
Chhabra, Secretary, UGC to Shri S.N. Pandita,
Joint Secretary, Ministry of Education and
Social Welfare, New Delhi.

Rule 5(ix)(b) of the University Grants Commission
(Disqualification, Retirement and Conditions of Service of
Members) Rules, 1956 provides as under:

"Every non-official member of the Commission
while attending any meeting at the place where his
normal place of residence is situated, shall be
paid the actual cost of conveyance subject to a
maximum of Rs.20/- per day".

2. As you are aware, the proviso to sub-rule (ix) (a)
of the rules (ibid) has been amended to provide that in
exceptional cases daily allowance upto a maximum of Rs.50/- per
day shall be payable to every such non-official member while on
duty outside his place of residence subject to certain
conditions. It is felt that it will be in the fitness of things
if the existing proviso to sub-rule 5(ix) (b) is also amended
to provide that every non-official member of the Commission
while attending any meeting at a place where his normal place of
residence is situated will also be paid D.A. @ Rs.50/- per day
instead of actual cost of conveyance subject to a maximum of
Rs.20/- per day.

3. I shall be grateful if you will kindly have the matter
looked into and arrange for necessary approval of the Government
of India in the matter to be conveyed to us at an early date.

With regards,

Appendix II to Item No. 5.01

Copy of letter No.F.10-10/79-Desk(U) dated the 26th July, 1979 from Shri Kashmiri Lal, Desk Officer, Ministry of Education and Social Welfare, Department of Education, New Delhi to the Secretary, University Grants Commission, New Delhi.

Sub: Proposal to amend sub Rule (ix)(a) of Rule 5 of the U.G.C. (Disqualification, Retirement and Conditions of Service of Members) Rules, 1956.

I am directed to refer to your letter No.8-5/79(Admn.I) dated the 25th May, 1979 on the above subject in which you have proposed to amend the Rule 5(ix) of the University Grants Commission (Disqualification, Retirement and Conditions of Service of Members) Rules, 1956 so as to make a provision for payment of a Daily Allowance of Rs.50/- per day instead of conveyance charges subject to a maximum of Rs.20/- per day to a non-official member of the Commission for attending meetings at a place where his normal place of residence is situated.

2. The matter has been carefully considered and it is regretted that your proposal cannot be accepted. The present provision of payment of conveyance charges subject to a maximum of Rs.20/- per day to a non-official member of the Commission may continue.

Copy of the Ministry of Finance (Department of Expenditure) Office Memorandum No.F.19020/2/75-E.IV (B) dated the 17th January, 1978.

Subject: Expenditure on Committees, Commissions and Board of Enquiry Allowances to Members (including Members of Parliament and State Legislatures).

The undersigned is directed to refer to this Ministry's Office Memorandum No.F.6(26)-EIV/59 dated the 5th September, 1960 on the above subject, as amended from time to time and to say that consequent on the amendment of travelling allowance rules for Central Government Servants, vide this Ministry's Office Memorandum No.19030/1/73-EIV(B) dated the 29th June, 1974, sub paragraph 1-A of the Office Memorandum first quoted above relating to non-officials, other than Members of Parliament and State Legislatures and retired Judges of the High Court and the Supreme Court, will be substituted by the following:-

"A-Non-officials, other than Members of Parliament and State Legislatures and retired Judges of the High Court and the Supreme Court.

(a) Travelling Allowance

(i) Journey by Rail - Normally, a member should travel by first class by rail. In respect of such journeys, he will be treated at par with Government servants of the First Grade and will be entitled to first class rail-fare.

Where, however, the Administrative Ministry considers that a non-official should travel by A.C.C., they may, at their discretion, allow A.C.C. travel where this concession is, in their opinion, justified by fulfilment of one or more of the following conditions:-

- (1) When a person is required to travel in air-conditioned accommodation on grounds of health or because of very advanced age and/or infirmity.
- (2) When a person is or was entitled to travel in air-conditioned coach under the rules of the organisation to which he belongs or might have belonged before retirement.
- (3) Where the Administrative Ministry is satisfied that A.C.C. travel by rail is the customary mode of travel by the non-official concerned in respect of journeys unconnected with the performance of Government duty.

(ii) Journey by road - In respect of journeys by road between places not connected by rail, a member will be entitled to road mileage admissible to an officer of the First Grade under the Supplementary Rules 46, viz., 60 Paise per K.M. for travel in own car/full taxi or 20 Paise per K.M. for travel on motor cycle/scooter.

In case where journey between two places connected by rail is performed by road, he will be entitled to the prescribed road mileage limited to First Class fare by rail. However, if in an individual case, the administrative Ministry is satisfied that the journey by road was performed in public interest, full road mileage allowance may be allowed without restricting it to rail fare.

(iii) Journey by Sea or by River Steamer - In respect of journeys by sea or by river steamer, a non-official member will be entitled to one fare at the lowest rate (exclusive of diet) of the highest class of accommodation.

(iv) Journey by air - Air travel should not be permitted as a matter of course. Each case will be examined on merits by the Ministry concerned, and permission for air-travel granted only if it can be certified that air-travel is urgent and necessary in the public interest.

A non-official member when authorised to travel by air shall be entitled to travel by Economy (Tourist) Class where two classes of accommodation i.e. First and Economy (Tourist) class accommodation, are available on the airlines.

In cases where air-travel is authorised, a non-official member will be entitled to one standard air-fare.

Every member is required to purchase return ticket, wherever it is available, when it is expected that the return journey, can be performed before the expiry of the period for which the return ticket is available. The mileage allowance for the forward and the return journeys when such return ticket is available, will, however, be the actual cost of the return ticket.

If, in any individual case, a non-official asks for general permission to travel by air in connection with his duties as a member of a particular Committee/Commission of Enquiry, the Administrative Ministry may examine the case on merits and grant general permission to the individual concerned to travel by air at his discretion, if they are satisfied that the non-official concerned habitually travels by air on journeys not connected with the performance of official duty.

(b) Daily Allowance

(i) A non-official will be entitled to daily allowance at the highest rate applicable to the Central Government employee of the First Grade. The daily allowance shall be calculated in the same manner as applicable to Central Government employees, the entire absence in their cases being reckoned from and to their ordinary place of residence.

(ii) In exceptional cases, where the administrative Ministries concerned are satisfied that the work on a Committee/Commission, etc. is of such continuous or responsible nature as to necessitate the non-official devoting far greater time and energy to it than he can be ordinarily expected to spare, the rate of daily allowance for stay at the place of meeting may be increased upto a maximum of Rs.50/- per day. The enhanced rate of daily allowance will be admissible only for actual days of meetings and also the day preceding and/or the day following the meeting if the non-official actually stays at that place on these days.

(iii) Daily Allowance will be subject to the usual conditions laid down in S.R.73, as amended from time to time. The Administrative Ministries would, however, be competent to relax the rule in cases where the conditions prescribed in clauses (a) and (b) thereof are satisfied.

(iv) When a non-official appointed to a Committee, Commission or Board of Enquiry, is allowed free board and lodging at the expense of the Central Government or a State Government or an autonomous industrial or commercial undertaking or corporation, or a Statutory body or a local authority, in which Government funds have been invested or in which Government have any other interest, shall be entitled to only one-fourth of the daily allowance admissible to him under these orders. If only board is allowed free, daily allowance shall be admissible at one-half of the admissible rate. If only lodging is allowed free, daily allowance shall be admissible at three-fourth of the admissible rates.

(c) Conveyance Allowance

A non-official member, resident at a place where the meeting of a Committee/Commission of Enquiry is held, will not be entitled to travelling and daily allowances on the scales indicated in sub-paras (a) and (b) above, but will be allowed only the actual cost of conveyance hire, subject to a maximum of Rs.20/- per day. Before the claim is actually paid, the controlling officer should verify the claim and satisfy himself, after obtaining such details as may be considered necessary, that the actual expenditure was not less than the amount claimed. In cases, he is not satisfied with the details, he

p.t.o.

may, at his discretion, limit the conveyance-allowance to road mileage.

If such a member uses his own car, he will be granted mileage allowance at the rates admissible to officials of the First Grade, subject to a maximum of Rs.20/- per day.

2. These amendments take effect from the date of issue.

Appendix IV to Item No. 6.01

Copy of D.O. letter No. F.8-19/78(Adm.I)
dated 16th June, 1978 addressed by Shri R.K.
Chhabra, Secretary, UGC to Shri Triyogi Narain,
Director (U), Ministry of Education, New Delhi.

I am to invite a reference to Ministry of Finance (Department of Expenditure) Office Memorandum No. F.19020/2/75-E.IV(B) dated the 17th January, 1976 which inter-alia provides that "in exceptional cases, where the administrative Ministries concerned are satisfied that the work on a Committee/Commission, etc. is of such continuous or responsible nature as to necessitate the non-official devoting far greater time and energy to it than he can be ordinarily expected to spare, the rate of daily allowance for stay at the place of meeting may be increased upto a maximum of Rs.50/- per day".

It has been represented by a number of non-official members on the Committees appointed by the University Grants Commission visiting Delhi, etc. to attend the meetings that they find it extremely difficult to meet the expenses connected with their visit on the existing rates of Daily Allowance particularly in view of the heavy responsibility cast on them for the work done and also non-payment of any sitting fees. Such members have, therefore, desired that on the analogy of the practice followed by other organisations such as All India Council of Technical Education, the University Grants Commission may also pay them a fixed Daily Allowance of Rs.50/- per day for attending meetings of the Committees appointed by the University Grants Commission.

As the assistance provided by the non-official members of the Committees appointed by the UGC is of responsible nature, I feel there should be no objection to pay Daily Allowance to such members @ Rs.50/- per day particularly when most of the non-official members on such Committees are drawn from the university system. Under these circumstances, I shall feel grateful if you will kindly have the matter looked into and allow the Commission to pay them D.A. at this rate in future.

An early action in the matter will be very much appreciated.

With kind regards,

Appendix V to Item No. 6.01

Copy of letter No.F.1-55/78(U.5) dated the 23rd March, 1979 from Shri Triyogi Narain, Director(U), Ministry of Education and Social Welfare, New Delhi to the Secretary, UGC, New Delhi.

Subject: UGC - Payment of DA at the rate of Rs.50/- per day to non-official members of the committees of the -

I am directed to refer to your letter No.F.8-19/78(Adm.I) dated the 16th June, 1978, on the subject mentioned above, and to say that the Government have no objection to payment of daily allowance at the rate of Rs.50/- per day to the non-official members of various committees set up by the UGC, who are of the rank of Professors/Vice-Chancellors of Universities and who attend meetings at places other than the place of their residence, subject to the conditions that (i) the non-official members are not compensated in any other form and (ii) the Commission is satisfied that the work done by each of them is of such a continuous or responsible nature or both as to necessitate their devoting far greater time and energy to it than they can ordinarily be expected to spare. When such members attend the meetings held locally i.e. at the place of their residence, they would be entitled to only conveyance hire charges, upto a maximum of Rs.20/- for each day of the meeting.

As regards non-official members, who are below the rank of Professors each individual case in which the Commission feels that D.A. at the rate of Rs.50/- is justified, should be referred to this Ministry for decision.

Appendix VI to Item No. 6.01

Copy of D.O. Letter No. F.8-19/78(Adm.I)
dated 9th May, 1979 addressed by Shri R.K.
Chhabra, Secretary, UGC, New Delhi to
Shri S.N. Pandita, Joint Secretary, Ministry
of Education and Social Welfare, New Delhi.

The University Grants Commission has been in correspondence with the Ministry of Education and Social Welfare on the subject of DA at the rate of Rs.50/- per day to non-official members of the Committees appointed from time to time by the University Grants Commission. The decision has since been communicated to the Commission by the Ministry vide its letter No. F.1-55/78-US dated the 23rd March, 1979.

In this connection, I would like to state that since the non-official members are appointed by virtue of the knowledge and expertise for the purposes for which the Committees are constituted. It may, therefore, be extremely difficult to make a comparison between the members. In view of this, I would request that the decision conveyed by the Ministry vide its letter referred to above may be reconsidered and the Commission may be permitted to pay to the outstation non-official members of the committees appointed by the UGC a fixed daily allowance of Rs.50/- per day irrespective of the distinction and the stipulated conditions.

We also feel that the local non-official members of the Committees appointed by the Commission are permitted to be paid a fixed daily allowance of Rs.50/- per day instead of conveyance hire charges upto a maximum of Rs.20/- for each day of the meeting.

I shall be grateful if you will kindly have the matter reconsidered and communicate to the Commission the decision at an early date.

With kind regards,

Copy of letter No.F.10-80/79-Desk(U) dated 10th July, 1979 from Shri M.N. Sinha, Deputy Secretary, Ministry of Education & Social Welfare to the Secretary, University Grants Commission, New Delhi.

Subject: U.G.C. - Payment of D.A. at the rate of Rs.50/- per day to Non-Official Members of the Committees of the Commission.

I am directed to refer to your letter No.8-19/78(Admn.I) dated the 9th May, 1979 on the subject mentioned above and to say that the Government of India have no objection to the payment of D.A. at the rate of Rs.50/- per day to all the non-official members, appointed by the U.G.C. on its Committees, who are required to attend meetings at places other than the place of their residence, provided that they are not compensated in any other form and that the Commission are satisfied that the work done by each of them is of such a continuous or responsible nature as to necessitate their devoting far greater time and energy to do than they could ordinarily be expected to spare.

2. If and when these Members are required to attend the meetings of the Committees held locally i.e. at the place of their residence, they will be entitled only for the conveyance hire charges upto a maximum of Rs.20/- for each day of the meeting.

Appendix VIII to Item No. 6.01

Copy of letter No.F.2-60/77(A/E) dated 5th May, 1978 addressed by Secretary, UGC to the Secretary, Ministry of Education and Social Welfare, New Delhi.

I am directed to invite a reference to the Government of India, Ministry of Finance, Office Memorandum No.F.19020/2 / 75-E.IV(B) dated the 17th January, 1976 according to which non-official members appointed to committees etc., are normally required to travel by rail. In respect of such journeys, they are treated at par with Government servants of the First Grade and are entitled to first class rail fare. It is also provided therein that air travel is not to be permitted as a matter of course; each case is to be examined on merits and permission for air travel granted only if it can be certified that air travel is urgent and necessary in the public interest.

2. In the discharge of its functions, this Commission is frequently required to set up various committees to look into various problems concerning university education. Generally, Vice-Chancellors, Professors and other senior members of the teaching staff of the universities/colleges are appointed to serve as members of such committees. They serve in an honorary capacity i.e. without receiving additional remuneration of any kind therefor. They are, therefore, regarded as non-officials and granted TA/DA in accordance with the Office Memorandum referred to above. To avoid loss of teaching hours and consequent disruption of studies, such members are generally allowed to travel by air at their discretion, and whenever a non-official member of any committee performs the journey by air, permission to do so is invariably granted.

3. The existing practice under which sanction to travel by air is granted in practically all cases has been objected to by Audit. The position was suitably explained to audit, but being not satisfied with the justification offered by us, they, during the course of discussion, suggested that it would be better if general permission of the competent authority is obtained to regularise the matter.

4. In the case of Government officers in receipt of pay of Rs.2,250/- and above are authorised to travel by air on tour. Recently, Government have decided that officers in the receipt of pay between Rs.1800/- and Rs.2250/- are also eligible to travel by air on tour at their discretion provided the distance is more than 500 Kms and the overnight journey cannot be performed by a

direct train service/direct coach service. In order to enable non-official members to serve on the committees appointed by the Commission without detriment to the studies of the students and consequent loss of teaching hours, it is suggested that identical provision may be made enabling non-official members to perform journeys by air. Necessary approval of the Government of India authorising non-official members to travel by air at their discretion may kindly be obtained and communicated to the Commission at an early date.

Appendix IX to Item No. 6.01

Copy of letter No.F.1-39/78-U.5 dated 21st April, 1979 from Ministry of Education and Social Welfare to the Secretary, UGC, New Delhi.

Sub: UGC - Provision to enable non-official members of the UGC Committees to perform journeys by Air - Request for.

I am directed to refer to your letter No.F.2-60/77(A/E) dated the 5th May, 1978, on the subject indicated above and to say that the matter has been considered in consultation with the Ministry of Finance. There is no objection to the non-official members of the various committees of the UGC to travel by air, at their discretion provided their pay exceeds Rs.2250/- per month. The Commission may allow other such members, within the pay range of Rs.1800-2250, also to travel by air on the conditions normally applicable to Government officers in this regard.

Copy of letter No.10-75/79-Desk(U) dated 18th June, 1979 from Ministry of Education & Social Welfare to the Secretary, UGC, New Delhi.

Sub: Air Travel - Delegation of powers to UGC to allow non-official members of Committees to travel by air.

I am directed to refer to the Commission's U.O. note No.F.2-60/77(AE) dated Nil (received in this Ministry on 15th May 1979) on the subject noted above and to say that it is regretted that non-official members appointed to Committees etc., drawing less than Rs.1800/- p.m. cannot be permitted to travel by Air.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 25th October, 1979

Item No. 603: To consider further the proposal of British Council of bilateral cooperation between institutions of higher education in the two countries under their scheme "Core Budget Link Scheme"

The University Grants Commission at its meeting held on 17th August, 1979, considered the proposal of British Council for bilateral cooperation between institutions of higher education in the two countries under their scheme "Core Budget Link Scheme". A copy of the note placed before the Commission is attached Annexure. The consideration of this item was deferred, as the British Council had under review the question of implementation of programmes of bilateral cooperation in view of the budgetary cuts imposed by the British Government. The British Council have now clarified that the cuts in their expenditure would not affect the core budget link proposals.

The matter is placed before the Commission again for consideration.

DS(CE)

SIK

Annexure to Item No.6.03

Copy of the note placed before the Commission at its meeting held on 17th August, 1979 vide Item No.6.03

- 6.03 To consider the proposal of British Council for bilateral cooperation between institutions of higher education in the two countries under their scheme "Core Budget Link Scheme."

The University Grants Commission in consultation with the Government of India, Ministry of Education had agreed to implement the Indo British Universities collaboration programme which involves the establishment of bilateral academic links between universities in India and those in UK in specified fields. This scheme envisages formulation of Joint collaborative programmes by the two sides which inter alia include exchange of faculty, training and implementation of Joint Research Programmes. The scheme does not provide for any equipment or books component and equipment needed for the implementation of the joint research programme has to be obtained through Colombo Plan assistance. In the case of exchange of faculty, the sending side has to bear the to and fro travel expenses of the teacher/scholar, whereas the receiving side has to provide hospitality and internal travel. The programme is being implemented successfully.

The Commission had sometime back received a proposal from Professor C.R. Rao of the Indian Institute of Science, Bangalore, for collaboration with British universities in the field of Solid State Chemistry under the Indo-British Universities Collaboration Programme. In the meantime, the British Council informed the Commission that they are prepared to help fund joint collaboration programmes which are for the mutual benefit of British and Indian university research departments but which are not priorities in "developmental aid" terms for both governments. Under this programme, they would consider providing international air-fares of Britishers to India and subsistence of Indian Visitors in Britain to India and subsistence of Indian visitors in Britain to enable institutions in the two countries to take up joint research programmes. It is however unlikely that any equipment for Indian Universities would be provided by Britain under this scheme. The UGC would be required to pay international air-fares of Indian teachers for their visit to Britain and the subsistence to British visitors to India. The British council also showed interest in

covering the programme proposed by Professor CNR Rao under this scheme which they termed "Core Budget Link Scheme." The Government of India, Ministry of Education & Social Welfare, who were approached for their clearance to UGC accepting the offer of the British Council have conveyed their clearance subject to the condition that the clearance under the Foreign Contribution (Regulation) Act would be required in specific cases if the individuals visiting the British universities fall in the restricted categories as stipulated in the Act.

The terms of the "Indo-British Universities Collaboration Programme" and the proposed "Core Budget Link Scheme" are more or less the same. The differentiation made by the British side that under the core budget link scheme, they would consider only such joint proposals which are not priorities in developmental aid terms for both governments is proposed in relation to the British terminology "Developmental Aid". For UGC there may not be much difference between the two programmes, the only difference being that under the IBUC Programme, there is a possibility of importing equipment needed for the joint research through Colombo Plan assistance while under the Core Budget Link Scheme, there is no such possibility and whatever equipment is needed for joint programme would have to be funded by the UGC/University concerned.

The matter is placed before the Commission. It is for consideration whether:-

1. The Commission should itself determine areas in which joint collaborative programmes should be developed under the Core Budget Link Scheme or the Commission may leave it to the individual scholars/institutions to approach the UGC for undertaking collaborative programmes under this scheme.
2. In view of the financial constraints, we may fix some limit on the number of programmes to be taken up under this Scheme during the next 3-5 years.

The proposal received from Professor CNR Rao for collaboration is enclosed (Appendix). In case the Commission accepts the proposal, Professor Rao would be requested to work out complete details of the collaborative programme and the matter taken up with the British Council.

Appendix

OXFORD-BANGALORE COLLABORATIVE RESEARCH PROGRAMME IN SOLID STATE CHEMISTRY.

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Under this programme, collaborative research programmes will be established between the Solid State and Structural Chemistry Unit, Indian Institute of Science, Bangalore (Head, Professor C.N.R. Rao) and the Department of Physical Chemistry, University of Cambridge (Head, Professor J.M. Thomas) as well as the Inorganic Chemistry Laboratory, University of Oxford (Head, Professor J.B. Goodenough). The research programmes envisaged are in the solid state chemistry which forms an important part of the broader area of Materials Science. Some of the problems to be taken up for investigation have relevance to alternative energy sources while others deal with the frontier areas of organic solid state and surface science. Brief outline of the research programmes are given below :

Oxford-Bangalore

Initially, problems related to the general area of new materials for alternate energy technologies will be taken up for study. The Indian Government is giving high priority to research in the energy field, as are most other countries with a national science policy. India's problems in this area are particularly acute. Within this broad area, there is mutual interest in electrochemical cells. We would begin our collaboration here. Our interest in electrochemical cells include : (a) inexpensive secondary batteries of high specific energy and power, (b) medium-temperature fuel cells, (c) high-temperature electrolytic cells, (d) photogalvanic cells, and (e) cells for the photoelectrolysis of water by sunlight.

Secondary batteries, which convert reversibly electricity to chemical energy, are a natural complement to any electrical generation from a variable source, such as solar, wind or wavepower. Batteries with high specific energy and power could make electric vehicles competitive with the internal combustion engine for many forms of transport. Nuclear power represents a constant energy source; if it supplies more than the base electric-power load, batteries would be the natural complement for covering the off-peak power. Our work on fast ion transport in electronic insulators and conductors is directed toward batteries with high specific energy and power.

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Fuel cells are intrinsically much more efficient than heat engines for the conversion of chemical energy to electricity; their introduction into the market place is impeded by the kinetics of the reactions at the electrodes and by corrosion problems. The development of appropriate ionically conducting ceramics could transform this situation.

The generation of hydrogen or any other synthetic fuel with electricity from a fuel-fed power plant is not sensible. High-temperature electrolysis cells using a solid electrolyte and reactor heat would provide an important source of hydrogen for chemical feedstock to fertiliser and synthetic-fuel plants. Solid O^{2-} ion conductors and cell designs will be studied for this purpose.

Direct transformation of sunlight to electricity can be performed in a photovoltaic or a photogalvanic cell. Experience with space vehicles has caused solar-cell development to concentrate on photovoltaic cells; the photogalvanic cell may prove to be less expensive. The ability to generate economically electricity locally from sunlight would have a tremendous impact on village life and some aspects of these cells will be explored.

Cambridge-Bangalore

Between Cambridge and Bangalore, collaborative efforts will be mainly on two aspects of solid state materials. One would be concerned with the examination of organic and inorganic materials by high resolution electron microscopy. The materials to be investigated will be silicates, organic molecular crystals and related systems. The technique of lattice imaging will be employed wherever possible to understand ultramicro structure of the solids at the unit cell level.

In addition to lattice imaging and related studies, efforts will be directed towards studies of surfaces of solids employing the conversion Mossbauer spectroscopy, photoelectron spectroscopy and other cognate techniques. Use of Auger and ESCA for study of surfaces of organic crystals will be explored. Optical studies of organic crystals will be taken up when necessary. Some of the techniques mentioned earlier have revolutionised our understanding of solids and surfaces. It should be noted that studies of solid surfaces are directly relevant to technologically important areas like catalysis and corrosion.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated: 26th October, 1979

Item No. 6/04:

To consider a reference from the Vice-Chancellor, Panjab Agricultural University, Ludhiana regarding election/nomination of the Vice-Chancellors in the Universities to Parliament and State Legislatures.

The UGC at its meeting held on July, 8, 1974 considered a reference from the Ministry of Education regarding election/nomination of teachers in the universities to Parliament and State Legislatures. A copy of the note placed before the Commission in this regard is enclosed Annexure. The Commission, while generally agreeing with the recommendations made by the Vice-Chancellors' Advisory Committee regarding election/nomination of the teachers in the universities to Parliament & State Legislatures, was of the view that teachers who are either elected or nominated to the Parliament/State Legislatures may not be required to resign their academic position or to take long leave during the tenure of their membership. In order that the teaching work may not suffer, the university may consider prescribing the minimum number of days that such teachers should be available for their academic teaching and research work in the university. Such teachers should not hold any administrative positions/responsibilities during the period they are Members of Parliament/State Legislatures. The above decision of the Commission was communicated to the Ministry of Education and S.W.. The Govt. of India, Ministry of Education and S.W. agreed with the above views of the Commission and the same were communicated to all the State Governments and the Union Territories by the Government of India. On the advise of the Ministry of Education & S.W., the above views of the Commission were communicated to the vice-Chancellors of all the universities and institutions deemed to be universities by the Commission. The Universities were also requested to bring this to the notice of the colleges affiliated to them.

The Vice-Chancellor, Panjab Agricultural University, Ludhiana has now requested to let him know under which rule a Vice-Chancellor can contest election without resigning from the Vice-Chancellorship.

The matter is placed before the Commission for consideration.

Annexure to Item No. 6.04

Copy of note placed before the Commission at its meeting held on 8th July, 1979.

Item No. 17: To consider a reference received from the Ministry of Education regarding election/nomination of the teachers in the universities to Parliament and State Legislatures.

Under Article 80(2) of the Constitution of India, the President nominates 12 persons having special knowledge or practical experience in literature, science, art and social services as members of the Rajya Sabha. Similar nominations are made by the Governors of the States on the State Legislative Councils under Article 171(3). Some of the university/college teachers get nominated under these provisions, some other teachers seek election to the Parliament/State Legislatures and are also elected as members of the Lok Sabha/Rajya Sabha.

The rules regarding permission to teachers to perform their duties if so elected or nominated, however, vary from university to university. Some of the universities permit their teachers to carry on their teaching work simultaneously with their work as Members of Parliament or the State Legislatures. This is done by the teacher concerned making suitable adjustments in the time table, trying to ensure that his legislative duties do not come in the way of proper discharge of his academic responsibilities in the university. The arrangement is stated to have been found practicable particularly in view of the fact that there is considerable gap between the various sessions of Parliament/State Legislatures and during the intervening period, the teachers can make up the loss, if any, in academic work. There are, on the other hand, also universities which require teachers to take leave of absence for the entire tenure of his membership of Parliament/State Legislature.

In recent years, teachers have been asked to seek elections on account of their professional competence and progressive ideas so that they may be able to help the nation as Members of Parliament or State Legislatures. Nominations have also brought to the Legislatures some of our capable teachers. A view has been expressed that if they are required to take leave for periods of five years and more, they may lose contact with the very academic work which brought them to Parliament/State Legislature in the first place. A situation may arise when such teachers may not be willing to take up Parliament or State Legislative duties, where teachers prefer to have continued academic activity.

The Government of India, Ministry of Education and Social Welfare suggested that the UGC may lay down a definite policy with regard to the teachers who are serving Members of Parliament etc. for guidance of universities.

The matter was considered by the U.G.C. Advisory Committee of Vice-Chancellors at its meeting held on 30th January, 1974. The Committee felt that in developing countries the teacher has an important role to play in its economic, social and cultural development and his participation in the Central and State Legislatures would enrich public life. It should, however, not clash with his duties and functions as a teacher. Debarring the teacher from entering the legislature will be a retrograde step. It was further felt that the question of the nature of facilities provided or the type of leave to be given to a teacher on his election/nomination to the legislature may be decided by each university. A teacher should not be asked to resign from his post in his nomination/election to the legislature.

The matter is placed before the Commission for consideration.

UNIVERSITY GRANTS COMMISSION

Action taken on the minutes of the meeting
of the University Grants Commission held on
21st September, 1979.

No.	Subject	Action taken
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SECTION-2

(Matters relating to Standards)

- 1) To consider the question of providing assistance to Universities during Sixth Plan for recurring expenditure other than for salaries of staff, recommended by the Fifth Plan Visiting Committees for Engineering and Technology. The decision of the Commission is being conveyed to the respective universities and state Governments.
- 2) To receive the guidelines to be issued to the Universities for preparing their Plan for 1979-83 and other allied matters. The Universities have since been addressed in the matter.
- 3) To consider the recommendations of the Working Group appointed by the University Grants Commission to suggest criteria determining the viability of colleges. This would be kept in view when the Commission decides to invite fresh proposals from Colleges.

SECTION-3

(Reference from Governments)

- 1) These items were postponed and are again being placed before the Commission in October, 1979 meeting.

SECTION-4

(Special Programmes)

- 1) To consider the report of the Committee appointed by the Commission to review the Schemes of unassigned grant to the Universities for implementation during the year 1979-80. (i) A communication regarding unassigned grant is being sent to the Universities in the light of the resolution of the Commission. (ii) With regard to UGC Units action is being taken in the light of the resolution of the Commission.

(4.02) To consider the question of continuing teacher fellowship awards under the scheme of development of undergraduate education in colleges during the fifth Plan period/related matters.

The decision would be kept in view while processing proposals from Colleges for Teacher Fellowships

(4.03 to 4.07)

These items were postponed and are again being placed before the Commission in October, 1979 meeting.

SECTION-5

(Grants to Universities and Colleges)

(5.01 to 5.08)

These items were postponed and are being placed before the Commission in October 1979 meeting.

SECTION-6

(Miscellaneous)

(6.01 to 6.02)

-d.c.

(6.03) To note the date and place for the next meeting of the Commission.

This item was noted. No action.

(6.04 to 6.05)

These items were postponed and are again being placed before the Commission in October 1979 meeting.

Pending action taken on the minutes of the meeting of the Commission held on 17th August, 1979

SECTION-2

(Matters relating to standards)

(2.02) To consider the recommendation of the Panel on Geology/Geophysics regarding assistance to Universities towards Field Training work in Geology, Applied Geology & Geophysics.

This would be kept in view while processing proposals of the Universities.

SECTION-5

(Grants to Universities & Colleges)

(5.06) To consider the regulation of the excess grant of Rs. 9,21,757/- paid to Dyal Singh (Day Classes) Delhi Universities during 1968-74) consequent upon the taking over of the College by the University of Delhi.

Steps have been taken to make necessary adjustments as desired by the Commission.

(SECTION-6)
(Miscellaneous)

1) To consider certain establishment matters of the University Grants Commission.

Question of discontinuance or otherwise of the existing ratio of 3:1 between the S.O. (Grade-II) & P.A. for promotion as S.O. (Grade.I) consequent to final disagreement at the platform of Joint Consultative Committee for University Grants Commission employees.

The decision has been communicated to Staff Side of the Joint Consultative Committee and action has been taken to implement the decision of the Commission.

The recommendations made by the standing Committee on Establishment Matters at its meeting held on 26th July, 1979.

(iii) The following action has been taken on the recommendations :-

(a) Necessary action has been taken for the adjustment of the Staff declared surplus and has been brought on the permanent strength of the respective cadres.

(b) This has been noted for future guidance.

(c) The Ministry of Information & Broadcasting has been suitably addressed in the matter.

(d) Necessary action has been taken

(e) The decision has been notified in the office.

Upgradation of the scale of pay of the Deputy Secretary and review of its Cadre and Recruitment Rules.

The decision of the Commission has been notified in the office.
