

**MINUTES OF THE 178TH MEETING OF THE
UNIVERSITY GRANTS COMMISSION HELD
ON MARCH 22, 1976.**

UGC

UNIVERSITY GRANTS COMMISSION

MINUTES OF THE 178TH MEETING OF THE UNIVERSITY GRANTS
COMMISSION HELD ON MARCH 22, 1976.

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The following were present:

Professor Satish Chandra	-	Chairman
Dr. Ajit Mazoomdar	-	Member
Professor R.P. Bambah	-	Member
Professor S.S. Saluja	-	Member
Professor(Miss) A.J.Dastur	-	Member
Professor J.B. Chitambar	-	Member
Professor B.M. Udgaonkar	-	Member
Dr. Chandran D.S. Devanesen	-	Member
Shri R.K. Chhabra	-	Secretary

Shri K.N. Channa, Professor S. Gopal, and
Professor Maqbool Ahmed expressed their inability
to attend the meeting.

SECRETARIAT

Additional Secretary

Dr. D. Shankar Narayan

Joint Secretary

Dr. J.N. Kaul

Deputy Secretaries

Shri S. Viswanath
Shri I.C. Menon
Dr. S.C. Goel
Shri S.P. Gupta
Dr. M.L. Mehta
Shri A.B. Gupta
Shri M.P. Balakrishnan

Director (SRC)

Dr. Jagdish Shankar

Finance Officer

Shri R.P. Bhattacharjee

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Item No. 1 : To receive the minutes of the meeting of the Commission held on 16th February, 1976.

The minutes of the 177th meeting of the University Grants Commission held on 16th February, 1976 were confirmed subject to the following:

The following may be added as sub-para (iii) to the general discussions held, on page 2 of the minutes:

"(iii) The Commission should have a mechanism for monitoring various research programmes in the universities in terms of their quality and relevance."

The following changes may be made in Appendix IV to Item No.3:

The first sentence in guideline No.1 may read as follows:

"The fellowship may be awarded to deserving scholars working for Ph.D. degree."

The first sentence in guideline No.6 may read as follows:

"The awards against these fellowships may be made with the help of a Committee appointed by the University and in consultation with the Research Fellowships Committee of the Department concerned and before the end of September each year."

In this connection, the Commission desired that the universities be advised to set up Research Fellowships Committee in the different departments of the universities.

Item No. 2 : (a) To approve the action taken on certain matters.
(b) To receive the items of information.
(c) To receive 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*.

(b) This was noted.

(c) This was noted.

Item No. 3 : To approve the statement of grants released after the last meeting of the Commission held on 16th February, 1976.

The Commission approved the grants released after the last meeting of the Commission held on 16th February, 1976 (Appendix II*).

Item No. 4 : To receive the statement of expenditure incurred by the University Grants Commission during 1975-76 upto 29th February, 1976.

This was noted. In this connection, it was desired that the State Governments be advised to consider the possibility of introducing the block grant system for payment of maintenance grants to the universities.

Item No. 5 : To receive a statement indicating the progress of issue of Utilization Certificates during the period ending 29th February, 1976.

This was noted.

Item No. 6 : To consider the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities & Social Sciences on the report of Committee set up by the Commission to evaluate the working of the Centre of Advanced Study in Education, M.S. University of Baroda.

Consideration of this item was deferred.

* Not enclosed.

p.t.o.

Item No. 7 : To consider the recommendation of the Advisory Committee for Centres of Advanced Study in Humanities & Social Sciences on the report of Committee set up by the Commission to evaluate the work of the Centre of Advanced Study in History, Aligarh Muslim University, and to examine its development proposals for the Fifth Plan period.

The Commission generally accepted the recommendations of the V Plan Visiting Committee in respect of the Centre of Advanced Study in History at the Aligarh Muslim University and agreed to provide assistance as indicated in Appendix III upto the end of 1978-79.

The Commission desired that the Centre should be advised to make special efforts to recruit a suitable proportion of its faculty from other universities and research centres in the country.

The Commission noted that in the case of the State Universities, it had been agreed that the recurring assistance for appointment of staff for Centres of Advanced Study, Area Studies Programme, etc. approved during the V Plan be provided till 1980-81, provided that the State Governments agree to take over this as committed expenditure thereafter. The Commission agreed that the other recurring expenditure sanctioned for proposals under these schemes may also be provided till 1980-81 on the usual terms and conditions.

Item No. 8 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, Bombay University.

The Commission accepted the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences in respect of the further development of the C.A.S. in Economics, University of Bombay, and agreed to provide grants as indicated in Appendix IV. The assistance of the Commission would be available upto 1980-81 subject to the usual conditions.

Item No. 9 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, Delhi University.

The Commission accepted the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences in respect of the Centre of Advanced Study in Economics, University of Delhi, and agreed to provide grants as indicated in Appendix V. The assistance of the Commission would be available for the period ending 1978-79 subject to the usual conditions.

Item No. 10: To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, Poona University.

The Commission accepted the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences in respect of the Centre of Advanced Study in Economics, University of Poona and agreed to provide grants as indicated in Appendix VI. The assistance of the Commission would be available upto 1980-81 subject to the usual conditions.

In this connection, the Commission desired that the Poona University be requested to consider the question of giving autonomous status to the Gokhale Institute of Politics & Economics, so as to enable it develop good undergraduate and postgraduate courses in Economics.

Item No. 11: To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Linguistics, Annamalai University.

The Commission accepted the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences in respect of the C.A.S. in Linguistics, Annamalai University, and agreed to provide grants as indicated in Appendix VII. The assistance of the Commission would be available upto 1980-81 subject to the usual conditions.

Item No.12: To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Sanskrit, Poona University.

The Commission accepted the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences in respect of the C.A.S. in Sanskrit, University of Poona, and agreed to provide grants as indicated in Appendix VIII. The assistance of the Commission would be available upto 1980-81 subject to the usual conditions.

Item No.13: To consider the recommendations of the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Committee set up by the Commission to evaluate the work of the Centre of Advanced Study in Sociology, Delhi University, and to examine its development proposals for the 5th Plan period.

The Commission accepted the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences in respect of the C.A.S. in Sociology, Delhi University, and agreed to provide grants as indicated in Appendix IX. The assistance of the Commission would be available for the period ending 1978-79.

Item No.14: To consider the recommendations of the Committee set up by the University Grants Commission for proposing ways and means of developing expertise in the field of Archaeology and Museums in the Universities.

The Commission generally accepted the recommendations of the Committee set up by the U.G.C. for proposing ways and means of developing expertise in the field of archaeology and museums in the universities and agreed that 10 fellowships of the value of Rs.500 per month for a period of three months every year be made available to in-service teachers who may like to undertake training in the field of archaeology with the Archaeological Survey of India at their major excavation centres. Each person would avail of this fellowship for a period of three months in two successive years. In addition to the fellowship, the fellow would be paid T.A. in accordance with the rules of the university concerned.

It was noted that the maximum number of fellowships that may be available at any given time would not exceed 20.

The Universities having at least four courses in archaeology at the postgraduate level and with adequate arrangement for practical training may be considered for some assistance outside the plan allocation for development of archaeological studies.

Item No. 15: To consider the recommendations made by the Panel on Law at its meeting held on November 22, 1975 and January 27, 1976 regarding scholarships for full-time LL.M. courses.

The Commission agreed to institute 50 scholarships for LL.M. studies to be administered directly by the UGC to enable merited students to pursue their full-time LL.M. course in universities identified for the purpose with the help of Panel on law. The value of the scholarships would be Rs.250/- per month tenable for a period of two years and where a scholar is enrolled in a university other than from the university from which he obtained his LL.B. degree, he may also be paid travel expenses as in the case of national scholarships.

In the light of the views expressed by the universities on the earlier decision of the Commission that only full-time LL.M. courses be provided by the universities, the Commission desired that the Law Panel may be requested to review its earlier recommendations regarding this, bearing in mind that factors like criteria of admissions, quality of teaching, the prescribed standard for the LL.M. courses, motivation and job opportunities for the candidates and the total period of studies may be more important than the full-time or half-time character of the course.

Item No. 16: To consider the recommendation of forty-second report of the Committee on the welfare of Scheduled Castes and Scheduled Tribes on the Ministry of Education and Social Welfare.

The Commission noted that in the past it had not even been possible to award all junior and senior fellowships reserved for scheduled castes and scheduled tribes. The Commission was of the view that its decision to earmark 50 junior fellowships to be awarded in addition to the 10 per cent already reserved for candidates belonging to scheduled

castes and scheduled tribes would be more advantageous to the students coming from the weaker sections than accepting the suggestion made by the Committee on the welfare of Scheduled Castes and Scheduled Tribes to provide for 22½ per cent reservations for such students in the general pool.

The Commission further desired that the present provision be reviewed after a period of two to three years.

Item No. 17: To receive a Report of the UGC-ICSSR Study Team on Social Sciences in Professional Education.

This was noted. It was also observed that the report of the UGC-ICSSR Study Team on Social Sciences in Professional Education has also been circulated to the universities and professional colleges.

Item No. 18: To consider a reference from the Ministry of Education and Social Welfare regarding recommendations made by the Committee of Writers on travelling fellowships/special Visiting Professorships.

The Commission accepted in principle the suggestion made by the Committee of Writers on travelling fellowships/special Visiting Professorships in the universities and desired that the details of the scheme may be worked out with the help of a Committee. The Commission further desired that such Visiting fellowships should also be available in other creative arts.

Item No. 19: To consider again the report of the M.Phil. Committee about the objectives and working of the M.Phil Courses in the universities.

The Commission desired that a sub-committee of the Commission may finalise the guidelines for instituting M.Phil. courses keeping in view the discussions held at the meeting of the Commission.

Item No. 20: To consider the report of the seminar on continuing education held at Poona on February 7-9, 1976.

This was noted. The Commission desired that this may be considered by the Committee on Continuing Education.

Item No. 21: To further consider the proposal of the Bhopal University for starting correspondence courses for B.A. and B.Com.

The Commission accepted the proposal of the Bhopal University for starting correspondence courses for B.A. and B.Com. and agreed to provide necessary assistance in accordance with the norms. The Commission desired that the University be advised not to appoint any tutors for the proposed correspondence courses.

It was noted that the M.P. Uchha Shiksha Anudan Ayog has given an undertaking that no other university in M.P. will offer correspondence courses during the current Plan period.

Item No. 22: To consider the question of period of assistance to the affiliated colleges towards the creation of additional posts during Vth Plan.

The Commission agreed that assistance for additional teaching posts, if any, sanctioned under the Rs.5 lakh scheme or under the schemes for assistance of the development of postgraduate facilities in affiliated colleges may be provided for the period ending 1980-81 on the usual conditions. However, while estimating the expenditure on such posts within the overall ceiling for the different schemes, the cost will be worked out for the period ending 1978-79.

Item No. 23: To consider the question of extending benefit of the scheme of Teacher Fellowship to teachers in the affiliated agricultural colleges.

The Commission desired that the I.C.A.R. be requested to consider the desirability of instituting teacher fellowships for teachers from the agricultural colleges affiliated to the Universities.

Item No. 24: To consider the question of providing assistance to the colleges in Bihar which have suffered in floods last year.

The Commission expressed its inability to provide any special assistance to the colleges which were affected by the floods in Bihar last year. The Commission, however, agreed that in case of such colleges, assistance under Rs.5 lakh scheme may not be split in two phases, but, if necessary, the proposals of the colleges may be considered for full assistance in the first instance itself.

Item No. 25: To consider the programmes of academic collaboration between (1) Department of Botany, Calcutta University, and Queen Mary College, University of London, Department of Botany, University of Nottingham, U.K., (2) Department of Metallurgical Engineering, BHU, and Department of Metallurgy, University of Sheffield (UK).

The Commission accepted the programmes of academic collaboration between (1) Department of Botany, Calcutta University, and Queen Mary College, University of London, Department of Botany, University of Nottingham, U.K. and (2) Department of Metallurgical Engineering, B.H.U., and Department of Metallurgy, University of Sheffield (U.K.) and agreed to provide assistance as given in Appendix X.

Item No. 26: To consider the proposal of the Utkal University for change in the specialisation for the posts of Readers approved for the V Plan period.

The Commission desired that the proposals from the universities suggesting changes in specialisation for the posts accepted on the recommendations of the V Plan Visiting Committees may be placed before the Commission for consideration with all relevant information e.g. (a) the Visiting Committee's recommendations, (b) justification given by the University for the change in specialisation, and (c) qualifications and specialisation of the academic staff already in position in the Department.

The Commission further desired that the proposal of Utkal University may be brought before it along with the information indicated above.

Item No. 27: To consider the report of the Visiting Committee appointed by the Commission to examine the proposals of the Calcutta University for the development of University PG Centre at Agartala.

The Commission accepted the recommendations made by the Visiting Committee which examined the proposal of the Calcutta University for setting up a Postgraduate Centre at Agartala and agreed to provide assistance as given in Appendix XI.

In this connection, the Commission desired that a sum of Rs.50,000 may be provided for use of research facilities by teachers of the Postgraduate Centre at other places.

Item No. 28: To consider the report of the Visiting Committee which assessed the Vth Plan needs of universities in the Madhya Pradesh (except Jabalpur University).

The Commission noted the general observations made in the reports of the Visiting Committee on the development of higher education in the universities in M.P. (excluding Jabalpur). It also noted the discussions which the Visiting Committee had with the representatives of the State Government and the M.P. Uchha Shiksha Anudan Ayog. The Commission made the following general and specific observations in this regard:

GENERAL

1. The Commission agreed that the Uchha Shiksha Anudan Ayog could play a useful role in proper implementation of the development programmes of the universities but it was emphasized that the overall responsibility for coordination and maintenance of standards had been vested with the UGC in the context of development of higher education in the country.

2. The present organisation of the universities in M.P. does not facilitate a proper inter-action with the colleges and the universities concerned. It would, therefore, be desirable to establish such working relationships as well as set up an Advisory Committee to help the colleges affiliated to the universities concerned for their planning and development and utilization of the assistance available from the U.G.C. and the State Government. The Commission would consider providing some assistance to enable such Committees to function in an effective manner.

3. In view of the limited resources available, it would be desirable if the universities could undertake a survey of the stage of development of its colleges and identify one or two colleges in each district which could be assisted and developed as quality institutions in the present plan period in the first instance.
4. Wherever appropriate, some of the colleges located at the headquarters of the University could be made as constituent colleges and the University might take over direct responsibility for their administrative and academic functions. (It was noted that somewhat similar arrangement has been introduced in some of the universities in Bihar.)
5. The constitution of Board of Studies be so modified that the University Departments would be enabled to play a major role in the development of curricula and courses of studies.

The Commission generally accepted the recommendations made by the Visiting Committee which assessed the V. Plan . . . needs of the Universities in M.P. as indicated in Appendix XII subject to the following:

Bhopal University: The proposal of the University for setting up a Department of Law may be considered on merit along with similar proposals from other universities in Madhya Pradesh. The University may establish a Department of Modern Persian and Modern Arabic instead of Department of Comparative Language and Culture with one Professor, two Readers and two Lecturers.

Jiwaji and Vikram Universities: The Universities may develop facilities for the entire history of India including history of medieval and modern periods in addition to the history of ancient period on which they are concentrating at present.

Saugar University: The Commission desired that in order to strengthen the study of medieval history, it would be useful to start postgraduate course in the Department of Urdu and Persian and for this, one post of Reader may also be provided.

A.P.S. University, Rewa: The Commission desired that funds for the proposed Department of Physics may be provided under Priority I. The University may utilize the grants to set up a broad-based department required to meet its teaching needs and need not aim at specialisation in space physics.

Item No. 29: To consider further the report of the Review Committee on Visva-Bharati appointed by the Ministry of Education and Social Welfare in the light of the comments received from the Academic Council and the Executive Council of the University on the report of the Committee.

The Commission considered the report of the Review Committee on Visva-Bharati appointed by the Ministry of Education & Social Welfare and generally agreed with the recommendations made by the Committee. It was felt that the power of the Visitor may, generally, be similar to those in other Central Universities.

The Commission also considered the comments received from the Visva-Bharati on the report and agreed that the observations on these as given in Appendix XIII* may also be communicated to the Ministry of Education.

Item No. 30: To consider the report of the Committee appointed by the University Grants Commission to examine a proposal to declare the School of Planning and Architecture as an Institution deemed to be University under Section 3 of the UGC Act.

Consideration of this item was postponed.

Item No. 31: To consider certain establishment matter of the UGC.

Request from Shri M. Achuthan, Staff-Car-Driver for alteration of his date of birth in the office record.

The Commission in view of the circumstances of the case as represented by Shri M. Achuthan, Staff-Car-Driver, and the affidavit filed by him, agreed, as a special case, that the date of his birth recorded in his service book in the University Grants Commission may be altered to 16th November, 1923.

Item No. 32: 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 April 29, 1976.

p.t.o.

Item No. 33: To consider the Budget Estimates for 1976-77 under Plan.

The Commission noted the provision that may be available to the Commission under plan during 1976-77 and desired that the draft budget estimates may be referred to a committee of the Commission for consideration.

Item No. 34: To receive the Annual Accounts of the University Grants Commission for the year 1972-73 as presented to the Parliament under Section 19(4) of the UGC Act, 1956.

The Commission approved the replies to the audit objections on the annual accounts of the UGC for the year 1972-73 as given in Appendix XIV.*

Item No. 35: To consider the question of establishment of a National People's University (Open University).

The Commission welcomed the proposal of the Ministry of Education and Social Welfare for setting up of a National People's University (Open University) on the lines indicated in the note.

Item No. 36: To consider the question of revision of rates of Scholarships payable to National Scholars appointed under the scheme of Centre of Advanced Study.

The Commission agreed that the value of the scholarships may be revised as follows with effect from the next academic year:

- (a) Scholarships instituted by the UGC for pursuing M.A./M.Sc. courses :- From Rs.150 per month to Rs.250/- per month.
- (b) Scholarships for honours courses instituted by the UGC :- From Rs.100 p.m. to Rs.150 p.m.

In this connection, the Commission desired that the question of awarding scholarships at the honours and master's degree level in Arabic, Persian, Sanskrit and Pali may be reviewed. With regard to the proposal from the Delhi University to increase the value of M.Litt. scholarships from Rs.250 p.m. to Rs.400 p.m., the Commission desired that it may be ascertained in the first instance if the M.Litt. course was in the nature of M.Phil. course as now defined by the Commission. If it be so, the value of the scholarships may be raised to Rs.400 per month.

(R.K. Chhabra)
Secretary

(Satish Chandra)
Chairman

Appendix III to item No.7

Facilities approved by the Commission for Centre of
Advanced Study in History, Aligarh Muslim University
for the period ending 1978-79.

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- (a) Post of One Professor, three Readers and two Lecturers. The post of Professor may be either in general medieval history or history of 18th century, while the post of Readers should be in (i) Central Asian History; (ii) Economic History and (iii) Regional History like Rajasthan/Deccan. One of the lecturer's post should be in medieval Archaeology and the other in any field of general Medieval History.
- (b) Two research associates as per UGC rules for undertaking various studies which the Centre proposes to undertake.
- (c) Two technical assistants (one of whom may be draftsman and the other archaeological assistance) for developing medieval archaeology.
- (d) Suitable assistance for employing part-time teachers for undertaking courses in languages.
- (e) Annual grant of Rs.15,000/- for exploration and excavation work.
- (f) A grant of Rs.30,000/- p.a. for organising regional workshops every year for University and college teachers in medieval Indian History from all over the country.
- (g) A grant of Rs.9,000/- p.a. for Seminars, travel and visiting fellowships over and above Rs.21,000/- p.a. already made available for this purpose.
- (h) A grant of Rs.10,000/- p.a. for books and journals over and above Rs.10,000/- already provided for this purpose.
- (i) A grant of Rs.15,000/- p.a. for publication over and above Rs.5,000/- p.a. to enable the Centre to undertake publication of monographs, texts and atlases.
- (j) A grant of Rs.5,000/- for contingencies over and above Rs.5,000/- already provided for the purpose.
- (k) A non-recurring grant of Rs.30,000/- for equipment including, a scanner and cartographic equipments and Rs.15,000/- for essential books and journals over and above Rs.15,000/- for books and Rs.5,000/- for equipment already sanctioned as basic grant during the Fifth Plan period.

Appendix IV to item No.8

Facilities approved by the Commission for Centre of Advanced Study in Economics, Bombay University for the period ending 1980-81.

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RECURRING

1. Research Associate - 1
2. Documentation Officer - 1
3. Visiting Fellows (@Rs.15,000/- p.a.)
4. National Scholarships-4 every year tenable for 2 years
5. Jr. Research Fellowships - 4 every year tenable for 3 years.
6. Teacher Training Fellowships-3 every year tenable for 2 years
7. Sr. Research Fellows-2.
8. Research Assistant - 1 (including Statistical assistance)
9. Publication (@ Rs.10,000/- p.a.)
10. Travels (Rs.5,000/-p.a.)
11. Seminars (Rs.7,500/- p.a.)
12. Contingencies (Rs.5,000/- p.a)

NON-RECURRING

Books & Journals

Rs.50,000/-

Appendix V to item No.9.

Facilities approved by the Commission for Centre of Advanced Study in Economics, University of Delhi for the period ending 1978-79.

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Recurring:

- (a) Professor of Transport Economics - May be put on a regular basis under the maintenance grant of the university after the end of the fifth plan.
- (b) Research Associates & National Scholarships (as in the 4th Plan)

Non-Recurring.

- (a) Books Rs. 2,00,000/-
- (b) Library Building. Rs. 1,00,000/-
- (c) Visiting Fellows Rs. 75,000/- (For the period ending 1978-79)

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Appendix VI to item No.10

Facilities approved by the Commission for Centre of Advanced Study in Economics, University of Poona for the period ending 1980-81.

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Recurring.

1. Reader - 2
2. Lecturer - 2
3. Research Associates - 2

Non-Recurring:

- | | |
|----------------------------------|---------------|
| 1. Extension of Library building | Rs.1,00,000/- |
| 2. Library Furniture | Rs. 20,000/- |
| 3. Books & Journals | Rs.1,50,000/- |

Appendix VII to item No.11

Facilities approved by the Commission for Centre of Advanced Study in Linguistics, Annamalai University for the period ending 1980-81.

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1. Professor - 1
2. Reader . . - 1 .
3. Visiting Professor - 1
4. Documentation Officer - 1 (for the Library)
5. Books and Journals Rs.1,50,000/-
6. Publication Rs. 30,000/-

Appendix VIII to item No.12

Facilities approved by the Commission for Centre of Advanced Study in Sanskrit, University of Poona for the period ending 1980-81.

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RECURRING.

Reader - 2
Research Associates- 4
Jr. Research Fellows - 2
Sr. Research Fellows - 2
National Scholarships - 2

NON-RECURRING

Books - Rs. 50,000/-
Publication - Rs. 1,00,000/-
Equipment
(duplicator gestetner if no
duplicator is available) - Rs. 10,000/-
Visiting Teachers & Visiting
Fellows. - Rs. 50,000/- (For the period
ending 1980-81)

Appendix IX to item No.13

Facilities approved by the Commission for Centre of Advanced Study in Sociology, Delhi University for the period ending 1978-79.

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Recurring

1. Research Associates - 2
2. Jr. Research Fellowships (upto a maximum of 4 per yr.)
3. National Scholarships (2)
4. One Scholarship for B.A. (Hons.)
2 scholarships for M.A., one scholarship for M.Litt. and one scholarship for Ph.D. till the end of 1978-79 for N.E.H.A. Programme.
5. Steno-typist - 1
6. Seminars, visiting fellows and visiting professorships (including NEHA Programme). Rs. 30,000/- p.a.
7. Field work/Research Projects Rs. 15,000/- p.a.
8. Books and Journals Rs. 20,000/- p.a.

NON-RECURRING.

- a) Furniture for the Centre Rs. 5,000/-
- b) Books & back numbers of important journals Rs.1,00,000/-

Appendix X to Item No.25

Programmes of academic collaboration between the Universities in India and U.K. under IBUC

(a) Department of Botany, Calcutta University and Queen Mary College, University of London/Department of Botany, University of Nottingham, U.K.

- (1) The duration of the programme will be five years.
- (2) Exchange of visits of three scientists per year from India to U.K. and vice-versa.
- (3) The period of stay of a junior scientist three months. The longer programme is required for detailed acquaintance with and experience of any particular specialised methodology or instrumentation and collection of material from endemic conditions for further stay. The shorter programme will involve holding of seminars and discussions, acquaintance with specialised technology and exchange of observations on the topic concerned.
- (4) Visitors on longer programme may include technical personnel as well.

senior
scientist would
not exceed
four weeks and
for

(b) Department of Metallurgical Engineering, -BHU and Department of Metallurgy, University of Sheffield (U.K.).

- (1) The programme will be of the duration of five years.
- (2) The programme would involve exchange of academic staff about five on either side over a five year period.
- (3) Roughly half of the visits would be of the duration of 2-12 weeks primarily for the exchange of ideas and to a limited extent for experimental work. The other half of the visits may be of the duration of 3-12 months mainly to prosecute researches in one specified area.
- (4) The short and long visits over the five year period would involve 40-man months at Sheffield and 20-man months at Varanasi.
- (5) A limited number of exchange visits for 25-man days each over the five year period on both sides may also be provided for British/Indian Scientists, who may happen to visit the host or neighbouring countries in some other connections. Such visits would involve only local hospitality.
- (6) During 1976, the following visits would materialise :-
 - (i) Long visit by Dr. S.N.Tiwari, Reader in Process Metallurgy to Sheffield for one year for work in Solidification.
 - (ii) Short visit by Dr. K.A. Padmanabhan, Reader in Physical Metallurgy to Sheffield for 12 weeks for studies on Mechanical Working.

(iii) Short visit by Dr. C.M.Sellers, Reader in Metallurgy, to Varanasi for 12 weeks for studies on Mechanical Working.

Provision for support for the research expenses of visiting scientists and for the occasional necessity to transfer experimental material between the two departments annual allocation of funds- \$ 500 from U.K. side and Rs.10,000/- from the Indian side to pay for the cost of materials and their transport between the two centres.

- 7) Visits of students of the two departments to the other country from six months a year during the course of their Ph.D. works - two visits in each direction by research students.
- 8) Visit of a senior technician from Varanasi to Sheffield for a period of 3-6 months if the Department of Metallurgical Engineering, B.H.U. decides to automate their analytical facilities by the installation of a direct reading spectrograph or the equipment for X-ray fluorescence analysis.

Appendix XI to Item No. 27

Assistance approved by the UGC for setting up
a PG Centre at Agartala (Calcutta University)
All figures are in lakhs of rupees.

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<u>S.No.</u>	<u>Department</u>	<u>Staff</u>	<u>Books</u>	<u>Equipment</u>	<u>Misc.</u>
1.	Chemistry	1P, 2R, 3L, 2TA & Part-time experts.	0.75	3.00	
2.	Life Sciences	1P, 2R, 3L, 2TA	0.75	5.00	
3.	Mathematics	1P, 2R, 2L	0.75	0.50	
4.	Economics	1P, 1R, 2L, 1TA	0.25	0.25	
5.	Bengali	1P, 1R, 2L, 1F.S. Asstt.	0.25	-	
6.	Central Library	1. Asst. Librarian 2 Prof. Assts.	1.00	-	
7.	Workshop Seminars.	-	-	-	0.50
8.	Transport Facilities	-	-	-	0.75
9.	Use of research facilities by teachers at other places.	-	-	-	0.50
		<hr/> 5P, 8R, 12L 6 others and 3 Lib. staff.	<hr/> 3.75	<hr/> 8.75	<hr/> 1.75

Appendix X to Item No.25

Programmes of academic collaboration between the Universities in India and U.K. under IBUC

(a) Department of Botany, Calcutta University and Queen Mary College, University of London/Department of Botany, University of Nottingham, U.K.

- (1) The duration of the programme will be five years.
- (2) Exchange of visits of three scientists per year from India to U.K. and vice-versa.
- (3) The period of stay of a junior scientist three months. The longer programme is required for detailed acquaintance with and experience of any particular specialised methodology or instrumentation and collection of material from endemic conditions for further stay. The shorter programme will involve holding of seminars and discussions, acquaintance with specialised technology and exchange of observations on the topic concerned.
- (4) Visitors on longer programme may include technical personnel as well.

senior scientist would not exceed four weeks and for

(b) Department of Metallurgical Engineering, -BHU and Department of Metallurgy, University of Sheffield (U.K.).

- (1) The programme will be of the duration of five years.
- (2) The programme would involve exchange of academic staff about five on either side over a five year period.
- (3) Roughly half of the visits would be of the duration of 2-12 weeks primarily for the exchange of ideas and to a limited extent for experimental work. The other half of the visits may be of the duration of 3-12 months mainly to prosecute researches in one specified area.
- (4) The short and long visits over the five year period would involve 40-man months at Sheffield and 20-man months at Varanasi.
- (5) A limited number of exchange visits for 25-man days each over the five year period on both sides may also be provided for British/Indian Scientists, who may happen to visit the host or neighbouring countries in some other connections. Such visits would involve only local hospitality.
- (6) During 1976, the following visits would materialise :-
 - (i) Long visit by Dr. S.N.Tiwari, Reader in Process Metallurgy to Sheffield for one year for work in Solidification.
 - (ii) Short visit by Dr. K.A. Padmanabhan, Reader in Physical Metallurgy to Sheffield for 12 weeks for studies on Mechanical Working.

A.P. SINGH UNIVERSITY

V Plan allocation approved (UGC Share).

Spill over	1.50 lakhs
<u>Basic Grants (Books)</u>	1.00 lakhs

New Allocation

(i) NR

Books & Journals	10.00 lakhs
Equipment	12.00 lakhs
Building	23.30 lakhs
Others	0.50 lakhs

(ii) RECURRING

Staff

Professors	3
Readers	7
Lecturers	10
Others	3

Junior Research Fellowships = 10(Ten) at any given time
@ Rs.400/- p.m.

Dtails are given in Annexure I to V.

Annexure I.

Allocation for Equipment.

Department

1. Economics	20,000/-
2. Environmental Biology	6,50,000/-
3. Super Neutron Unit.	2,00,000/-
4. Department of	
Physics.	3,00,000/-
5. Language Laboratory	30,000/-

12,00,000/-

Annexure II.

Allocation for Books & Journals.

Department

Central Library Rs.10,00,000/-
(This is in addition to Rs.1,00,000/-
sanctioned as basic grant).

(iii) Short visit by Dr. C.M. Sellars, Reader in Metallurgy, to Varanasi for 12 weeks for studies on Mechanical Working.

Provision for support for the research expenses of visiting scientists and for the occasional necessity to transfer experimental material between the two departments annual allocation of funds- \$ 500 from U.K. side and Rs.10,000/- from the Indian side to pay for the cost of materials and their transport between the two centres.

- (7) Visits of students of the two departments to the other country from six months a year during the course of their Ph.D. works - two visits in each direction by research students.
- (8) Visit of a senior technician from Varanasi to Sheffield for a period of 3-6 months if the Department of Metallurgical Engineering, B.H.U. decides to automate their analytical facilities by the installation of a direct reading spectrograph or the equipment for X-ray fluorescence analysis.
-

Annexure - III

Allocation for Building.

1. Central Library including furniture & fittings.	6,50,000/-
2. Departments of Environmental Biology.	5,00,000/-
3. Specialised Lab. fittings and furniture.	75,000/-
4. Students Home	1,24,000/-
5. Guest House.	81,000/-
6. Men's Hostel for 50 Students	2,50,000/-
7. Staff quarters (4)	1,50,000/-
8. Department of Physics.	5,00,000/-
	<hr/>
	23,30,000/-
	<hr/>

Annexure IV

Others Schemes.

Visiting Professorships Rs.50,000/-

Annexure V.

Details of staff approved.

1. Department of Economics.	P-1,R-1,L-2.
2. Department of Environmental Biology.	P-1,R-4,L4, Tech.Asstts.-3
3. Super Neutron Unit	L-1
4. Department of Physics.	P-1,R-2,L-3.

N.B.

P Professor
R Reader
L Lecturer
Tech.Asstt. Technical Assistant.

711
Appendix to Item No. 28

BHOPAL UNIVERSITY

Fifth Plan allocation approved (UGC Share)

Spill over	10.40 lakhs
<u>Basic grants</u>	
Books	1.00 lakhs
Equipment	0.60 lakhs

New Allocations.

NON-RECURRING

Books	4.50 lakhs
Equipment	6.00 lakhs
Buildings	7.00 lakhs
Others	2.40 lakhs

Recurring

Staff.

Professors	3
Readers	8
Lecturers	8
Others	7

Details are given in Annexure I to V.

Annexure I.

Allocation for Equipment.

Departments.

Bio-Sciences	3,00,000/-
Regional Planning & Economic Growth.	25,000/-
Deptt. of Modern Arabic & Persian	25,000/-
Central Workshop	2,50,000/-
	<u>6,00,000/-</u>

Annexure II.

Allocation for Books.

Bio-Sciences	1,00,000/-
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...2/-

-:2:-

Regional Planning & Economic Growth	75,000/-
Deptt. of Modern Arabic & Persian	75,000/-
Central Library	2,00,000/-
	<hr/>
	4,50,000/-
	<hr/>

Annexure III

Allocation for Building/Furniture.

Department.

Bio-Sciences.	2,50,000/-
	1,00,000/-
	(Animal House)
Central Workshop	1,00,000/-
Humanities Block	2,50,000/-
	<hr/>
	7,00,000/-
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Annexure IV.

Others Schemes.

Central Workshop	10,000/- (Contigencies)
Faculty Improvement Programme.	2,00,000/-
Visiting Faculty	30,000/-
	<hr/>
	2,40,000/-
	<hr/>

Annexure V.

Staff

Departments

Bio-Sciences	1P, 4R, 4L, 2 T.A. (including 1P, 2R already approved)
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.....3/-

Regional Planning and Economic Growth.	1P, 2R, 2L (including 1P, 2R already approved)
Deptt. of Modern Arabic and Persian	1P, 2R, 2L
Central Workshop	4. T.A.
Central Library	1 T.A.

3P, 8R, 8L, 7T.A.

N.B.

P = Professor
R = Reader.
L = Lecturer
TA= Technical Assistant.

-:2:-

Painting	75,000/-
Folk Music & Art	1,50,000/- (including cost of Jeep)
Physics of Sound	20,000/-
	<hr/>
	5,15,000/-
	<hr/>

Annexure II.

Allocation for Books & Journals Rs. 3,00,000/-

Annexure III.

Allocation for Buildings.

Auditorium	5,00,000/-
Staff quarters (4)	50,000/-
Girls Hostel	2,40,000/-
	<hr/>
	7,90,000/-
	<hr/>

Annexure IV

Others Schemes

Refresher Courses/Workshop	50,000/-
Visiting Professorship	50,000/-
	<hr/>
	1,00,000
	<hr/>

Annexure V

Staff approved.

Department.

....3/-

Music	1P
Vocal Music	1L , 1T.A.
Orchestration & Group Singing	1L
Instrumental Music	2L (Sitar & Violin)
Kathak Dance	1T, I., 2 Tech., 1F.I. 1R, 1L, 1T.A.
Musicology	1L
Folk Music & Art	1R, 1R.A. 1A. V. Technician, 1Driver
Painting	1R
Hindi.	1L
<u>N.B.</u>	
P = Professor	
R = Reader	
L = Lecturer.	
TA = Tabla Accompanist	
Tech. = Technician	
FI = Flute Instructor.	
RA = Research Assistant.	
TI = Tabla Instrumentor.	

III
Appendix to Item No. 28

INDORE UNIVERSITY

V Plan Allocation Approved (UGC Share).

Spill-over 3.98 lakhs

Basic Grants.

i) Books 3.00 lakhs
ii) Equipment 5.00 lakhs

New Allocation

(i) NR

Books & Journals	7.00 lakhs
Equipment	8.45 lakhs
Building	11.40 lakhs
Others	10.15 lakhs

ii) RECURRING.

Staff

Professor	7
Readers	9
Lecturers	17
Others	9

Junior Research Fellowships = 20 (Twenty) at any given time
@ Rs. 400 p.m.

Details are given in Annexures I to V.

Annexure-1

Allocation for Equipment

Department

Physics	2,00,000/-
Chemistry	3,00,000/-
Maths & Stat	50,000/-
Bio-Sciences	2,50,000/-
Economics	20,000/-
Library	25,000/-

8,45,000/-

Annexure II.

Books and Journals Rs.7,00,000/-

Allocation for Building & Furniture

Annexure III

Department

Library 4,00,000/-
Printing Press 1,00,000/-
Airconditioning & Furniture for Central Instruments 50,000/-

Workshop Shed 50,000/-
Cycle shed 15,000/-
Staff Quarters - 6 Units 1,00,000/-
Chemistry 2,50,000/-
Physics - Furniture 10,000/-
Mathematics & Stat Furniture. 10,000/-
Economics-Furniture 5,000/-
Botanical Garden, Glass House, Tanks etc. 1,50,000/-

11,40,000/-

Annexure IV

Others Schemes

Departments.

1. Central Instruments

- a) Staff 1 Engineer, 3 Technician
1 Artist, 1 Glass Blower
b) Equipment Rs.6.00 lakhs.

2. Central Workshop

- a) Staff Mechanic=4
b) Equipment Rs.1.50 lakhs.

3. Visiting Professor- 1.00 lakhs.
ships.

Annexure V

Staff Details of Staff

Department

Library	Tech. Asstt.-1, Jr. Professional
Physics	1P, 2R, 4L, 1Tech.
Chemistry	*1P, +2R, 3L, 2Tech.
Math. & Stat.	**2P, 2R, 4L.
Bio-Sciences	1P, 4L, 2R, 3Tech.
Economics	1P, 2L, 1R.
Social Studies Centre.	1P, 1L, Research Associate.

7P, 9R, 17L, 9 Others.

(Staff indicated under Priority I and II are inclusive of staff already approved by the Commission during V Plan)

* Analytical/Theoretical Chemistry

+ Organic/Inorganic

** 1 each in Maths and Statistics.

N.B.

.....

P = Professor

R = Reader

L = Lecturer

O = Others.

JIWAJI UNIVERSITY

Fifth Plan allocation approved (UGC Share)

Spill over 3.87 lakhs

Basic Grants.

Books 3.00 lakhs

Equipment 5.00 lakhs

New Allocations.

NON-RECURRING.

Books 9.70 lakhs

Equipment 12.00 lakhs

Buildings 4.26 lakhs

Others 5.10 lakhs

RECURRING

Staff

Professors 5

Readers 2

Lecturers 15

Others 4

Junior Research Fellowships = 10 (Ten) at any given time
@ Rs. 400 p.m.

Details are given in Annexures I to V.

Annexure I.

Allocation for Equipment

Department

Botany 2,25,000/-

Chemistry 2,25,000/-

Zoology 2,25,000/-

Physics 2,25,000/-

Economics. 20,000/-

Mathematics. 20,000/-

Central Library 10,000/-

Central Workshop 2,50,000/-

12,00,000/-

Annexure II.

Allocation for Books.

-:2:-

Hisotory	50,000/-
Botany	1,50,000/-
Zcology	1,50,000/-
Chemistry	1,50,000/-
Physics	1,50,000/-
Economics	60,000/-
Mathematics	60,000/-
Central library	2,00,000/-
	<hr/>
	9,70,000/-
	<hr/>

Annexure III

Allocation for Building & Furniture.

Departments.

Economics.	30,000/-
Mathematics	30,000/-
Central Workshop	1,00,000/-
Men's Hostel	2,66,000/-
	<hr/>
	4,26,000/-
	<hr/>

Annexure IV.

Others Schemes.

History	1,00,000/- (Museum)
Botany (Herbarium-0.85 Botanical Garden-0.65, Field Trips-0.10).	1,60,000/-
Zoology (Zoology Museum-0.85, Animal House-0.65, Field Trips-0.10).	1,60,000/-
Central Workshop	10,000/- (Contingencies)
Faculty Improvement Prog- ramme	50,000/-
Visiting Faculty	30,000/-
	<hr/>
	5,10,000/-
	<hr/>

....3/-

Annexure V

Staff

Botany	1P, 2L	
Zoology	1P, 2L	
Chemistry	1R, 3L	
Physics	1R, 2L	
Economics	1P, 2L	
Mathematics	1P, 2L	
Central Workshop		4 Tech. Staff
Commerce (New Department)	1P, 2L	

.....

2R, 5P, 15L, 4 Others

N.B.

P = Professor
R = Reader
L = Lecturer
Tech. Technicians.

Appendix to Item No.28

RAVI SHANKAR UNIVERSITY

Fifth Plan allocation approved (U.G.C. share):

Spill over = Rs.6.24 lakhs

Basic grants

Books = Rs.3.00 lakhs

Equipment = Rs.5.00 lakhs

New Allocations.

Non-Recurring.

Books = Rs.9.70 lakhs

Equipment = Rs.12.05 lakhs

Buildings = Rs.4.50 lakhs

Others = Rs.1.00 lakhs

Recurring.

Staff

Professors = 4

Readers = 6

Lecturers = 11

Others = 14

Junior Research Fellowships = 20 (Twenty) at any given time @ Rs.400/- p.m.

Details are given in Annexure I to V.

Annexure I.

Allocation for Equipment.

Departments.

1. Physics. 2,25,000/-

2. Chemistry 3,00,000/-

3. Central Facilities

a) Central

Workshop 1,00,000/-

b) Gas Plant etc. 1,00,000/-

c) Photographic Lab. 30,000/-

4. Biological

Sciences 2,00,000/-

-:2:-

5. Statistics	30,000/-
6. Library	50,000/-
7. Physical Education.	10,000/-
8. Geography	30,000/-
9. Anthroplogy	20,000/-
10. Sociology	40,000/-
11. Linguistics	20,000/-
12. Psychology	30,000/-
13. Economics.	15,000/-
14. History	5,000/-

12,05,000/-

Books

Department

Physics	1,50,000/-
Chemistry	2,50,000/-
Mathematics	50,000/-
Bio-Sciences	1,50,000/-
Central Library	1,25,000/-
Geography	40,000/-
Anthroplogy	40,000/-
Sociology	40,000/-
Economics	50,000/-
Linguistics	25,000/-
Psychology	25,000/-
History	25,000/-

9,70,000/-

Annexure III.

Allocation for Building

Department/Item

Mathematics.	
Bio-Sciences	1,00,000/-
Workshop Shed	50,000/-
Staff Quarters	1,00,000/-
Boys Hostel	1,00,000/-
Class room furniture.	50,000/-
Botanical Garden & Museum	50,000/-

4,50,000/-

....3/-

Annexure IV

Others

Visiting Professorships 1,00,000/-

Annexure V.

<u>Department.</u>	<u>Details of staff approved.</u> <u>Post.</u>
Geography	1L, 1R, 1 T.A.
Anthropology	1L, 1 T.A.
Sociology	1L, 1R, 1T.A.
Linguistics	1P
Psychology	1R
Physical Edn.	1L
Library	2P Asstt.
Mathematics	1P, 2L, 1 T.A.
Bio-Sciences	1P, 1R, 2L
Economics	1P
Physics	1R, 1L, 1 Tech.
Chemistry	1R, 1L
History	1L
Central Facilities	1 Supervisor, 6 Tech.

P = Professor

R = Reader

L = Lecturer

TA = Technical Assistant.

P.Asst. = Professional Assistant.

Tech. = Technician.

~~Annexure I to Item 1~~

SAUGAR UNIVERSITY, SAGAR

V Plan allocation approved (UGC Share)

Spill over 10.02 lakhs (including additional cost of Rs.2.69 lakhs for buildings approved during 4th Plan)

Basis grant

Books 3.00 lakhs
Equipment 7.00 lakhs

New Allocations:

NON-RECURRING

Books & Journals 15.00 lakhs
Equipment 18.12 lakhs
Building 21.55 lakhs
Others. 4.77 lakhs

RECURRING

Staff

Professor	10
Readers	16
Lecturers	15
Others	17

Junior Research Fellowships = 25 (twenty five) at any given time @ Rs.400/- p.m.

Details given in Annexure I to V.

Allocation for Equipment

Annexure I.

Applied Geology	1,00,000/-
Physics	2,00,000/-
Maths & Stat	50,000/-
Chemistry	3,00,000/-
Criminology	25,000/-
Botany	1,00,000/-
Anthropology	20,000/-
English	20,000/-
Hindi	6,000/-
Linguistics	10,000/-
Economics	10,000/-

Psychology	25,000/-
Pol. Science	6,000/-
Commerce	10,000/-
Fine Arts	25,000/-
Central Instruments	7,50,000/-
Central Library	55,000/-

18,12,000/-

Annexure II.

Allocation for Books & Journals 15.00 lakhs

Annexure III.

Allocation for Building:

Central Instruments	2,00,000/-
Workshop Shed	60,000/-
Physics	20,000/-
Chemistry	1,50,000/-
Criminology	1,50,000/-
Botany	1,25,000/-
Zoology	1,25,000/-
Anthropology	60,000/-
Ancient History	25,000/-
Water Tank	1,00,000/-
Warden Quarters	40,000/-
Boy's Hotel	5,00,000/-
Common Lecture Theatres	5,00,000/-
Students day home	1,00,000/-

21,55,000/-

Annexure IV.

Others Schemes

- i) Scholarships 10 (Ground water Geology) 1,00,000/-
 - ii) Museum and Herbarium 40,000/-
 - iii) Botanical Garden 50,000/-
- Special fitting for

iv) Zoological Museum	15,000/-
v) Collection of Manuscripts	35,000/-
vi) Publication grant	12,000/-
vii) Bus	1,25,000/-
viii) Visiting Professorships	1,00,000/-
	<hr/>
	4,77,000/-
	<hr/>

Annexure V.

Staff.

Department.

Applied Geology	1R, 1P (Ground water Geology) 1 Tech.
Physics	1P (Solid State), 1R (X-Rays)
Maths & Stat.	1P (Statistics), 2L
Chemistry	1P (Physical/Inorganic/Analytical) 1R (Organic, 2 Tech.)

Staff.

Departments

Criminology	1R, 1T.A.
Botany	1P*, 1R*, 1L, 2 T.A.
Zoology	1P (Reproductive Physiology Endocrinology Developmental Physiology Fish and Fishery).
Anthropology	1R, 1TA, 2L 1R (<u>Cytogenetics</u>) Social Biology 1L
Law	1P
Yogic Studies	1L
English	1P (Language Teaching), 1R (Comparative Esthetics.

Hindi	2L
Sanskrit	1R (Pali)
Urdu & Persian	1L, 2R
Linguistics	1R
Philosophy	1P (Indian Philosophy)
Library Science	1R
Ancient History	1R (Arts & Architecture Archaeology)
History	1R (Medieval).
Economics	1TA, 1R (Maths-Economics), 1L Econometrics.
Psychology	2L, 1TA
Political Sc.	1P (Public Administration).
Commerce	1R (Accountancy) 1L
Fine Arts	1L, 2 Instructors.
Central Instruments	1 Engineer, 1 Foreman, 4 Tech.

10P, 16R, 15L, 7Tech., 6TA, 1Engineer,
2 Instructors, 1 Foreman).

V.B.

P = Professor
R = Reader
L = Lecturer
Tech = Technician
TA = Technical Assistant.

* Cytogenetics/Organism Physiology/Cell
Molecular biology.

VIKRAM UNIVERSITY, UJJAIN.

Fifth Plan allocation approved (UGC Share).

Spill over	1.46 lakhs.
<u>Basic grants.</u>	
Books	3.00 lakhs
Equipment	5.00 lakhs
Misc.	0.29 lakhs

NEW ALLOCATION

NON-RECURRING

Books & Journals	10.25 lakhs
Equipment	13.20 lakhs
Buildings	4.63 lakhs
Others	5.55 lakhs

RECURRING

Staff

Professors	5
Readers	8
Lecturers	9
Others	19

Junior Research Fellowships = 15 (Fifteen) at any given time @ Rs.400/- p.m.

Details are given in Annexures I to V.

Annexure I.

Allocation for Equipment.

Departments.

1. Physics	3,00,000/-
2. Mathematics	20,000/-
3. Statistics	50,000/-
4. Chemistry	1,50,000/-
5. Zoology	2,00,000/-
6. Botany	2,50,000/- (including air-conditioning)
7. Geology	1,50,000/-
8. Economics	20,000/-
9. Pol. Sciences	20,000/-
10. History	50,000/- (Equipment for Archeological excavation).

-:2:-

11. Library Science	20,000/-
12. Central Workshop	50,000/-
13. Central Library	15,000/-
14. University's Press	25,000/-

13,20,000/-

Annexure II

Allocation for Books & Journals.

Department.

1. Physics	1,00,000/-
2. Mathematics	75,000/-
3. Statistics	75,000/-
4. Chemistry	1,00,000/-
5. Zoology	1,00,000/-
6. Botany	1,00,000/-
7. Geology	50,000/-
8. Sanskrit	30,000/-
9. English	30,000/-
10. Hindi	30,000/-
11. Economics	40,000/-
12. Pol. Science	40,000/-
13. History	30,000/-
14. Library Science	25,000/-
15. Central Library	2,00,000/-

10,25,000/-

Annexure III.

Allocation for Building/Furniture.

Department.

Mathematics	50,000/- (including Stats.)
Zoology	50,000/-
Botany	25,000/-
Geology	13,000/-
Central Workshop	1,00,000/-
University's Press	25,000/-
Staff Quarters	2,00,000/-

4,63,000/-

Annexure. V.

Other Schemes.

Zoology (Animal House 0.60, Museum Rs.0.50)	1,10,000/-
Botany (Botanical Garden 0.50, Harbarium/Museum 0.75)	1,25,000/-
Ancient History(Museum equipment & functioning, Audio visual aids & Arts objects. Scindia Instt.	1,00,000/- 20,000/- (Pub.)
Faculty Improvement	1,00,000/-
Use of outstation Research facilities.	50,000/-
Visiting Faculty	50,000/-
	<hr/>
	5,55,000/-
	<hr/>

Annexure V.

Staff.

Physics	1L, 1R, 1T.A.
Mathematics	1L
Statistics	1P
Chemistry	2L, 1R, 1T.A.
Zoology	2L, 1R, 1 Animal Keep
Botany	1L, 1R, 1T.A.
Geology	1R, 1T.A.
Sanskrit	1P, 1R.A.
English	1P,
Hindi	1R
Economics	1P, 1L
Courses in Environ- mental Science in Zoology Deptt.	1R
Course in Industrial Chemistry in Chemistry Department	1R
Central Workshop Pol. Science.	1 foreman, 2 T. 1P, 1L

-:4:-

Scindia Instt.	3 I.A.
Ancient History	1 Mus. Keep.
Central Instrumentations Lab.	6 Others.
	<hr/>
	5P, 8R, 9L, Others 19.

N.B.

P = Professor

R = Reader

L = Lecturer

O = Others.

TA = Technical Assistant.

RA = Research Assistant.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :
Dated: 22nd March, 1976
Time : 10.00 A.M.
Place : UGC Office, New Delhi.

A G E N D A

- Item No. 1 : To receive the minutes of the meeting of the Commission held on 16th February, 1976.
- Item No. 2 : a) To approve the action taken on certain matters.
b) To receive the items of information
c) To receive the statement of proposals which could not be accepted by the Commission.
- Item No. 3 : To approve the statement of grants released after the last meeting of the Commission held on 16th February, 1976.
- Item No. 4 : To receive the statement of expenditure incurred by the University Grants Commission during 1975-76 upto 29th February, 1976.
- Item No. 5 : To receive a statement indicating the progress of issue of Utilisation Certificates during the period ending 29th February, 1976. p 1-2
- Item No. 6 : To consider the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities & Social Sciences on the report of Committee set up by the Commission to evaluate the working of the Centre of Advanced Study in Education, M.S. University of Baroda. p 3
- Item No. 7 : To consider the recommendation of the Advisory Committee for Centres of Advanced Study in Humanities & Social Sciences on the report of Committee set up by the Commission to evaluate the work of the Centre of Advanced Study in History, Aligarh Muslim University and to examine its development proposals for the Fifth Plan period. p 4-20

- Item No. 8 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, Bombay University. p 21-26
- Item No. 9 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, Delhi University. p 27-34
- Item No. 10 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, Poona University. p 35-48
- Item No. 11 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Linguistics, Annamalai University. p 49-55
- Item No. 12 : To consider the Recommendations made by the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Sanskrit, Poona University. p 56-60
- Item No. 13 : To consider the recommendations of the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Committee set up by the Commission to evaluate the work of the Centre of Advanced Study in Sociology, Delhi University and to examine its development proposals for the 5th Plan period. p 61-71
- Item No. 14 : To consider the recommendations of the Committee set up by the University Grants Commission for proposing ways and means of developing expertise in the field of Archaeology and Museums in the Universities. p 72-77
- Item No. 15 : To consider the recommendations made by the panel on Law at its meeting held on November 22, 1975 and January, 27, 1976 regarding scholarships for full-time LL.M. courses. p 78-81

- Item No. 16 : To consider the recommendation of fortysecond report of the Committee on the welfare of Scheduled Castes and Scheduled Tribes on the Ministry of Education and Social Welfare.p 82-83
- Item No. 17 : To receive a Report of the UGC-ICSSR Study Team on Social Sciences in Professional Education.p 84-87
- Item No. 18 : To consider a reference from the Ministry of Education and Social Welfare regarding recommendations made by the Committee of Writers on travelling fellowships/ special Visiting Professorships.p 88
- Item No. 19 : To consider again the report of the M.Phil. Committee about the objectives and working of the M.Phil. Courses in the universities.p 89
- Item No. 20 : To consider the report of the seminar on continuing education held at Poona on February 7-9, 1976. p 90-103
- Item No. 21 : To further consider the proposal of the Bhopal University for starting correspondence courses for B.A. and B.Com.p 104-109
- Item No. 22 : To consider the question of period of assistance to the affiliated colleges towards the creation of additional posts during Vth Plan. p 110
- Item No. 23 : To consider the question of extending benefit of the scheme of Teacher Fellowship to teachers in the affiliated agricultural colleges. p 111
- Item No. 24 : To consider the question of providing assistance to the colleges in Bihar which have suffered in floods last year. p 112-115
- Item No. 25 : To consider the programmes of academic collaboration between (1) Department of Botany, Calcutta University and Queen Mary College, University of London, Department of Botany, University of Nottingham, U.K. (2) Department of Metallurgical Engineering, BHU and Department of Metallurgy University of Sheffield (UK). p 116-132
- Item No. 26 : To consider the proposal of the Utkal University for change in the specialisation for the posts of Readers approved for the V plan period. p 133-137
- Item No. 27 : To consider the report of the Visiting Committee appointed by the Commission to examine the proposals of the Calcutta University for the development of University PG Centre at Agartala. p 138-152

- Item No. 28 : To consider the report of the Visiting Committee which assessed the Vth Plan needs of universities in the Madhya Pradesh (except Jabalpur University).
- Item No. 29 : To consider further the report of the Review Committee on Visva-Bharati appointed by the Ministry of Education and Social Welfare in the light of the comments received from the Academic Council and the Executive Council of the University on the report of the Committee.
- Item No. 30 : To consider the report of the Committee appointed by the University Grants Commission to examine a proposal to declare the school of planning and Architecture as an institution deemed to be University under Section 3 of the UGC Act.
- Item No. 31. : To consider certain establishment matter of the U.G.C.
- Item No. 32: : To note the date & place for the next meeting of the Commission.
- Any other item.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 22nd March, 1976
Time : 10.00 A.M.
Place : UGC Office, New Delhi.

AGENDA

- Item No. 33 : To consider the Budget Estimates for 1976-77 under Plan. p 168
- Item No. 34 : To receive the Annual Accounts of the University Grants Commission for the year 1972-73 as presented to the Parliament under Section 19(4) of the U.G.C. Act, 1956. p 169
- Item No. 35 : To consider the question of establishment of a National People's University (Open University). p170-181
- Item No. 36 : To consider the question of revision of rates of Scholarships payable to National Scholars appointed under the scheme of Centre of Advanced Study. p 182-183

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Minutes of the 177th meeting of the University Grants Commission held on February 16, 1976.

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The following were present:

Professor Satish Chandra	- Chairman
Shri K.N. Channa	- Member
Professor R.P. Bambah	- Member
Professor S.S. Saluja	- Member
Professor (Miss) A.J. Dastur	- Member
Professor S. Gopal	- Member
Professor J.B. Chitambar	- Member
Professor B.M. Udgaonkar	- Member
Dr. Chandran D.S. Devanaisen	- Member
Shri R.K. Chhabra	- Secretary

Professor Maqbool Ahmed and Dr. Ajit Mozoomdar expressed their inability to attend the meeting.

SECRETARIAT

Additional Secretary

Dr. D. Shankar Narayan

Joint Secretaries

Dr. J.N. Kaul
Dr. S.K. Dasgupta

Deputy Secretaries

Shri S. Viswanath
Shri I.C. Menon
Dr. S.C. Goel
Shri S.P. Gupta
Dr. M.L. Mehta
Shri A.B. Gupta

Director (SRC)

Dr. Jagdish Shankar

Finance Officer

Shri R.P. Bhattacharjee

p.t.o.

At the outset, Professor Satish Chandra, Chairman, welcomed the members of the re-constituted Commission. The members felicitated Professor Satish Chandra consequent on his appointment as Chairman of the University Grants Commission.

The Commission placed on record its deep appreciation of the valuable services rendered by Professor R.S. Sharma, Professor Fais Ahmed, Professor M. Santappa, Dr. Amarjit Singh and Shri K.T. Chandy, who have since retired from the membership of the Commission.

The Chairman apprised the members of the present plans and priorities of the Commission, its finances and some important considerations relating to the acceptance of development programmes of the universities during the V Plan period as also the present state of implementation of the revised scales of pay for university and college teachers recommended by the UGC and accepted by the Government of India in different States.

During the general discussions that followed, the following points emerged:

(i) the State Governments may be informed of the decision of the Commission that the period of assistance for the posts accepted in the V Plan on the basis of the recommendations of the Visiting Committees would be for the period ending 1980-81 (i.e. 31st March 1981) and that they may be requested to give an assurance that the expenditure on UGC posts would be treated as committed expenditure after the Commission's assistance ceases. The Commission also agreed that the assistance for the different posts sanctioned during the V Plan under other programmes, e.g., Centres of Advanced Study, Area Study, Correspondence Courses, may be provided till 1980-81. This would not however apply in the case of the Central Universities and Institutions deemed to be Universities for which maintenance grant is paid by the UGC: In these cases, the committed expenditure would merge into the normal non-plan expenditure w.e.f. 1.4.1979.

(ii) a note regarding the manner of implementation of the revised scales of pay in the different States and the conditions etc. attached to the implementation of the scales of pay may be brought up before the Commission.

Item No. 1 : To receive the minutes of the meeting of the Commission held on 7th January, 1976.

The minutes of the 176th meeting of the University Grants Commission held on 7th January 1976 were confirmed subject to the following:

Item No.7: Sub-para 5 may read as follows:

If after discussions of the Vice-Chairman with the Vice-Chancellor, the Commission agreed to provide staff for the Physics Department, such staff should be appointed in any one chosen area of experimental physics so as to form a viable unit.

Arising out of the minutes, it was agreed that the guidelines earlier suggested for M.Phil. courses may be brought up again for consideration.

Item No. 2 : (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 I.*

Arising out of Item No.2(a)(3), it was agreed that a Committee consisting of Professor S. Gopal, Professor B.M. Udgaonkar, Professor S.S. Saluja, Professor R.P. Bambah and Professor J.B. Chitambar may be requested to look into the details of the equipment proposed to be procured by the University of Hyderabad.

(b) This was noted.

Item No. 3 : To approve the statement of grants released after the last meeting of the Commission held on 7th January, 1976.

The Commission approved the grants released after the last meeting of the Commission held on 7th January 1976 (Appendix II*).

Item No. 4 : To receive the statement of expenditure incurred by the University Grants Commission during 1975-76 upto 31st January, 1976.

This was noted.

Item No. 5 : To receive a report of the UGC:ICSSR Study Team on Social Sciences in Professional Education.

Consideration of this item was postponed to the next meeting.

Item No. 6 : To consider reference from the Ministry of Education & S.W. relating to social and educational aspects of drug addiction among students/teachers in universities and colleges.

The Commission considered the recommendations made by the Ministry of Education & Social Welfare relating to social and educational aspects of drug addiction among students and teachers in universities and colleges and observed as under:

(a) Since drug addiction had far reaching ramifications, it was felt that for better examination of the problem, the advice of experts in psychiatry, social work, medicine and counselling may be sought. A committee may be appointed to consider this problem in some depth.

(b) The problem of drug addiction amongst students may be separated from similar problems among the teachers.

(c) With regard to the production of educational material, it was observed that there was some material already available on the problem of drug addiction amongst school and university students. It was desired that the Central Health Education Bureau may be requested to suitably prepare such instructional material for dissemination among the students.

Item No. 7 : To consider some important recommendations made by the Panels in Humanities and Social Science held in November/December 1975.

The Commission considered the recommendations made by the Panels in the Humanities and Social Sciences at their meetings held in November/December 1975 and January 1976

and resolved as follows:

I. University Leadership Projects

The Committee of Convenors of Panels may be requested to consider the recommendations made by the various Panels and select about 25 University Departments for participation under this programme. The selection of Departments may be made keeping the following in view:

(i) the programme may be implemented, in the first instance, in the affiliating universities;

(ii) as far as possible, distribution of disciplines among the universities should be even - the regional requirement should be kept in view in the selection of the universities;

(iii) ordinarily, not more than four universities may be selected for each of the major disciplines.

II. Centres of Advanced Study / Departments of Special Assistance

The Commission agreed that proposals may be invited from the Departments recommended by the Panels for participation in the programme of Centres of Advanced Study / Departments of Special Assistance. The information sent by the Universities may be then examined by the Advisory Committee on Centres of Advanced Study in humanities and social sciences and its recommendations brought before the Commission.

III. Neglected Areas

This may be considered at the time when the reports of the workshops organised for modernising the syllabi in various subjects are available.

IV. Establishment of a Faculty of Spiritual Sciences in the universities

This may be examined with the help of a committee.

V. Full-time LL.M. courses

This may be brought up as a separate item before the Commission.

VI. Studies in the History of Science

The Commission accepted the recommendations of the History Panel that the Rajasthan and Roorkee Universities and Birla Institute of Technology and Science, Pilani, may be supported to develop studies on history of science and a post of one Reader outside the Plan allocation may be sanctioned to each one of them for a period of five years.

VII. Textbooks and reading materials in Economics

The Commission accepted the proposal and desired that this may be processed on the basis of normal norms already approved for the purpose.

VIII. Philosophy Panel's recommendation

The Commission accepted in principle the recommendation that a continuous dialogue may be encouraged between the teachers of philosophy and traditional pandits.

The Commission accepted in principle the need for encouraging Buddhist Studies in the universities and desired that proposals received from the universities in this regard may be examined on merits outside the Plan allocation to the universities.

Item No. 8 : To consider the report of the Committee appointed by the UGC to examine the proposal of the Panjab University, Chandigarh, for setting up a Centre for Continuing Education.

The Commission generally accepted the recommendations of the Committee appointed by it to examine the proposal of the Panjab University, Chandigarh, for setting up a Centre of Continuing Education and agreed to provide assistance for the items listed in Appendix III on the usual sharing basis.

It was noted that the assistance would not be utilised for starting diploma course in continuing education. If, however, the University desires at some stage to start a diploma course, this should only be done with the prior concurrence of the Commission.

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p.t.o.

Item No.9 : To consider the guidelines for utilisation of research fellowships allocated to the universities as part of the Fifth Plan schemes.

The Commission noted that a certain number of fellowships had already been allocated to the different universities as part of the general pool of fellowships. The fellowships now allocated to the universities, on the basis of the Visiting Committees reports during the V Plan period, should form a part of the total number of fellowships available to the university. All the awards be made in accordance with the guidelines given in Appendix IV.

The Commission further desired that of the 250 junior fellowships to be awarded from 1976-77 on an all-India basis, not less than 50 should be awarded to students who wish to work in the colleges subject to the condition that adequate facilities for such research work are available there. If any of the 50 fellowships could not be awarded, these may than be awarded to qualified candidates working in the university departments.

Item No.10: To consider the proposal for experimental introduction of English Comprehension Course for university students.

The Commission accepted the proposal for providing assistance to C.I.E.F.L. to conduct a pilot project at Gujarat and South Gujarat Universities for developing and testing of English comprehension course for university students. The C.I.E.F.L. may also be requested to develop such courses for students in Assam and other adjoining areas.

Item No.11: To consider a proposal received from the Department of Culture for assistance to the Jawaharlal Nehru University for undertaking translation of Russian Scientific and Technical Journals into English.

The Commission considered the proposal for assistance to the Jawaharlal Nehru University for undertaking translation of Russian scientific and technical journals into English and desired that this may be referred to a committee.

Item No.12: To consider the report of the Fifth Plan Visiting Committee for the Birla Institute of Technology and Science, Pilani.

The Commission considered the report of the V Plan Visiting Committee for the Birla Institute of Technology and Science, Pilani, and desired that the general observations made by the Committee may be referred to the Institute for its views in the first instance. With regard to the payment of the maintenance grant, the Commission desired that this may be taken up separately after obtaining necessary information from the Institute with regard to its existing financial resources.

Item No.13: To consider the proposal of treating the necessary grants paid to the School of Research and Training in Earthquake Engineering, Roorkee University, as non-plan expenditure.

The Commission desired that since the assistance for maintenance of the School of Research and Training in Earthquake Engineering, Roorkee University, has been paid for a considerably long period, the Government of India be requested to treat the expenditure as committed (to be provided to the Commission as part of non-plan assistance).

Item No.14: To reconsider the matter regarding the utilization of the amount realized from sale of books and other materials produced by the university departments under the College Science Improvement Programme(ULP).

The Commission was of the view that the situation may vary from one COSIP(ULP) to another in the matter of utilisation of the amounts accrued from the sale of books and other material produced by it, the general guidelines for utilisation of sale proceeds may be prepared with the help of a committee. In the meantime, the general circular issued earlier may be withdrawn.

Item No.15: To consider the question of waiving of the loss incurred by the Visva-Bharati on account of disposal of surplus material as a result of abandonment of the original water supply scheme.

The Commission agreed to waive of the loss of Rs.1,35,493.37 incurred by the University consequent upon the abandonment of the original water supply scheme, and the payment of the balance amount of Rs.1,43,667.16 due to the Visva-Bharati University for the revised water supply scheme.

Item No.16: To note the date and place for the next meeting of the Commission.

The Commission agreed that the next three meetings of the Commission may be held in New Delhi on the following dates:

March 22, 1976
April 26, 1976
May 24, 1976.

Item No.17: To consider the question of reappointment of Shri R.K. Chhabra, as Secretary, University Grants Commission, in terms of Rule 3-4 of the University Grants Commission (Terms and Conditions of Service of Employees) Rules, 1958.

The Chairman brought to the notice of the Commission that the present 5-year tenure of Shri R.K. Chhabra, a permanent employee of the Commission, who was appointed as Secretary, University Grants Commission, on 3rd March, 1971 is due to expire on 2nd March, 1976.

The Commission resolved that Shri R.K. Chhabra may be reappointed as Secretary, University Grants Commission, for another term of 5 years in terms of Rule 3-A of the University Grants Commission (Terms and Conditions of Service of Employees) Rules, 1958, as amended.

R.K. Chhabra
Secretary

Satish Chandra
Chairman

ESTIMATED EXPENDITURE

I-RECURRING

(a) Establishment

Designation & scale of pay

- i. Director-1(Honorary)
- ii. Programme Co-ordinator-1
(Rs.1100-1600) Revised
- iii. Deputy Programme Co-ordinator-1
(Rs.700-1300) Revised
- iv. Programme Assistant
- v. Stenographer-1
- vi. Clerk/Typist-1
- vii. Machineman-1
- viii. Lab.Attendant-cum-Messenger-1
- ix. Peon-1

Not to be recruited for two years.

In the usual scales of the University.

(b) Programme Expenditure & General Expenses.

	<u>75-76</u>	<u>76-77</u>	<u>77-78</u>	<u>78-79</u>
i. T.A./D.A./Conveyance for the resource people.	3,000	7,000	10,000	12,000
ii. Printing	1,000	1,500	2,500	2,500
iii. Honoraria & Field expenses.	3,000	12,000	16,000	20,000
	<u>7,000</u>	<u>20,500</u>	<u>28,500</u>	<u>34,500</u>

(c) Other Expenses: (For the period ending 1978-79)

1. Contingencies, Postage, Stationery & Telephone @ Rs.2,000/- p.a.
2. Purchase of books and Magazines @ Rs.2,000 per annum.
3. Unforeseen overhead expenses @ Rs.1,000/- per annum.

II-NON RECURRING

1. Duplicator & two Type writers (one English & one Hindi) Rs.15,000/-
2. Slide Projector, Audio-Visual Aids, PA Equipment. Rs. 30,000/-

-:2:-

3. Initial Library Grant	Rs. 5,000/-
4. Telephone (installation)	Rs. 3,000/-
	<hr/>
	Rs. 53,000/-
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Assistance of the University Grants Commission. 75 per cent of the actual expenditure on the approved posts for the period ending 1978-79 and 75 per cent of recurring & non-recurring items.

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Guidelines for utilisation of UGC fellowships
allotted to universities during V Plan period.

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On the recommendations of the Visiting Committees which examined the development schemes of the universities, the UGC has agreed to provide to each university a certain number of junior research fellowships with an annual contingent grant of Rs. 1500 P.A. as part of the V Plan development programmes. These are in addition to the UGC fellowships already allocated to each university from the general pool of fellowships. The total number of fellowships thus available each year to a university is to be utilized in accordance with the guidelines given below:-

(1) The fellowships may be awarded to deserving scholars registered for the Ph.D. degree. The total number of fellowships in any given year during the V Plan period shall not exceed the number of fellowships annually allocated to the University. The number of fellowships made each year in different subjects may be decided by the University with the help of a Committee. The fellowships once awarded would be tenable for the duration of the award i.e. 4 years subject to prescribed conditions and any vacancies arising could therefore be filled only for the remaining period of that award.

(2) The UGC is not in favour of distribution of such fellowships among the departments of the University on a permanent basis.

(3) These fellowships are given to the universities as part of their development plans with the specific purpose of encouraging research effort and creating research interest in every department of the university and in inter-disciplinary areas. Distribution of fellows among qualified guides should be as even as possible and within the limits laid down by the university in this behalf. Selected fellows may be encouraged to work under the guidance of such qualified teachers who have less than three Ph.D. scholars working under their guidance.

(4) The scholars selected for award of these fellowships should fulfil the qualifications prescribed by the U.G.C. for the award of junior fellowships (See annexure). Selection should be on an All-India basis and on competitive merit.

(5) The University should not discontinue the existing maintenance budget provision for scholarships/fellowships.

(6) The awards against these fellowships may be made with the help of a Committee appointed by the University and in consultation with the departments concerned and before the end of September each year. The question of raising the value of fellowship from Rs. 400 p.m. to Rs. 500 p.m. after two years of tenure may be taken up in accordance with the guidelines already supplied to the University. A statement of selections made during a particular year as well as in respect of fellow selected in earlier years may be sent to the UGC before the end of October each year.

(7) Any vacancies arising in these fellowships for whatever reasons may be considered as part of the general pool of fellowships. The University, if it so desires, may undertake a second selection during the year but such selections should be completed before the end of March each year and the statement furnished to the Commission before end of April of that year.

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UNIVERSITY GRANTS COMMISSION

Meeting:

Dated: 22nd March, 1976

Item No.2(a): To approve the action taken on certain matters.

-
- (1) Acceptance of the recommendations regarding the Selection of National Associates under the Scheme of National Associateship.
-

The University Grants Commission instituted a scheme of National Associateship during 1970 to enable outstanding young teachers from universities and colleges engaged in research to visit and work for short periods at university centres, research institutions, national laboratories etc. which have special facilities relevant to their respective field of study and research. Later the Commission at its meeting held on 10th December, 1973, inter-alia, decided that the selection of National Associates may be done in consultation with subject panels. Accordingly the nominations received under the National Associateship Scheme were referred to various subject panels and these panels have recommended 22 candidates for selection under the National Associateship Scheme as indicated below:-

<u>Name of the subject panel:</u>	<u>No. of applications recommended by the Panel.</u>
1. Geology and Geophysics	3
2. Physics	13
3. Linguistics & Classical Languages	2
4. Political Science	3
5. Philosophy	1
<hr/>	
Total: 22	
<hr/>	

The total number of positions so far filled in is 162 out of 300 under 5 year scheme. The list of persons selected under the scheme is given in (Annexure). The recommendations of the panels have been accepted in January and February, 1976.

Panels have recommended a total grant of Rs.5,45,139/- for 207 projects; 14 proposals are under consideration and these cases will be reported to the Commission after necessary information as desired by the Panel is available. The Panel could not recommend 249 proposals for financial assistance under the above scheme. Subject-wise position in this regard is indicated below:-

Subject	Number of proposals have been received	Number of proposals approved	Number of proposals under consideration	Number of proposals not accepted.	Amount recommended
1.	2.	3.	4.	5.	6.
Sociology & Social Anthropology.	16	11	1	4	Rs 35,149
Commerce (including 2 projects transferred from advanced research)	31	22	3	6	85,300
English (including 2 projects transferred from advanced research)	32	10	-	22	15,940
Psychology	26	13	-	13	36,100
Modern Indian Languages	103	29	1	73	37,500
Law	4	1	-	3	2,500
History (including 2 projects transferred from advanced research)	54	31	2	21	79,200
			(to be referred to Sociology Panel at its next meeting)		
Social Work:	1	-	-	1	-
Linguistics (including 3 projects transferred from advanced research)	44	13	1	30	37,950
Political Sc.	47	20	2	25*	52,100

*(The panel could not consider three proposals as they deal with Library Science).

1.	2.	3.	4.	5.	6.
Economics	50	27	2 (one project will be referred to Commerce Panel at its next meeting).	21	61,800
Philosophy	15	10	-	5	17,750
Teacher Education	47	20	2	25	83,850
Total:	470	207	14	249	5,45,139

The recommendations made by the Panels on the proposals received for assistance for short-term projects have been accepted and a grant of Rs.5,45,139/- has been approved for 207 projects as per details given in the Annexure.

During the four selections, two each in 1974-75 and 1975-76, the Commission has approved 521 short-term projects at a cost of over Rs.15.00 lakhs.

- (5) Grant-in-aid for Operation of Electron-Microscope in the development of Pure-Physics - Calcutta University.

The Calcutta University in May, 1975 approached the University Grants Commission for assistance to operate the Electron Microscope in the department of Pure Physics purchased by the University in the Fourth Plan period for which the Commission had provided funds amounting to Rs.3,35,000/- to the University against the total cost of Rs.6,13,165/-.

The proposal of the University for the operation of the Electron Microscope installed in the Department of Pure Physics with the following facilities has been accepted, subject to the condition that this will be the first charge on the Fifth Plan allocations:

I. Non-Recurring:

Equipment and other accessories: Rs.1,50,000/-

II. Recurring:

- (i) Operational Expenses: Rs. 13,000/-
p.a.
- (ii) Staff:
1. Senior Electron Microscopist: - 1
 2. Microscope Operator: - 1
 3. Electronic Instrument Expert: - 1

- (6) Support to teachers for implementation of Minor Research Projects - Selection of projects for 1975-76.

A meeting of the Committee constituted by the Commission for selecting Research Projects under the scheme "Support to teachers for implementation of Minor Research Projects" was held on 19-20th December, 1975. A total number of 1771 applications were received in different science subjects out of which the Committee has selected 607 projects under the scheme for implementation during 1975-76 and a total grant of Rs.18,53,771/- has been approved as detailed below:-

<u>S.No.</u>	<u>Subject</u>	<u>No. of teachers selected</u>	<u>Grant approved Rs.</u>
1.	Anthropology	3	9,350
2.	Agriculture	6	9,500
3.	Botany	128	2,38,000
4.	Bio-Chemistry	10	29,500
5.	Chemistry	172	5,46,550
6.	Geology	24	65,600
7.	Geography	27	90,050
8.	Home Science	2	8,500
9.	Maths/Stats.	50	1,25,500
10.	Physics	102	5,04,171
11.	Vet.Sc.and Horticulture	4	10,200
12.	Zoology	78	2,12,850
13.	Misc.	1	4,000
		<u>607</u>	<u>18,53,771</u>

Details of the projects accepted are at Annexure- .

The Research Projects relating to Physiology/Medicine and Engineering are yet to be recommended by the experts.

The first instalment of grant for the implementation of the approved projects (50% of the total approved grant) in each case has since been released.

- (7) Lalit Narayan Mithila University fit to receive grants from UGC under Section 12A.

The Commission at its meeting held on 29th September, 1975(Item No.9) considered the report of the Committee for declaring Lalit Narayan Mithila University as an institution fit to receive grants from the Central Government funds in terms of rules prescribed under Section 12A of the UGC Act.

The Commission resolved "that Lalit Narayan Mithila University be declared an institution fit to receive grants from the Central Government funds in terms of rules prescribed under Section 12A of the UGC Act provided the State Government gave an assurance with regard to the following:

- (1) the University would establish adequate machinery for health and welfare of the students.

- (2) adequate funds will be provided by the State Government for buildings, equipments, books for library, hotels, staff quarters whose aggregate value will not be less than Rs.2 crores alongwith developed land, and
- (3) the university will be given adequate maintenance grants for its normal functioning;

The Commission on receipt of the above assurances from the Government of Bihar has agreed that the Lalit Narayan Mithila University may be declared as an institution fit to receive assistance in pursuance of Section 12A of the UGC Act. This has been conveyed to the State Government vide letter No.5-3/67(CD/CP) dated the 27th February, 1976.

It has also been intimated to the State Government the major expenditure on the university would be met by the State Government in respect of buildings, equipment, books, library, hostels, staff quarters out of the funds ear-marked by them for the University and the Commission's assistance during the Fifth Plan period would be only marginal.

- (8) The following proposals of Colleges have been approved by the Commission for financial assistance under Rs.5 lakh scheme during the Fifth Plan period:

S.No.	Name of the College	Purpose	Estimated Cost	UGC Share
1	2	3	4	5
<u>Burdwan University:</u>				
1.	Shyam Sunder College, Syamsunder, Burdwan.	Electrification of college campus & other buildings.	25,000	12,500
2.	Panchmura Mahavidyalaya, PO Panchmura, Distt. Bankura.	Student Hostel	3,02,760	1,66,000
<u>Magadh University:</u>				
3.	S.N. Sinha College, Warsaliganj	Laboratory equipment	1,00,000	75,000
4.	S.V. Patel College, Bhabua.	Library books and journals	52,000	39,000
<u>Calcutta University:</u>				
5.	Sundurban Hazi Desarat College, 24 Parganas.	Books & Journals	40,000	30,000
<u>L.N. Mithila University:</u>				
6.	K.S. College, Laherisarai.	Books & Journals	40,000	30,000
<u>Utkal University.</u>				
7.	B.J.B. College, Bhubaneswar.	Books & Journals	1,00,000	75,000
		Equipment	1,50,000	1,12,500
		Faculty Improvement Programme	10,000	10,000

- (9) Creation of a temporary post of Deputy Secretary for the liaison work with the UGC Review Committee appointed by the Government of India in the Ministry of Education & Social Welfare.
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In view of the necessity felt by the Chairman, UGC Review Committee, appointed by the Government of India in the Ministry of Education & Social Welfare that at the present stage of the work of the Review Committee, an officer of the Commission may be appointed to do the liaison work with the Committee and in order to be able to have effective liaison with the UGC Review Committee, a temporary post of Deputy Secretary has been created in the office of the University Grants Commission in the scale of pay of Rs.1500-60-1800 for a period of three months, in the first instance, w.e.f. 1st February, 1976 vide orders dated 22nd January, 1976 (vide orders dated 22nd January, 1976).

- (10) Visit abroad of Shri R.K. Chhabra, Secretary, University Grants Commission as a member of Delegation to attend the Indo-Belgian and Indo-Turkish Joint Committee meetings in Brussels and Ankara from 23rd February, 1976 to 4th March, 1976.
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Shri R.K. Chhabra, Secretary, University Grants Commission, proceeded abroad to Brussels and Ankara to attend the Indo-Belgian and Indo-Turkish Joint Committee meetings between 23rd February, 1976 and 4th March, 1976 as under:

1. Belgium : From 23rd February 1976 to 26th February, 1976.
2. Turkey : From 29th February, 1976 to 4th March, 1976.

During the intervening period between 27th February, 1976 and 28th February, 1976, Shri Chhabra was permitted to visit Federal Republic of Germany to discuss problems of mutual interest. While the expenditure on the visit of Shri Chhabra to Brussels and Ankara is to be met by the Commission in terms of the Ministry of Education and Social Welfare letter dated the 21st February, 1976 on the subject, the local hospitality for his visit to Federal Republic of Germany will be provided to him by the German Academic Exchange Service.

Shri Chhabra will be entitled to draw TA/DA as admissible to Grade-I Officers of the Government of India.

The period of absence of Shri Chhabra from 23rd February, 1976 to 4th March, 1976 has been agreed to be treated as on deputation abroad and during this period he will be treated as on duty and will receive full pay and allowances at the rates admissible to him but for proceeding abroad on deputation (vide orders dated 21st February, 1976).

- (11) Exemption from passing the typewriting test to Shri K.P. Mathai, LDC for purposes of drawing annual increments and confirmation.
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The Cadre and Recruitment Rules for the post of L.D.C. notified in the office in December, 1975 lay down that a person not possessing the minimum speed of 30 w.p.m. in typewriting may be appointed as an LDC subject to the condition that he will not be eligible for drawing increments in the pay scale or for quasi-permanency or for confirmation in the grade till he acquires the prescribed speed in typewriting.

Shri K.P. Mathai, an ex-serviceman, who was discharged as Master Warrant Officer in the Indian Air Force on the 19th January, 1972, was appointed as LDC in the office of the University Grants Commission on the 16th February, 1974. In terms of the orders quoted in para 3 of the Ministry of Home Affairs O.M. No.71/67/56-CS(C) dated the 15th September, 1956, Shri Mathai who otherwise has a working knowledge of typewriting, being an ex-serviceman and also above the age of 45 years (his date of birth being 7th August, 1925) has been exempted (vide orders dated 25th February, 1976) from passing the typewriting test in the office of the University Grants Commission for purposes of drawing annual increments, if otherwise admissible, as well as for confirmation in the grade.

LIST OF THE CANDIDATES SELECTED UNDER
THE NATIONAL ASSOCIATESHIP SCHEME OF
THE RECOMMENDATIONS OF THE SUBJECT
PANELS

<u>S.N.</u>	<u>Name</u>	<u>University/Institution</u>
<u>GEOLOGY</u>		
1.	Sh. Ram Pravesh Singh	Ranchi University
2.	Sh. Braham Prakash	Roorkee University
3.	Sh. Shiv Nandan Pande	Saugar University
<u>PHYSICS</u>		
4.	Shri Das Kartik Chandra	Calcutta University
5.	Sri V. Unnikrishnan Nayar	Cochin University
6.	Sri Suhendu Rai Chowdhary	Delhi University
7.	Sri Nagpal Om Prakash	Delhi University
8.	Sri Radhey Shyam Tripathi	G.B. Pant University
9.	Sri Sambu Krishna Iyer	Madurai University
10.	Sh. Kohli Jatinder Mohan	Panjab University
11.	Sri Sunil Kumar David	Poona University
12.	Sri Harsh Vardhan Tiwary	Ravi Shankar University
13.	Sri Somyaijulu Duwuri	Udaipur University
14.	Sri S.N. Gupta	Vikram University
15.	Sri Paramananda Mahanta	Dibrugarh University
16.	Sri Atowar Rahman	Gauhati University
<u>LINGUISTICS</u>		
17.	Sh. N. Shantilal Mehta (Gujarati)	Nootan Mahila College, Bombay.
18.	Sh. Gur Prasad Srivastava (Linguistics)	Ravi Shankar University
<u>POLITICAL SCIENCE</u>		
19.	Sh. Shuk Deva Nanda	Berhampur University
20.	Sh. Gopal Singh	H.P. University
21.	Dr. H.A.S. Jafri	Aligarh Muslim University
<u>PHILOSOPHY</u>		
22.	Dr. M.P. Marathe	Poona University

Annexure to Item No.2(a)(3)

Details of proposals approved under the scheme of
Support for advanced research in the Humanities &
Social Sciences for the second award during 1975-76

Name of Investigator	Title of Project	Total amount approved
1.	2.	3.
<u>Subject: Sociology & Social Anthropology</u>		
1. Dr. A. Sharma, Reader, Delhi University.	'Study on sizing with parti- cular reference to the uniforms and foot-wear used by the Defence Forces of India (2 years).	59,600
2. Sh. Sheikh Shabbir, Lecturer, Nagpur University.	Muslims of Berar & Family Planning (2 years).	4,500
3. Sh. J. Radha Krishna, Lecturer, Andhra University.	'Social mobility among the Brahmins of Andhra Pradesh	6,600
4. Sh. G.D. Kabra, Lecturer, Vidyabhawan Rural Institute, Udaipur.	Towards a synergistic and catalyst induced approach for micro-regional development in a group of villages near Udaipur in Rajasthan (1 Year)	17,930
5. Sh. Y.S. Bhadauria, Lecturer, Narain (P.G.) College, Shiknohabad.	A Sociological Study of 'History Sheeters'.	5,900
6. Dr. Ram Ahuja, Reader & Head, Sociology Department, Rajasthan University.	'The Prison System' (Effecti- veness and the effects of the prison system a sociological analysis).	5,100
<u>Total: 99,630</u>		

Subject: Psychology

1. Dr.(Mrs.) G.B. Mohanty Reader & Head, Ravenshaw College, Cuttack.	A study on the effect of socio-economic status and academic achievement on the development of level of aspiration of children (2 years period)	5,000
2. Dr.B.N.Puhan, Reader, Utkal University.	The assessment of Psychometric invariance of WAIS across two different cultures (2 Years).	10,000 (one research assistance) 500 (Contingency)
<u>Total: 15,500</u>		

1.	2.	3. Rs
Subject: <u>Modern Indian Languages</u>		
Dr. C. Balsubramanian, Reader, Madras University.	Origin and development of literacy criticism in Tamil (3 years).	13,300
Subject: <u>History</u>		
Dr. R.G. Parikh, Reader, Saurashtra University.	An intex of Sources relating to the History of Six States of Saurashtra in the 18th & 19th Centuries (3 Years).	29,500
Dr.(Mrs.) Sarojini Shende, Elphinstone College, Bombay.	Editing and writing the critical introduction for 'The Dance-dramas of Tanjore'.	11,750
Dr. R.V. Joshi, Professor, Deccan College, Poona.	Studies on the Chemical analysis of archaeological sites (3 years).	76,500
Shri V.N. Misra, Reader & Head Poona University Deccan College.	Early Man and his Environment in Northwestern India, with special reference to the Luni Basin in Rajasthan (5 years).	97,000
Shri Amita Ray, Lecturer, Calcutta University.	Life and Art in early Andhradesu (1 year).	8,700
		<u>Total: 2,23,450</u>
Subject: <u>Linguistics:</u>		
Dr. T.G. Mainkar, Head, Bombay University.	Bibliography for Sanskrit Drama & Dramaturgy (3 years).	16,600
Dr. S. Venkitasubramonia Iyer, Professor & Head, Kerala University.	Dictionary of Natya Sastra (3 years).	32,000
Dr. Shantaram Ganesh Moghe, Lecturer, Elphinstone College, Bombay.	Mimamsa in the critical edition of the Sradhdha Sagara of Kullukabhata.	6,000
Prof. M.G. Dhadphale, Prof. & Head, Fergusson College, Poona.	Development of Pali Lexicography.	10,000
Prof. K.T. Pandurangi, Head, Bangalore University.	A critical education of Alankaramanidrapana of Venkamatya (2 years).	3,000

1.	2.	3.
20. Dr. K.K. Raja, Professor, Madras University.	Descriptive Catalogue of Manuscripts in Madras University Sanskrit Deptt. (2 years).	6,000
21. Dr. S. Agesthialingam, Professor, Annamalai University, Annamalainagar.	The social Differentiation and stratification of Tamil in Madras City (2 years).	15,000
Total:		88,600

Subject: Economics:

22. Dr. H.K. Manmohan Singh, Head, Department of Economics, Punjabi Univ.	Organisational behaviour. A comparative Study of Public and Private Sectors (2 to 3 years).	50,000
23. Dr. Bidyadhar Misra, Utkal University.	A study of the problems of marginal and small farmer. and the working of the small farmers development agency on the district of Gangam, Orissa (3 years).	50,000/
Total:		1,00,000

Subject: Philosophy

24. Dr. Mohd. Noor Nabi, Lecturer, Aligarh Muslim Univ.	A Comprehensive monograph on Ibn Rushd.	20,000
25. Sh. Nityanand Mishra, Professor, Bhagalpur University.	Indian Ethics. A study of the normative and Meta-ethical aspects of the Hindu Buddhish and Jaina Morals (3 years).	4,000
26. Dr. S.S. Barlingay, Professor, Poona University.	An account if completed and ongoing research in Philosophy in Indian Universities.	20,000
27. Dr. S.S. Bardingay, Professor, Poona University.	A study of the important concepts of Moral: Philosophy in Indian Philosophical thought (3 years).	14,000
28. Dr. Raghunath Giri, Head, Kashi Vidyapith.	Purusartha, its Genesis and Development in the Indian Tradition (3 years).	5,000
29. Dr. T.N. Ganapathy, Chief Prof. of Philosophy, Vivekananda College, Madras.	The Philosophy of the Tamil Siddharas.	3,000
Total:		66,000

1.	2.	3.
	Subject: <u>Teacher Education</u>	Rs
30. Dr.(Mrs.) Pratibha Rao, Professor & Head, Bombay University.	Effects of revaluation of the results of candidates appearing at the Universities Examinations".	54,000
31. Dr. V. Eswara Reddy, Head, Andhra University.	The Study of the Social situation of college and university teachers. An enquiry into the conditions of teaching profession in Higher Education.	92,400
32. Dr. A.W Oak, Reader, PVDI College of Education for Women, Bombay.	Content Analysis and Diag- nostic Tests in Algebra and Geometry for Std.VIII.	25,600
<u>Total:</u>		<u>1,72,000</u>

Annexure to Item No. 2(a)(4)

Proposals approved under the scheme of support for short term on Humanities & Social Sciences for the second award during 1975-76.

Name	Title of proposed work	Amount approved
1	2	3

Subject:- Sociology a Social Anthropology

1.	Sh. D.K. Bhattacharya Lecturer, Delhi University.	Palaeolithic and other evidences of Early Man in Western Rajasthan around Sojat.	Rs. 3,600/-
2.	Dr.(Mrs) Anuradha Utam Bhoite, Lecturer, Marathwada University.	A study of changing pattern of Socialization of girls in White Collar Middle class families.	Rs. 1,800/-
3.	Sh. A.V.Subbarao, Government College, Rajahmundry.	Culture and Society of the Gadabas of Andhra Pradesh.	Rs. 2,200/-
4.	Sh. Shantaram Raghunath Phal Centre of P.G. Instruction & Research Panaji, Goa.	Suicide in Goa - A Socio-Phychological Study.	Rs. 2,400/-
5.	Shri Gopal Yadav, S.C. College, Ballia.	Social background of poverty in Eastern U.P.	Rs. 5,000/-
6.	Shri A.K. Deb, Arya Vidyapith College, (Gauhati Univ)	A comparative study of the Anthropometric characters of the Hill and Plains Mikirs of Assam.	Rs. 2,249/-
7.	Sh. D.K. Baruna, M.C. College, Barpeta.	Social contours of a Vaisnavite Sastra Barpeta	Rs. 1,520/-
8.	Sh. P.K.Gupta Toofan Ganj College (North Bengal Univ).	Strotification and Religion in the Rabha Society of Tufanganj.	Rs. 5,000/-
9.	Sh. S.L. Jain, Govt. College, Karauli.	Rural elites and changing social structure.	Rs. 4,780/-

1	2	3
10.	Sh. Dilip Kumar Ray, Calcutta University	Genesis of Ethnology Museum in India and their role in the light of modern Museum Movements. Rs. 2,400/-
11.	Sh. George Koilparambil, St. Teresa's College, Ernakulam	Casteism in the Marriage Practices of the Christians in Kerala. Rs. 4,200/-
		Total Rs. 35,149/-

Subject:- Commerce

1.	Shri M.K. Gupta B.H.U.	Materials Management in Public Sector Enterprises A case study of a Gaint Public Sector unit. Rs. 4,750/- (should select three units of a specific industry only).
2.	Shri M.K. Ganju Andhra University	Industrial Relations in the Paper Industry of Andhra Pradesh. Rs. 4,250/-
3.	Shri V.R. Jujjuru Andhra University.	Marketing of Cotton- A case study of Andhra Pradesh. Rs. 5,000
4.	Shri V. Balamohanandas Andhra University	A study of development of ancillary industries of Visakhapatnam. Rs. 3,000
5.	Shri M.P. Agarwal Rajasthan University	Analysis of Financial Statements of Aluminium Industry in India Rs. 4,600/- (study should cover a period of 10 years)
6.	Shri S.N. Murti, S.V. University, Tirupati.	The cost structure of co-operative private cotton textile mills in Andhra Pradesh : A comparative Study. Rs. 4,500/- (should study at least three units)
7.	Shri K. Sashaiyah, S.V. University, Tirupati.	A study of the working of the lead bank scheme in Andhra Pradesh. Rs. 4,000/-
8.	Sh. B. Venkatramaiah S.V. University, Tirupati.	Operational efficiency of Sugar Mills in Andhra Pradesh : A Comparative study of co-operative and private sector. Rs. 4,800/-

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| 9. | Sh. B.P. Bhatnagar,
Udaipur University | Role of State in Industriali-
sation : A case study of
Rajasthan. | Rs. 4,800/- |
| 10. | Shri I.M. Pandey
Shri Ram College of
Commerce, Delhi | Cost Capital and Capital
Structure. | Rs. 3,500/- |
| 11. | Shri P.K. Jain
Shri Ram College of
Commerce, Delhi. | Unit Trusts - The Indian
Experience. | Rs. 3,900 |
| 12. | Shri G.P. Mishra,
Shivaji College,
New Delhi. | Financing of Small Industries
in the Union Territory of
Delhi. | Rs. 1,000 |
| 13. | Shri Abu Rahman
Mujibur Rahman JB
College, Jorhat
(Dibrugarh Univ.) | Agricultural Marketing in Assam | Rs. 3,500/- |
| 14. | Shri D.P. Girdhari
Balbhini Arts, Science
and Commerce College,
Bhir. | Survey and Study of Industrial
Organisation of Bhir District. | Rs. 5,000/-
(compilation and
training to be
limited to Rs. 1,300/- |
| 15. | Shri K.B. Kolhe
Dr. Ambedkar College,
Nagpur. | The impact of the agricultural
development on scheduled castes
and scheduled tribes in Bhandara
Distt. since Independence. | Rs. 5,000/- |
| 16. | Shri Pofaria,
M.Vasanji, Sat. J.J.
Khundlia College,
Nellore. | Management in selected small
scale industries in cities of
Saurashtra | Rs. 2,000
(no assistance for
training). |
| 17. | Shri D. Gopalkrishna
Murthy, V.E. College,
Rajkot. | Mica Industry in India (with
special reference to Andhra
Pradesh). | Rs. 2,500/- |
| 18. | Shri M. Rama Murthy,
Adoni Arts & Science
College, Adoni,
(SV Univ., Tirupati) | Marketing of Cotton in Andhra
Pradesh. | Rs. 3,000/- |
| 19. | Sri S.A. Anwar
Satyawati Co-Ed College,
Timarpur,
(Delhi University) | Enlargement of the European
Economics Community and its
Impact on Indo-British Trade). | Rs. 4,800/- |

1	2	3	
20.	Shri D.S. Bothra, Madhav College, Ujjain.	Impact of Bank lending on weaker sections of the community	Rs. 1,750/-
21.	Shri D.P.M. Singh, B.H.U. (Transferred from Item No. 9)	Training and Motivation to work of Graduate Engineers in N.S.L. & Bokaro Steel Ltd.	Rs. 4,850/-
22.	Sri Dayashankar Mishra B.H.U. (Transferred from Item No. 9)	Manpower Management in Public and Private Sector Undertakings of Mirzapur Complexity.	Rs. 3,800/-
Total			Rs. 85,300

Subject:- English

1.	Shri Dependu Chakrabarti Lecturer, Calcutta University	An Anatomy of Matthew Arnold's Melancholy.	Rs. 2,000/-
2.	Dr. Harsharan Singh, Reader, Guru Nanak University.	English Theatre in India.	Rs. 2,800/-
3.	Sh. N. Ramachandran, Nair, 33 years., Lecturer, Farook College, Calicut University.	A critical study of the Thematic anticipations of the later Hemingway as seen in his early writings.	Rs. 1,440/-
4.	Shri Gostha Bhari Sen, 42 years, Head, Narajole Raj College, Calcutta University.	Influence of Shakespeare on Bengali drama stage.	Rs. 600/-
5.	Sh. Jogendra Nath, 36 yrs. Lecturer, Jawaharlal Nehru College, Gauhati University.	The Novels of Wyndham Lewis	Rs. 1,500/-
6.	Shri Lekhpati Lal, 38, years, Head D.C.S.K. Degree College, Azamgarh, Gorakhpur Univ.	A Sociological study of R.K. Narayan's Novels.	Rs. 600
7.	Mrs. Rathak Tila Urvirshbai, 42 years, Professor Shri H.K. Arts College, Ahmedabad, Gujarat University.	study of the Indo-Anglican Women Novelists.	Rs. 1,000/-

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| 3. | Dr. B.D. Sharma,
34 years, Lecturer,
S.S.V. College, Hapur,
Meerut University. | The Projection of the
Oriental Philosophies in
the 'Beat' writers. | Rs. 2,400/- |
| 9. | Shri V.V. Badve,
41 yrs, Lecturer,
Shivaji University. | A critical survey of Marathi
works translated to English -
1850 to 1975. | Rs. 1,800/- |
| 10. | Dr. S.K. Desai,
46 years, Head
Shivaji University. | An Anthology of significant
critical writings in English
by Indians. | Rs. 1,800/- |

Rs. 15,940

Subject:- Psychology

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| 1. | Dr. A.S. Dhaliwal,
Lecturer, Guru Nanak
University. | Effect of changes in study habits
on academic under achievement. | Rs. 2,000/- |
| 2. | Shri Md. Habibul Rahman
Khan, Lecturer,
Magadh University. | Development of religious identity
and prejudice in children. | Rs. 3,000/- |
| 3. | Smt. Pashpa Sinha,
Lecturer,
Patna University. | Determinants of conflict among
female teachers. | Rs. 3,000/- |
| 4. | Smt. A.H. Srivastava,
Lecturer, SD Andrews
College, Gorakhpur. | An experimental investigation of
some functional correlates of
religiosity. | Rs. 3,500/- |
| 5. | Dr. (Smt) C.H. Badani,
Lecturer, B.D. Arts
College, Ahmedabad. | A study of effects of pre-primary
education on the subsequent deve-
lopment of the personality of an
individual. | Rs. 2,000/- |
| 6. | Shri M.L. Gupta,
Lecturer, N.R.S. Govt.
College, Rohtak. | A study of personality adjustment
at different levels of general
intelligency creativity and socio-
economic status. | Rs. 3,000/- |
| 7. | Shri K.P. Krishna,
Lecturer, Gaya College,
Gaya. | Student Unrest: A Socio-Psycholo-
gical Analysis. | Rs. 2,000/- |
| 8. | Shri Arun Kumar,
Lecturer,
Jagjivan College,
Gaya. | A comparison of the Socio-Culturally
deprived and advantageous groups in
respect of some cognitive and perso-
nality variables. | Rs. 2,000/- |

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9.	Kun. Lata Rani, Lecturer, L.M. Degree College, Meerut.	Colour, Intensity and region in dermooptical Perception. Rs. 3,300/-
10.	Smt. Veena Mohan, Lecturer, IN Degree College, Meerut.	Angle-of-regard terrain cues and intensity of light as determinents of moon illusion. Rs. 3,300/-
11.	Sh. Vikrama Ditya Misra, Lecturer, Postgraduate College, Ghazipur.	A study of personality correlates of Criminal Behaviour. Rs. 3,000/-
12.	Shri R.A. Singh, Lecturer, Jagden College, Chapra.	Patterns of Academic Achievement as a function of parent-child relations. Rs. 2,000/-
13.	Dr. M. Loretta, St. Theresa's College, Ernakulam.	Frustration Reactions of Harijan Youth. Rs. 4,000/-
		Total Rs. 36,100/-

Subject:- Modern Indian Language

1.	Mrs. Santosh Mahajan Res. Sch. Punjab University.	Gurmukhi Lipi me Uplabdh Panjab ke Hindi Ram Kavya	Books & F.W.	Rs. 3,000/-
2.	Dr. Shriram K. Nagar Lecturer, S.P. University	Satvey Dashak ka Sanjnatnak Hindi Sahitya: Savandha Mul- ya aur asvad Kavita Kahani, Upanyas aur Natak ke paripasya mein.	Books and Journals & F.W.	Rs. 5,000/-
3.	Sh. M. Sivaprasada Rao A.M.A.L. College, Andhra University.	Influence of Poetry in Hindi & Telugu	Books	Rs. 1,000/-
4.	Shri M.E. Bichkande, Lecturer, SSN College, Karnatak	Hindi Our Kannad Ke Ranayan	Books	Rs. 1,000/-

- | 5. | Sh. K.R. Sharma,
Lecturer,
M.M. Degree College,
Meerut University | Madhyakalin Hindi
Bhagti Sahitya ke Soundharya
men hamad Bhagti parak
sahitya ke Aalochnatinek
Adhyan | Books &
F.W.
Rs. 1,000/- |
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| 6. | Dr. L.K.Sharma,
P.G. Head,
Dayanand College,
Ajmer. | Stylistics with reference
to various forms of Modern
Hindi literature. | Books
Rs. 1,000/- |
| 7. | Dr. Rabindra Nath
Banerjee
Lecturer,
Kalyani University | Mythological dramas
of East India (viz.
Bengal, Bihar, Orissa
and Assam) - Relation-
ship between them. | Books
Rs. 1,000/- |
| 8. | Shri Rabi Lochan De
Lecturer,
Anchuri M. Vidyalaya
& Jr. College,
(Burdwan Univ.) | The Regional folk
culture & the mysterious
castes and Tribes of the
Bankura - West Burdwan area. | F.W. etc.
Rs. 2,000/- |
| 9. | Shri R.R. Chatterjee,
Lecturer,
Gurudas College,
(Calcutta Univ.) | Sampratik Bangla Kabitar
Sabda O Alankar (Vocabulary
and Imagery of Modern
Bengali Verse). | Books &
Journals
Rs. 500/- |
| 10. | Shri Pratap Ranjan,
Hazra,
Lecturer,
Nabagram Hiralal Paul
Calcutta. | Adunik Bangla Upannasay
Samajik O Arthanati.
Provab 1930-1970. | Books
Rs. 1,000/- |
| 11. | Shri M.K. Ray,
A.D.P. College,
Nowgong
(Gauhati Univ.) | Socio Cultural Studies
as gleaned from the Ear-
liest Translations of the
Valmiki Ramayan in
Eastern Indian Languages. | Mss. &
Books
Rs. 1,000/- |
| 12. | Shri A.L. Pathak,
Lecturer,
S.S. College of
Education, Godhra
(Gujarat Univ.) | Mamubhai Pancholi Darshak | Books
Rs. 1,000/- |
| 13. | Shri V.R. Kushtagi,
Reader,
SSM College of Arts
and Science,
Shahabad
(Karnatak Univ.) | Basav and Purandar
Sahityak Mouilly Mapan. | Books
Rs. 1,000/- |

	1	2		3
14.	Dr. M. Leelavathy, Professor, Maharaja's College, Ernakulam, (Kerala University)	Archetypal Patterns in Indian Poetry.	Books	Rs. 1,000/-
15.	Shri Anil Gajbhiye, Lecturer, Govt. Arts & Commerce College Indore.	A critical survey of Dalit Literature	Books	1,000
16.	Shri B.V. Girdhari, Lecturer, R.N.C. Arts, JDE Commerce and NSC Science College, Nasik Road, (Poona Univ.)	Modern Marathi Literature based on Mahabharat.	Books	1,000
17.	Shri S.G. Yadav Lecturer, A.S.C. College, Ichalakaranji (Shivaji Univ.)	Adhunik Marathi Panch Kaviyon	Books	1,000
18.	Dr. Basudeva Sahu Lecturer, Utkal University	Oriya Sahitya Shree jagannatha (Shree jagannatha in Oriya Literature).	Books & F.W.	2,000
19.	Sh. Niladri Bhusan Harichandan, Lecturer, Visva Bharati.	Odia Aithihasik Natak	Books	1,000/-
20.	Sh. V. Lakshmana Reddy, Lecturer, V.K.R. College, Buddhavaram (Andhra Univ.)	Telugu Journalism and Evolution of Language.	Books & Journals	1,000/-
21.	Dr. H. Siva Kumar, Lecturer, Arts & Science College, Warangal (Osmania Univ.)	Literary Service Rendered in Gadwal Samsthanam	Books & F.W.	1800/-
22.	Sh. E. Sundara Moorthy, Lecturer, Madras Univ.	Anthropological studies in Tamil Literature.	Books	2,000/-

	1	2		3
23.	Sh. E.G. Baskara Dass Asstt. Prof. P.S.G. Arts College, Coimbatore (Madras Univ.)	A study of Lady Companion in Cankam Poems.	Books	500/-
24.	Shri K.R. Muthiah, Asstt. Prof. S.S.A. College, Devakottai (Madurai Univ.)	Characterization in Jeyakanthan's Novels.	Books	1,000/-
25.	Sh. Mohammad Musa Khan, Ratan Sen Degree College, Bansi, (Gorakhpur Univ.)	Ghalib Ki Urdu Nasar Nigari.	Books	1,000/-
26.	Dr. T.R. Bhat, Res. Assistant, Karnatak University	Psycho-stylistic study of Hindi Poetry of Pragativad.	Books	1,000/-
27.	Sh. D.N. Dear Dubey Asstt. Prof. A.V. College of Arts, Thana, (Bombay Univ.)	Goswami Tulsi Das Aur Samartea Guru Ramdas Ki Bakti Beavana Ka Tulana Milak Vivechana.	Books	500/-
28.	Dr. H.S. Harish, Sr. Lecturer, Government Degree College, Ajmer (Raj. Univ.)	Adikal Ka Hindi Jain Sahitya (950-1450 AD)	F.W. & Books	1,200/-
29.	Dr. Aslam Azad, Lecturer, Patna Univ.	Urdu Novel Since 1947 to 1967. Urdu Ghazal in Bihar.	Books	1,000/-
Total				Rs. <u>37,500</u>

Subject :- Law

Sh. G. Mohan Rao, Lecturer, Evening College of Law, Osmania Univ. Andhra Pradesh.	Concept of equality and Social change with special reference to Scheduled Castes and Scheduled Tribes in Andhra Pradesh.	Books & Field Work	Rs. 2,500/-
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1	2	3
	Subject:- <u>History</u>	Rs.
1.	Shri M.D. Sahi, Lecturer, Aligarh Muslim Univ.	Comparative Chronology of Iron age Culture in India. 2,400/-
2.	Dr. S. Amaresh Bandyopadhyay, Lecturer, Calcutta Univ.	Geographical Names from early Indian Coins. 900/-
3.	Shri Mange Ram, Lecturer, Gurukul Kangri Viswavidyalaya.	Ancient Republics of Haryana 3,000/-
4.	Dr. Indu Banga, Reader, Guru Nanak University.	The Sikh Ruling Classes 600/-
5.	Urmi Kessar, Lecturer, Panjab University.	Social contents in Modern Indian paintings. 600/-
6.	Miss. P. Goswamy, Lecturer, Panjab University	Catalogue Raisone of Gondha Sculpture in the Chandigarh Museum. 1,200/-
7.	Sumanta Niyogi Lecturer, Patna Univ.	The application of the concept of Trusteeship A study of the British Parliaments' Involvement with India in the 19th Century. 3,000/-
8.	Dr. K.C. Jena, Reader, Berhampur Univ.	Some aspects of Socio-Economic conditions of Orissa during the 19th Century. 1,200/- He may be advis to concentrate Oriya sources.
9.	Shri B.K. Verma Lecturer, Gopeshwar College, Hathwa. (Bihar University)	A History of Minor Industries in Bihar from 1783 to 1835. 3,500/-
10.	Sh. N.D. Banerji Lecturer, Vivekananda College Burdwan, (Burdwan Univ.)	England and Persia 1798-1830 (A study in the Growth and development of Buffer concept). 4,200/-

1	2	3
		Rs.
11.	Sh. Ranajoy Roy, Lecturer, Lal Bada College, (Calcutta Univ.)	Medieval Architecture of Bengal A study of Hindu Muslim Culture Integration. 1,800/-
12.	Dr. Mehammed Kamuddin Reader Islamic History Deptt., College of Arts (Calcutta Univ.)	Allami Sedullah Khan's Political Administrative and Intellectual contributions to Shah Jehan's India. 3,000/-
13.	Dr. R.M. Saha, Assistant Prof. & Head, Taki Govt. College, Taki. (Calcutta Univ)	Growth of Population in the Sunderbans and modifications in the cultural landscape of the region. 1,100/-
14.	Dr. J.L. Sen, Lecturer, Taki Govt. College, (Calcutta Univ.)	Sikkim - A cultural Profile 2,400/-
15.	Sh. Byomkesh Banerjee Lecturer, New Alipore College, (Calcutta Univ.)	The Bengal famine of 1943 and its social impact. 2,400/-
16.	Sh. G.N. Ray, Lecturer, R.K. Mission Vidyamandira, Belur Math. (Calcutta Univ.)	A descriptive and analytical study of the Socio-cultural history of the city of Varanasi under British rule (from 1781 to 1857). 1,100/-
17.	Dr.P.N. Banerjee, Head of the Deptt. S.A.Jaipuria College, (Calcutta Univ.)	Indian Law Officers (1772-1813) 2,400/-
18.	Dr. D.R. Das Lecturer Calcutta Univ.	Secular Architecture of Eastern India. 2,400/-
19.	Sh. Sujit Choudhury Lecturer, Rabindra Sadan Girls' College, Karimganj, (Gauhati Univ.)	A study of the Folk Religion of the Bengalee Hindus of Cachar. 3,000/-
20.	Sh. O.K. Singh, Lecturer, D.M. College Imphal, (Gauhati Univ.)	An Archaeological investigation into an early Civilisation at Kamenge, Manipur. 5,000/-

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		Rs.
21.	Miss Archana, Chakravarty, Lecturer, Cachar College, Silchar (Gauhati Univ.)	History of Education in Assam 1919-1947. 1,200/-
22.	Shri S.C. Sharma, Lecturer, Jammu Govt. College, Poonch. (Jammu University)	The Punjab under Sia Michael o-Dwyer (1913-1919). 3,600/-
23.	Miss Sabita Das, Lecturer, Raghunath Girls College, Meerut. (Meerut University).	Jamini Roys' Paintings upto 1970. 1,200/-
24.	Sh. S.G. Changoji, Rao, Yeshwant Mahavidyalaya, (Marathwada Univ.)	A history of Marathwada Region. 3,000/-
25.	Sh. S.M. Nizamuddin Maghrebi, Urdu Arts College, Hyderabad. (Osmania University).	Indo-Turkish Relations during the time of Ottoman Empire (1450-1799), 3,600/-
26.	Sh. T.N. Srivastava, Lecturer, Govt. College, Kota. (Rajasthan Univ.)	Photographic survey of Monuments in Kota. 5,000/-
27.	Dr. G.C. Patnaik, Principal, Vyasnagar College, Jaipur Road, (Utkal University)	Archaeological Remains at Jaipur 3,600/-
28.	Mrs. Leela Omchery, Delhi University.	Ganga Raga Panchaka's and the Karnatak Musical Forms. 1,800/-
29.	Sh. Swapan Basu, Lecturer, Krishnagar College, Nadia. (Calcutta Univ.)	"SATI" 1,000/-
30.	Dr. K. Manicodi, Lecturer, Bhopal University	Vidisha in Tradition and Archaeology. 5,000/-
31.	Dr. Asiva Kumar Chatterjee Lecturer, Calcutta Univ.	Early Jainism 5,000/-
		Total <u>79,200/-</u>

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Rs.

Subject:- Linguistics

1. Dr. Syed Entisham, Ahmad Nadvi, 37 years, Head, Calicut University. Development of Arabic Institutions. 5,000/- (Books, F.W. and Questionnaire)
2. Sh. J.S. Paar, 40 years, Sr. Res. Fellow, Punjabi University. A grammatical study of time and tense in Punjabi. 4,000/- (Books & Data collection)
3. Smt. Shail Kumari, Dubey, 36½ years, Lecturer, Jawaharlal Nehru College, Pasighat, (Gauhati Univ.). A Linguistic study of Minyong dialect of Arunachal. 2,000/- (Books & Data collection)
4. Km. Usha Singh, 24 years, Lecturer, R.M.G. Degree College, Faizabad (Auodh University). Kavya Gunon Ka Tulnatmak Adhyyan 800/- (Books)
5. Dr. Mohd. Israil Khan, 37 years, Lecturer, M.M.H. College, Ghaziabad (Meerut University). Impact of Bharata on Sanskrit Drama. 2,000/- (Books)
6. Sh. R.P. Dubey, Lecturer, Ranchi University. Growth of Sanskrit Literature in South Bihar - Ist to 1950. 3,000/- (Books and F.W.)
7. Dr. Mohd. Share-E-Alam, 31 years, Lecturer, B.N. College, (Patna University). Persian Literature produced in Bihar A source of Socio-Historical study. 3,000/- (Books and F.W.)
8. Sh. Purna Chandra Theydam, 31 years, Asstt. Prof. Jawaharlal Nehru University. A descriptive study of Manipuri 2,500/- (Books and F.W.)
9. Sh. N. Madhavan Nampocthiri, 32 yrs. Lecturer, Govt. Arts & Sc. College, Calicut (Calicut University) A study of place Naves in the Calicut Districts. 3,000/- (Books & F.W.)

1	2	3
10.	Sh. B.S. Malhotra, 39, years., Lecturer, S.D. College, Hoshiarpur (Punjab University).	Phonology of Kasauli Hills Dialects. 3,000/- (Books, F.W. Construction work and Questionnaire)
11.	Dr. Ram Kant Shukla, Lecturer, Rajdhani College, New Delhi.	Ravisenkrit Padpuran (Padchrit) ki Sabdavali ka Parislin. 4,000/-
12.	Prof. J.J. Trevedi, Lecturer, Samaldar Arts College, Bhavnagar.	An analytical study of syntax in Hindi & Gujarat (T.G. Grammer Method) (1 year). 1,650/-
13.	Sh. P. Sinha Ray Head of the Deptt. Calcutta University.	The survey of the various dialects of West Bengal 4,000/-
		Total <u>37,950/-</u>

Subject:- Pol. Science

1.	Sh. R.S. Markhandikar, Marthawada.	Law Politics and social Change. Books 2,000 F.W 2,000 <u>4,000</u>
2.	Sh. Murlidhar Dharam- dasani, Jaipur.	Nepal and the Super Power. F.W. 2,000 Sec.Asst. 1,000 Books & Journals 1,000 <u>4,000</u>
3.	Sh. P.G. Deviprasad, Lecturer, South Gujarat Univ.	Relations between Gener- alists and Specialists Officers in Development Administration. F.W. 1,000 Computer 1,000 printing of the questionn- aire 500 <u>2,500</u>
4.	Sh. S.P.C. Chakraborti Lecturer, Navadwipvidya Sagar College, Navadwip (Calcutta University)	Question Hour in the Lok Sabha. F.W. 1,000 Ptg. of Quest. 500 Data Processing 500 <u>2,000</u>

1	2	3
		Rs.
5.	Sh. S.K. Gupta Political change and the Muslims & Microstudy in the Distt. of Murshidabad since Independence.	F.W. 1,600 Printing of Quest. Books & Journals 1,000 <u>1,000</u> 3,600
6.	Sh. A.S. Mishra Indo-pakistani Conflict and the British Policy (1947-66)	Books & Journals 1,500 Contingency <u>1,500</u> 1,500
7.	Sh. Harmir Singh Role of Akali party in Panjab Politics (1960-1970)	F.W. 1,000 Questionnaire 500 Books & Journals . 500 <u>2,000</u> 2,000
8.	Sh. P.N. Krishnan Employee Unrest in the selected Industries in the Industrial Belt of Alwaye.	Printing of Questionnaire 500 F.W. 1,500 Data processing 1,000 <u>3,000</u> 3,000
9.	Mrs. Rashmi Panwar Politics of Kumaon	Books & Journals 1,000 F.W. and data processing 3,000 <u>4,000</u> 4,000
10.	Sh. N.K. Rastogi Communist parties and Indian Foreign Policy (1964-73)	Books & Journals 2,000 F.Work 1,000 <u>3,000</u> 3,000

(Shri Rastogi is advised that he should clearly formulate the difference between C.P.I. and C.P.M. lines on the subject and should confine his studies only to two major political parties).

1	2	3	Rs.
11.	Sh. R.S. Singh	Party politics and Foreign Policy: A study of the Attitude of the Bharatiya Jan Sangh.	Books 1,000 F.W. 1,500 <u>2,500</u>
12.	Sh. S.A. Ansari	Indo-Soviet Treaty: A Critical Analysis.	Books & Journals 1,000/- <u>1,000</u>
13.	Sh. Purendu Guha	Dynamics of Socio-Political Leadership in the Hill Division of West Bengal.	Books 1,000 F.W. 1,000 <u>2,000</u>
14.	Mrs. Tripatjit Jain	Social & Political thought of Shri Pheroze Shah Mehta	Books 1,000 F.W. 2,000 <u>3,000</u>
15.	Sh. M.L. Sharma	Tribal Politics in Rajasthan	F.W. 2,000 Questionnaire ptg. 500 Books and Journals 500 <u>3,000</u>
16.	Sh. V.K. Sharma	Nayaya Panchayats in Rajasthan A case study in the context of Ajmer.	Books & Journals 500 F.W. 1,000 <u>1,500</u>
17.	Sh. Manaranjan Acharya	Integration of Native State of Orissa.	Books & Journals 1,000 F.W. 1,000 Printing of Questionnaire 500 <u>2,500</u>

(As far as proposal of Shri Manaranjan Acharya is concerned he is advised to reformulate it in consultation with Professor Manaranjan Jha of Banaras Hindu University and after he has cleared it the grant may be made to him).

1	2	3
18. Sh. K.L. Sharma	The Political Ideas of G.D.H. Cole	Books and Journals 1,500 Micro-filming 500 <u>2,000</u>
19. Dr. A.H. Doctor	J.P.'s Policy : An Unworkable Utopia	Books & Journals 1,500
20. Sh. Om Parkash Bakshi	The Decline of Political Theory Debate ; An inquiry into the State of Pol. Theory in 1950's and 1960's.	Books and Journals 2,000 Micro-filming of research material 1,000 Travel 500 <u>3,500</u>
Total		<u>52,100</u>

Subject : Economics

1. Sh. D.C. Chakraborty, Jadavpur University	International comparison of the Economic structure of ECAFE Region.	3,600
2. Sh. Khurshid Ali, Lecturer, Kashmir University	Financial Management in Public Section Undertakings in the State of Jammu and Kashmir with special reference to Silk Industry.	600
3. Sh. K. Kalirajan, Madurai Univ.	Food Supply in India - A Nutritional Approach.	3,600
4. Sh. M.V. Sachitanam- dam, Reader, Madurai University.	An Analytical Study of Economic Development of Tamil Nadu.	3,000
5. Sh. S.S. Gill Instructor, Punjab Univ.	Indo-Soviet Economic relations since 1953.	3,000
6. Sh. J.R. Gupta, Research Officer Punjab University	Incidence of Direct and indirect taxes on the agricultural and non- agricultural sectors in Punjab.	1,000
7. Sh. V.I. Galgalikar Associate Prof. Punjabrao Krishi Vidyapeeth, Akola.	Critical assessment of impact of post independence economics development of a remote village in Vidarbha.	2,000

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		Rs.
3.	Sh. D.D. Roy, Lecturer, Rabindra Bharati Univ.	Reorganisation of Rural credit in West Bengal through co-operative institutions during the plan period. 1,500/-
9.	Sh. K.S. Krishna Head, AMAL College Anakapalle (Andhra Univ.)	A Profile of urban Poverty-case study of Anakapalle Town. 3,000
10.	Sh. T.H. Rao, Lecturer, Anakapalle (Andhra University)	Impact and influence of the Anakapalle Jaggery market of the farm economy. 1,000
11.	Sh. R.C. Lavania, Lecturer, Narain College, Shikohabad.	Capital Productivity in Agriculture 3,500/-
12.	Dr. J.B. Ganguli, Reader, MMB College, Agartala.	Prospects for integrated development of India's North-Eastern Region. 600/-
13.	Sh. P.R. Bhattacharjee Sr. Lecturer, MBB College, Agartala.	Significance of income-leakage in an expert-base model of regional growth (A case study of Tripura) 2,500/-
14.	Dr. G.K. Kutty, Prof. & Head FRNSS College Mattanur.	The Economics of small holdings in India with special reference to Kerala. 3,000/-
15.	Km. Meena Gupta Lecturer, Paulat Ram College, Delhi.	Performance of fertilizer industry An inter firm comparison. 5,000/-
16.	Sh. B.R. Choudhury, Lecturer, G.C. College, Silchar	Socio-economic problems of Cachar since partition. 3,000/-
17.	Sh. J.S. Chawla, Lecturer, Khalsa College, Amritsar.	Direct taxation of agricultural land in Punjab. 2,500
18.	Sh. Thomas Johan Lecturer, St. Peter's College Kolenchery.	Employee Welfare in the selected industries in the industrial belt of Kerala. - 2,000/-

1	2	3
		Rs.
19.	Sh. P.D. Agarwal, Lecturer, SSV P.G. College, Hapur.	Agricultural financing through Nationalised Commercial Banks in Meerut Distt. 1,000/-
20.	Sh. D.V. Jahagirdar, Lecturer, Vidarbha Mahavidyalaya Amravati.	Economics of Newspaper Industry in Vidarbha since 1960. 2,400/-
21.	Sh. S. Chowdhury, Lecturer, Serchhip College, Mizoram (NEHU)	Economic development of Mizoram. 2,500/-
22.	Shri P. Ramaiah, Lecturer, OKM College, Warangal.	A Techno-Economic study of a Village sub. Economy. 2,000/-
23.	Sh. B.H. Joshi, Prof. & Head Shree KO Shah Arts & Commerce College, Dhoraji.	Significance of the new strategy of agricultural development for small & big farmers. 2,500/-
24.	Sh. K.M. Desai, Sr. Lecturer, SB Garda College (Arts) & P.K. Patel College of Commerce, Navsari.	Diamond Cutting and Polishing Industry. 1,500/-
25.	Sh. Tayyab Kasim Mulani, Lecturer, Y.C. Mahavidyalaya Karmala (Shivaji Univ.)	Famines in Sholapur district 2,000/-
26.	Sh. Yogeshwar Sharma, Lecturer, Government College, Kota (Raj. University)	Water Management in Chambal Command Area, Kota, Rajasthan 1,500/-
27.	Sh. A.H. Zaidi, Lecturer, Dayal Singh College, Delhi.	Costs and returns in Banking in India. 2,000/-
Total		61,800

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RS.

Subject:- Philosophy

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|-----|--------------------------------|---|--|
| 1. | Dr. K.B. Ramakrishna Rao | Existensialism of the Bhagavadgita. | Rs. 500/- |
| 2. | Dr. Bijavananda Kar | The logical Foundations of the Integral Philosophy of Sri Aurobindo. | Rs. 700/- for travel and
Rs. 1800/- for books & Journals
Total Rs. 2,500/- |
| 3. | Sh. Samari Kanta Samanta | The Philosophy of Maurice Merleau Ponty - A critical Review. | Rs. 2,000/- for books & Journals. |
| 4. | Sh. Madan Mohan Das | Educational thoughts and experiments of Dewey and Gandhi A study in comparison | Rs. 2,000/- for books & Journals
Rs. 250/- for travel
Total Rs. 2,250/- |
| 5. | Dr. Pinaki Ranjan Bhattacharya | Pragmatism - its relevance to Logical Positivism. | Rs. 2,000/- for books & Journals |
| 6. | Sh. Rachappa Irappa Ingalalli | Concept of Sabda in Indian Philosophy. | Rs. 1,500/- for books & Journals
Rs. 500/- for travel
total Rs. 2,000/- |
| 7. | Sh. Shree Kant Jha | Critical Study of Bertrand Russell's Metaphysics. | Rs. 2,000/- for books & Journals
Rs. 500/- for travel
Total Rs. 2,500/- |
| 8. | Sh. Dharani Ranjan Satapathy. | The Doctrine or Maya in Advaita Vedanta - An Analytic Approach. | Rs. 1,000/- for Books & Journals |
| 9. | Sh. Durga Madhab Praharaj. | Logical Examination of the Matantysical foundations of conflicting cultural patterns Spiritualism, Meteralism and Humanism. | Rs. 1400/- for books & Journals
Rs. 500/- for travel
Total Rs. 2,000/- |
| 10. | Sh. P.P. Verma | An Appraisal of Jainism in Modern Perspectives. | Rs. 1,000/- |

Rs. 17,750/-

1	2	3
		Rs.
Subject:- <u>Teacher Education</u>		
1.	Shri Anjan Kumar Banerji Prof. & Head, Banaras Hindu University.	Farm Broadcasting Listening Habits in Eastern U.P. Rs. 2,000/-
2.	Dr. T.S. Rao, Reader, Banaras Hindu University.	Adjustment difficulties of Bilingual children. Rs. 1,500/-
3.	Miss Malvinder Ahuja, Lecturer, Himachal Pradesh University.	A study of effects of step- size, feed back and text anxiety on the performance in a Linear programme on chemical action prescribed as Hr./Sec. level. Rs. 5,000/-
4.	Shri Satya Kumar Dwivedi Jr. Lecturer, Himachal Pradesh University.	A study of the effect of pro- grammed material construction of six levels of cognitive domain on Retention. Rs. 5,000/-
5.	Miss Kiran Sumbali, Lecturer, Jammu University	A study of aggression among children and adolescents. Rs. 3,000/-
6.	Shri R.S. Trivedi & Dr. I.A. Vora, Principal & Lecturer, Sardar Patel Univ.	Preparation & try out of the language efficiency programme in English for Pre-Science and F.Y. Science students of Sardar Patel University. Rs. 5,000/-
7.	Shri Daya Shankar Vyas Assistant Professor, Udaipur University.	Effectiveness of Mass Medi in Dissemination of Farm Technology. Rs. 5,000/-
8.	Shri Hasi Bhattacharya, Lecturer, Maharani Kasiswari College, Calcutta (Calcutta University)	Study of the development & measurement of reasoning ability in the school children of classes VII & VIII of West Bengal. Rs. 3,500/-
9.	Shri Sarungbam Gunadhor Singh, Lecturer, The Moirang College, Manipur (Gauhati University)	The Role of family in Educational system of Nangkhia A Meitei village of Manipur. Rs. 5,000/-

			3 Rs.
10.	Shri Ramesh Chandra Gupta Lecturer, Government College of Education, Gwalior, (Jiwaji University).	Study of Professional Competency of Untrained and trained Science Teachers in selected H.S. Schools of M.P.	4,500/-
11.	Shri L.P. Gupta, Lecturer, N.R.E.C. College, Khurja, (Meerut Univ.)	A study of personal characteris- tics and academic achievement of scheduled castes and backward classes students of Meerut Univ.	4,500/-
12.	Shri G.R. Sharma, Lecturer, N.R.E.C. College, Khurja, (Meerut University).	A study of factors underlying adjustment problems of Pro- fessional and Non-Professional College students.	5,000/-
13.	Shri G.C. Pachauri, Lecturer, J.V.Jain College, Saharanpur (Meerut University).	A study of the relative effective- ness of different styles of programmed learning in Hindi Grammar.	5,000/-
14.	Shri K.K. Sharma, Lecturer, DAV College of Education Abohar (Panjab University)	The effect of different types of feedback upon the attainment of teaching skills relating to stimulus variation among teachers.	3,500/-
15.	Shri D.N. Misra, Lecturer, Basic Teachers Trg. College, Sardarshahr (Rajasthan University).	Pre-Adolescents creative potenti- ality in Art and its relationships with personality and intelligence.	3,550/-
16.	Shri S.B. Mohanty, Lecturer, Govt. Training College, Sambalpur. (Sambalpur University).	An evaluation into the Unicef Aided Project for improvement of Science Education at the Middle Class Stage.	5,000/-
17.	Dr. N.M. Upadhyay, Sr. Tutor, Govt. College, Mandi (Himachal Pradesh University).	Effect of dialects on learning and expression of standarised Hindi at Primary, Secondary School, College Journalistic & Writers levels with special reference to Dialects of Mandi District of Himachal Pradesh.	5,000/-

1	2	3
		Rs.
18. Sh.N.C. Varshney, Lecturer, MB Degree College, Haldwani (Nainital) (Kumaon University)	The organisational climate of different types of schools and reactions to frustrating school situations among adole- scent Boys studying in these schools.	5,000/-
19. Shri M.L. Makhija, Lecturer, Lokmanya Tilak Teachers College, Dabok (Udaipur Univ.)	Locational study of Educational Institutions of Udaipur District - An interdisciplinary approach.	2,800/-
20. Shri C.L. Kabu, Lecturer, Govt. College of Education, Jammu.	A psychological Analysis of the Mathematically gifted at the secondary and higher level of education.	5,000/-
		83,850

Annexure to Item No. 2(a)(6)

List of Minor Research Projects in AGRICULTURE
approved by the Selection Committee.

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AGRICULTURE : UNIVERSITIES.

S.No.	Code No.	Name & Designation/ University	Title of the project.	Details of Grants approved.
1	2	3	4	5
1.	6416	Dr. D.A. Rane, Head, Deptt. of Horticulture, Marathwada Univ. Parbhani.	Studies to increase balling acid ratio by using growth regulators like racuza and improved cultivation practices II. Manufacture of Table wines from different varieties of grapes.	Materials & Chemicals Rs.1,000 Books Rs. 500 Total Rs.1,500
2.	6417	Shri K.T. Subbaraja, Asstt. Prof. Ag. College & Res. Instt. Coimbatore.	Studies on the leaf spot disease of turmeric caused by Collectotrichum capsici.	Books Rs. 500 Glassware & equipment Rs.1,000 Chemicals Rs. 500 Field work Rs. 500 Total Rs.2,500
3.	6418	Shri C.S. Bala Sundaram, Asso. Prof. Ag. College & Research Instt., Coimbatore.	Soil testing	Books Rs. 500 Field work Rs. 500 Computations Rs. 500 Total Rs.1,500
(COLLEGES)				
4.	6419	Dr. D. Singh, & Shri H.G. Sharma & Sh. K.N. Bansal, College of Ag., Gwalior.	Studies on sulphur in Alluvial soil of M.P.	Chemicals Rs.1,000 Glassware Rs. 500 Misc. Rs. 500 Total Rs.2,000
5.	6420 62x	Shri R.N. Verma, Asstt. Prof. College of Ag. Parbhani, Marathwada Ag. Univ.	Studies in the standard commercial seed produc- tion of some vegetable crops as influenced by plant density and their storage.	Chemicals & Equipment Rs.1,000 Books 0 Total Rs.1,000
6.	6421	Dr. P. Methinam, Asstt. Prof. Ag. College & Res. Instt., Coimbatore.	Studies on the efficiency of herbicides for weed control in cotton under certain soil applied chemicals.	Chemicals Rs.1,000 Books etc. Rs. 500 Travel Rs. 500 Total Rs.2,000

1	2	3
		Rs.
Subject:- <u>Teacher Education</u>		
1.	Shri Anjan Kumar Banerji Prof. & Head, Banaras Hindu University.	Farm Broadcasting Listening Habits in Eastern U.P. Rs. 2,000/-
2.	Dr. T.S. Rao, Reader, Banaras Hindu University.	Adjustment difficulties of Bilingual children. Rs. 1,500/-
3.	Miss Malvinder Ahuja, Lecturer, Himachal Pradesh University.	A study of effects of step- size, feed back and text anxiety on the performance in a Linear programme on chemical action prescribed as Hr./Sec. level. Rs. 5,000/-
4.	Shri Satya Kumar Dwivedi Jr. Lecturer, Himachal Pradesh University.	A study of the effect of pro- grammed material construction of six levels of cognitive domain on Retention. Rs. 5,000/-
5.	Miss Kiran Sumbali, Lecturer, Jammu University	A study of aggression among children and adolescents. Rs. 3,000/-
6.	Shri R.S. Trivedi & Dr. I.A. Vora, Principal & Lecturer, Sardar Patel Univ.	Preparation & try out of the language efficiency programme in English for Pre-Science and F.Y. Science students of Sardar Patel University. Rs. 5,000/-
7.	Shri Daya Shankar Vyas Assistant Professor, Udaipur University.	Effectiveness of Mass Medi in Dissemination of Farm Technology. Rs. 5,000/-
8.	Shri Hasi Bhattacharya, Lecturer, Maharani Kasiswari College, Calcutta (Calcutta University)	Study of the development & measurement of reasoning ability in the school children of classes VII & VIII of West Bengal. Rs. 3,500/-
9.	Shri Sarungbam Gunadhor Singh, Lecturer, The Moirang College, Manipur (Gauhati University)	The Role of family in Educational system of Nangikha A Meitei village of Manipur. Rs. 5,000/-

			3 Ps.
10.	Shri Ramesh Chandra Gupta Lecturer, Government College of Education, Gwalior, (Jiwaji University).	Study of Professional Competency of Untrained and trained Science Teachers in selected H.S. Schools of M.P.	4,500/-
11.	Shri L.P. Gupta, Lecturer, N.R.E.C. College, Khurja, (Meerut Univ.)	A study of personal characteris- tics and academic achievement of scheduled castes and backward classes students of Meerut Univ.	4,500/-
12.	Shri G.R. Sharma, Lecturer, N.R.E.C. College, Khurja, (Meerut University).	A study of factors underlying adjustment problems of Pro- fessional and Non-Professional College students.	5,000/-
13.	Shri G.C. Pachauri, Lecturer, J.V.Jain College, Saharanpur (Meerut University).	A study of the relative effective- ness of different styles of programmed learning in Hindi Grammar.	5,000/-
14.	Shri K.K. Sharma, Lecturer, DAV College of Education Abohar (Panjab University)	The effect of different types of feedback upon the attainment of teaching skills relating to stimulus variation among teachers.	3,500/-
15.	Shri D.N. Misra, Lecturer, Basic Teachers Trg. College, Sardarshahr (Rajasthan University).	Pre-Adolescents creative potenti- ality in Art and its relationships with personality and intelligence.	3,550/-
16.	Shri S.B. Mohanty, Lecturer, Govt. Training College, Sambalpur. (Sambalpur University).	An evaluation into the Unicef Aided Project for improvement of Science Education at the Middle Class Stage.	5,000/-
17.	Dr. N.M. Upadhyay, Sr. Tutor, Govt. College, Mandi (Himachal Pradesh University).	Effect of dialects on learning and expression of standarised Hindi at Primary, Secondary School, College Journalistic & Writers levels with special reference to Dialects of Mandi District of Himachal Pradesh.	5,000/-

1	2	3
18. Sh.N.C. Varshney, Lecturer, MB Degree College, Haldwani (Nainital) (Kumaun University)	The organisational climate of different types of schools and reactions to frustrating school situations among adole- scent Boys studying in these schools.	5,000/-
19. Shri M.L. Makhija, Lecturer, Lokmanya Tilak Teachers College, Dabok (Udaipur Univ.)	Locational study of Educational Institutions of Udaipur District - An interdisciplinary approach.	2,800/-
20. Shri C.L. Kabu, Lecturer, Govt. College of Education, Jammu.	A psychological Analysis of the Mathematically gifted at the secondary and higher level of education.	5,000/-
		83,850

Annexure to Item No. 2(a)(6)

List of Minor Research Projects in AGRICULTURE
approved by the Selection Committee.

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AGRICULTURE : UNIVERSITIES.

S.No.	Code No.	Name & Designation/ University	Title of the project.	Details of Grants approved.
1	2	3	4	5.
1.	6416	Dr. D.A. Kane, Head, Deptt. of Horticulture, Marathwada Univ. Parbhani.	Studies to increase balling acid ratio by using growth regulators like racuza and improved cultivation practices II. Manufacture of Table wines from different varieties of grapes.	Materials & Chemicals Rs.1,000 Books Rs. 500 Total Rs.1,500
2.	6417	Shri K.T. Subbaraja, Asstt. Prof. Ag. College & Res. Instt. Coimbatore.	Studies on the leaf spot disease of turmeric caused by Collectotrichum capsici.	Books Rs. 500 Glassware & equipment Rs.1,000 Chemicals Rs. 500 Field work Rs. 500 Total Rs.2,500
3.	6418	Shri C.S. Bala Sundaram, Asso. Prof. Ag. College & Research Instt., Coimbatore.	Soil testing	Books Rs. 500 Field work Rs. 500 Computations Rs. 500 Total Rs.1,500
(COLLEGES)				
4.	6419	Dr. D. Singh, & Shri H.G. Sharma & Sh. K.N. Bansal, College of Ag., Gwalior.	Studies on sulphur in Alluvial soil of M.P.	Chemicals Rs.1,000 Glassware Rs. 500 Misc. Rs. 500 Total Rs.2,000
5.	6420 62x	Shri R.N. Verma, Asstt. Prof. College of Ag. Parbhani, Marathwada Ag. Univ.	Studies in the standard commercial seed produc- tion of some vegetable crops as influenced by plant density and their storage.	Chemicals & Equipment Rs.1,000 Books Total Rs.1,000
6.	6421	Dr. P. Methinam, Asstt. Prof. Ag. College & Res. Instt., Coimbatore.	Studies on the efficiency of herbicides for weed control in cotton under certain soil applied chemicals.	Chemicals Rs.1,000 Books etc. Rs. 500 Travel Rs. 500 Total Rs.2,000

Anthropology :

1.	2.	3.	4.	5.
1.	6500	Dr. A.C. Tripathy, Lect., Deptt., of Anthro- pology, Utkal Univ. Bhubaneswar	Palaeanthropology- cal relic of Bhubaneswar Orissa.	Fieldwork - Rs. 2,500 Computation - Rs. 1,000 Contg. - Rs. 500 Total - Rs. 4,000
2.	6501	Dr. (Mr.) Usha Deka, Reader, Deptt. of Anthropology, Utkal Univ., Bhubaneswar	Genetic and eco- logical implications in Physical development.	Chemicals - Rs. 1,000 Misc. - Rs. 1,000 Total - Rs. 2,000
3.	6502	Sh. P.N. Sahu, Lect., Deptt., of Anthropology, Khallikote College, Behrampur.	Demogenetic study of the Mallias.	Fieldwork - Rs. 500 Eqpt. - Rs. 350 Chemicals - Rs. 2,500 Total - Rs. 3,350

Veterinary Science.

1.	6503	Dr. V.V. Ranade, Asstt. Prof., Bombay Vet. College, Bombay.	A study on blood cholinesterase levels in various breeds of dairy animals in India and the possible implication of this data in the Diagnosis of various diseases.	Eqpt. - Rs. 1,000 Chemicals - Rs. 1,000 Fieldwork - Rs. 1,000 Total - Rs. 3,000
2.	6504	Dr. P.S. Waghmare, Reader, Agricultural College, Marathwada Ag. Univ., Parbhani.	Studies on metabolic in the rumen of cow and buffalo under different feeding regime.	Chemicals - Rs. 1,000 Apparatus - Rs. 1,500 Total - Rs. 2,500
3.	6505	Sh. B.J. Jalna- purkar, Asstt. Prof. of Pathology, Bombay Vet. College Bombay.	Ontogeny of lymphoid tissue and its correlation to immunoglobulins in the buffaloes calves.	Chemicals - Rs. 1,000 Fieldwork - Rs. 2,000 Total - Rs. 2,000
4.	6506	Dr. A.S. Yadava, Asstt. Prof., Ranchi College of Vet. Sc., & A.H., Ranke, Ranchi.	Pharmacokinetics of some chemotherapeutic agents in Poultry.	Birds & feed - Rs. 1,500 Drugs - Rs. 200 Chemicals - Rs. 500 Contg. - Rs. 500 Total - Rs. 2,700

List of Minor Research Projects in BOTANY
approved by the selection Committee.

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BOTANY : UNIVERSITIES

B.No.	Code No.	Name & Designation/ university.	Title of the Project.	Details of Grant approved.
1.	2.	3.	4.	5.
6288		Dr. S.K. Saxena, Lecturer, Botany Deptt., A.M.U., Aligarh.	Studies on the plant-parasitic nematodes associated with the seedlings of forest trees.	Equipment Rs.1,000 Field work Rs.1,500 Books etc Rs.1,500 Misc. Rs.1,000 Total Rs.4,000
6289		Shri S.B. Lakshmanachary Lecturer, Annamalai University, Annamalainagar-1.	Grass land Eco- system in South Arcot Distt.	Books & Journals Rs. 500 Equipment Rs. 500 Chemicals Rs.1,000 Field work Rs.1,000 Total Rs.3,000
6290		Dr. C.B.S.R. Sharma, Lecturer in Botany, Barhampur Univ. Barhampur (Orissa)	Botanical studies on a rare earth & Monozite belt of Coastal South Orissa.	Field work Rs.1,000 Books Rs. 500 Contingency Rs.2,000 Total Rs.3,500
6291		Shri S.K. Varma, Lecturer, P.G. Deptt. of Botany, Bhagalpur Univ., Bhagalpur.	Studies on plant resources of Santhal Bargana	Field work Rs.2,000 Kit & Chemicals Rs.1,000 Books Rs. 500 Total Rs.3,500
6292		Shri J.V.V. Dogra, Lecturer, P.G. Deptt. of Botany, Bhagalpur Univ. Bhagalpur	Chemotaxonomy of centrospermae	Books Rs. 500 Chemicals Rs.1,000 Equipment Rs.1,000 Misc. Rs. 500 Field work Rs. 500 Total Rs.3,500
6293		Dr. S.C. Roy, Lecturer, Dept. of Botany, Calcutta University, Calcutta.	Studies on the structural changes in chromosomes through modern techniques to trace evolutionary trends in Lanun- culaceae.	Chemicals & glasswares Rs. 500 Travel etc. Rs. 500 Cultivation of materials Rs. 500 Total Rs.1,000

BOTANY UNIVERSITIES (CONTD)

1	2	3	4	5
7.	6294	Dr. Sumitra Sen Lecturer in Botany, Calcutta University, Calcutta.	Chemical basis of chromosomal control of differentiation	Films Rs. 500 Books & Journals Rs. 500 Paper & glassware & Chemicals Rs. 1,000 Total Rs. 2,000
8.	6295	Dr. P. Chatterjee, Lecturer, Deptt. of Botany, Univ. College of Science, Calcutta Univ. of Calcutta.	An investigation of possible causes of reproductive isolation within a few species complex of Charophyta.	Books & Papers etc. Rs. 500 Chemicals & glassware: Rs. 1,000 Field work Rs. 500 Total Rs. 2,000
9.	6296	Dr. R.N. Chaudhuri, Lecturer, Deptt. of Botany, Science Faculty, Calcutta University, Calcutta.	Biosystematics of aroids.	Glassware Rs. 1,000 Reprints Rs. 500 Travel Rs. 500 Total Rs. 2,000
10.	6297	Dr. Jose A. Mangly, Lecturer, Deptt. of Botany, Calicut Univ. Calicut.	Studies on Zingiberaceae in Kerala.	Field study & collection of research material Rs. 2,000 Total Rs. 2,000
11.	6298	Dr. C.M. Sarma, Lecturer, Agr. & Botany Deptt. Gauhati Univ. Gauhati.	Studies on the effects of growth and metabo- lism of isolated leaf-tissues.	Chemicals Rs. 2,000 Books Rs. 500 Total Rs. 2,500
12.	6299	Dr. R.D. Joshi, Reader, Gorakhpur Univ. Gorakhpur.	Inhibition of cucumber mosaic virus by some chemicals.	Chemicals Rs. 1,500 Contingency Rs. 500 Total Rs. 2,000

BOTANY : UNIVERSITIES (CONTD.)

1	2	3	4	5
13.	6300	Dr. C.P. Saxena, Lecturer in Botany, Univ. School of Sciences, Gujarat Univ. Amedabad.	Biochemical aspects of instant germination.	Chemicals Rs. 2,000 Glassware Rs. 500 Equipment Rs. 2,000 & Papers Reprints Rs. 500 Total Rs. 5,000
14	6301	Dr. A. Bohra, Lecturer in Botany, Jodhpur Univ. Jodhpur.	Studies on seed mycoflora of some eucurbita- ceous plants of Rajasthan	Field work Rs. 500 Chemicals Rs. 500 Glassware Rs. 500 Photography Rs. 500 Total Rs. 2,000
15.	6302	Dr. A.K. Singh Lecturer, Jodhpur Univ. Jodhpur.	Cytogenetic investigation in Tephrosia (L) Pers.	Chemicals & Glassware Rs. 1,000 Photography Rs. 500 Books etc Rs. 500 Travel Rs. 500 Total Rs. 2,500
16.	6303	Shri P. Gopinathai Nair, Lecturer, Deptt. of Botany, Kerala Univ. Trivandrum.	Studies on Coconut endosperm and pollen.	Field work Rs. 500 Contingency Rs. 500 Total Rs. 1,000
17.	6304	Dr. (Miss) M.A. Kshirsagar, Lecturer, M.S. Univ. of Baroda, Baroda.	Survey of ferns and their tissue cultures for the presence of anti- bacterial principles	Glassware Rs. 1,500 Chemicals Rs. 500 Field work Rs. 500 Total Rs. 2,500
18.	6305	Dr. A.B. Sapre, Lecturer, Univ. Deptt. of Botany, Marathwada Univ. Aurangabad.	Cytological studies in the Tribe aloineae.	Travel and Field work Rs. 1,000 Books and Microfilms Rs. 500 Chemicals Rs. 500 Contingen- cy Rs. 500 Total Rs. 2,500

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BOTANY : UNIVERSITIES (CONTD).

1	2	3	4	5
19	6306	Dr. L.R. Kulkarni, Reader Marathwada, Krishi Vidyapeeth, Parbhani (Maharashtra)	Physiological and agronomic study in gram (Cicer arien- tinum)	Field work Rs.1,000 Computations Rs. 500 Total Rs.1,500
20	6307	Dr. S.S. Kore, Associate Professor, Marathwada ag. Univ. Parbhani, (Maharashtra).	Studies on microbial parasites of insect pests.	Books Rs.500 Chemicals Rs.500 Apparatus Rs.500 Fieldwork Rs.500 Total Rs.2,000
21	6308	Shri S. Gowda, Lecturer, Deptt. of Botany, Mysore Univ. Manasa Gangotri, Mysore-570006.	Effect of Y and X-rays on nucleic acid metabolism in isolated plant cell organelles.	Equipment Rs.4000 Chemicals Rs.1000 Total Rs.5000
22.	6309	Dr. (Mrs) Vijay Rani Kumar, Lecturer, Rajasthan Univ. Jaipur.	Studies on leaf blight of some plants of economical importance.	Contingency Rs.1,000 Total Rs.1,000
23.	6310	Dr. Ashwani Kumar, Lecturer, Deptt. of Botany, Rajasthan Univ., Jaipur.	Studies on fusion and differentiation of isolated protoplasts as a measure of crop improvement	Chemicals Rs.1,000 Glassware Rs.1,000 Total Rs.2,000
24.	6311	Dr. C.M. Govil, Lecturer, Deptt. of Botany, Rjasthan Univ., Jaipur.	Studies in mechanism of tuberization in Ipomoea Batatas.	Chemicals Rs.3,000 Glassware Rs.1,000 Photographic material Rs.1,000 Total Rs.5,000
25.	6312	Shri J.A. Inamdar, Lecturer, S.G. Deptt. of Botany, Sardar Patel Vidyalaya, Vidyanagar.	Effect of growth regulators on stomatal structure and ontogeny and histochemistry of University Stomata	Growth substances Rs.2,000 Equipment Rs.1,000 Glassware & Chemicals Rs.1,000 Total Rs.4,000

BOTANY : UNIVERSITIES (CONTD.)

1	2	3	4	5
26.	6313	Dr. P.M. Mehta, Lecturer, P.G. Deptt. of Botany, Sardar Patel Univ. V. Vidyanagar.	Effect of physiological preconditionings on growth, development & biomedical changes involved in some crop plants.	Chemicals & glassware Rs.1,500 Misc. Rs. 500 Total Rs.2,000
27.	6314	Dr. N.A. Soni, Asstt. Prof. Deptt. of Botany, Saugar Univ. Sagar, M.P.	Physiological characteristics of different isolates of Betryodiplodia sp.	Flasks Rs. 500 Chemicals Rs.1,000 Misc. Rs. 500 Total Rs.2,000
28.	6315	Dr. V.P. Singh, Lecturer, School of Studies in Botany, Vikram Univ. Ujjain.	The use of stomatal resistance photopigments, nitrogen and water potential to estimate net photosynthesis in Tectona gradis L.	Chemicals Rs.1,500 Glassware Rs.1,500 Total Rs.3,000
29.	6316	Dr. S. Mukherji, Lecturer, Deptt. of Botany, Univ. College of Science, Calcutta Univ., Calcutta.	Physiological and Biochemical aspects of Colchicine response in seeds.	Chemicals Rs.1,000 Apparatus Rs.1,000 Total Rs.2,000
30.	6317	Shri R.P. Mishra, Asstt. Prof. Pg. College, Jabalpur.	Study on chemotaxo- nomy of fleshy fungi and ecophysiology of associated thermo- philic microflora in cultivation of Volvariella sp.	Field work Rs.500 Books Rs.500 Chemicals Rs.500 Total Rs.1,500
	6318	Dr. (Mrs) Prem Srivastava, Lecturer, Deptt. of Botany, Jodhpur Univ., Jodhpur.	Evaluation and comparison of pteridophytes of Mt. Abu.	Books Rs.500 F. Work Rs.500 Photography Rs.500 Contingency Rs.500 Total Rs.2,000

List of Minor Research Projects in BOTANY
approved by the Selection Committee.

BOTANY: COLLEGES

S.No.	Code No.	Name & Designation/ University.	Title of the Project.	Details of Grant approved!
1	2	3	4	5
32.	6319	Dr. R.N.S. Rathore Asstt. Prof. A.B.S. College Bichpuri, Agra (UP).	Studies on seed identification in cruciferous vegetables.	Travel & Postage : 500 Chemicals: 500 Glassware: 500 Photography copies : 500 Total Rs <u>2,000</u>
33.	6320	Dr. S.V.S. Chauhan Asstt. Prof. R.B.S. College Bichpuri Agra (UP).	Mechanism of male sterility as revealed by morphological & histochemical studies in natural and chemically induced male sterile plants.	Photography & Misc.: 1000 Total : <u>1000</u>
34.	6321	Dr. R.N. Sarthoy Lecturer Agra College Agra-U.P.	Cytogenetical studies on pulses beans.	Chemicals : 1,000 and (Photographic materials) Misc.: 500 Books and Printing: 500 Total : <u>2,000</u>
35.	6322	Dr. V.C. Saxena Lecturer Agra College Agra.	Studies on fungal disease on Indian Crucifers with special reference to seed pathological investigations on yielding types.	Chemicals & Glassware: 1,000 Field work: 500 Books and Publications 500 Total : <u>2,000</u>
36.	6323	Dr. P.M. Rao Lecturer Andhra Loyala College Vijaywada.	Biochemical nature of seed borne disease of Tobacco with special reference to fusarium bulbiganam.	Books: 500 Equipment: 2,000 Glassware & Chemicals: 1,000 Field work: 500 Total : <u>4,000</u>

37.	6324	Dr. R.K.V. Sarma Lecturer Satavahana College Vijayawada(A.P.)	Ecology of the Parthenium Hystarophorus Linn.	Books : 500 Chemicals & Glassware: 1,500 Travel: 500 Total : 2,500
38.	6325	Dr. R.S. Hanaujia K.S.Saket PG College Faizabad(U.P.)	Studies on production of Phytotoxins during microbial decomposition of roots of Cryza sativa L. in soil their effect on crop seeds and soil microflora.	Chemicals & Books & Glassware, equipment 1,000 Field works Stationery Total : 1,000
39.	6326	Dr. C.S.Singh Lecturer K.S. Saket PG College Faizabad (U.P.)	Successional studies on coprophilous fungi.	Books: ₹ Chemicals: ₹ 1,000 equipment & Fabrication: ₹ Total : 1,000
40.	6327	Dr. G. Srivastava Lecturer M.L.K.College Balrampur(U.P.)	Biochemistry of virus infection.	Books: ₹ equipment: ₹ Chemicals: ₹ Glassware: ₹ 1,000 Misc. ₹ Field work ₹ Total : 1,000
41.	6328	Shri D.S.Shukla Lecturer M.L.K. PG College Balrampur(U.P.)	Ecology of microfungi associated with the leaf litter of shorea robusta.	Computation: ₹ Stationery: ₹ 1,000 Typing: ₹ Photography: ₹ Total : 1,000
42.	6329	Dr. Lalman Lecturer M.L.K. College Balrampur(U.P.)	Physico-ecological studies of Cannabis sativa Linn.	Books : 500 Misc.: 1,500 2,000
43.	6330	Dr. J.P.Tawari Lecturer M.L.K. College Balrampur(U.P.)	Host Metabolism and symptom production in virus infected cucurbits.	Books: 500 Chemicals & Glassware: 1,000 Total : 1,500
44.	6331	Shri G.Sivaramiah Lecturer St. Joseph's College Bangalore.	Histochemistry palynology and embryology of bignoniaceae.	Chemicals: 1,000 Misc.: 500 Total : 1,500

1	2	3	4	5
45.	6332	Shri K.N. Gandhi Lecturer National College Bangalore-560004.	Tissue culture of Monocots Anther culture of certain dicots use of endosperm of various plants as effective nutrients...	Rs. Equipment: 2,000 Chemicals: 1,000 Books : 500 Glassware: 500 <hr/> Total 4,000 <hr/>
46.	6333	Shri A.G.S.Reddy Lecturer National College Bangalore.	Effect of insecticides and fungicides on the metabolism of various monocotyledo- nous crop plants.	Chemicals: 1,500 Books : 500 <hr/> Total 2,000 <hr/>
47.	6334	Shri B.A.S.Singh Lecturer National College Bangalore.	Chaeoaxonomic studies in certain members of Liliales and Agavales.	Chemicals: 1,000 Books: 500 Misc. 500 <hr/> Total 2,000 <hr/>
48.	6335	Shri C.R.Kantharaj Head, Botany Deptt. National College Bangalore.	Effect of insecti- cides and fungicides on the metabolism on various dicoty- ledcnous crop plants.	Chemicals: 1,500 Books : 500 <hr/> Total 2,000 <hr/>
49.	6336	Shri R. Misra Lecturer Science College Ganjam (Orissa).	Physiology of senescence of cereal crops.	Chemicals: 1,000 Contingen- ces. 500 <hr/> Total 1,500 <hr/>
50	6337	Shri S. Pady Lecturer Shallikote College Berhampur(Ganjam) Berhampur Univ.	Effect of Syntetic growth regulating Hormones on the growth and N2 fixation of a blue- green Alga <u>Nastigellapsis</u> <u>Prolifica</u>	Chemicals: 1,500 & Glassware Books 500 <hr/> Total 2,000 <hr/>
51.	6338	Shri S.M.Ahmad Asstt. Prof. Saifia College Bhopal Bhopal Univ.	Studies on the effects of certain growth regulating substances on a few members of Bryophyts.	Field works: 500 Equipments 1,500 & Chemicals Books: 500 <hr/> Total 2,500 <hr/>

BOTANY: COLLEGES (CONTD.)

1	2	3	4	5
				Rs.
52.	6339	Shri B. Sasikumar Demonstrator Jai Hind College Bombay.	Growth habit studies in Orchidaceae.	Chemicals & Glassware : 1,200 Books & films: 500 Field work etc: 300 Total : 2,000
53.	6340	Shri Manduri Subramanyam Demonstrator Ruparel College Bombay-16.	Contribution to the vegetative anatomy of some epiphytic orchids.	Field works: 500 Books : 500 Chemicals: 1,000 & equipment Total : 2,000
54.	6341	Shri S.B. Anakur Demonstrator Ruparel College Bombay.	Studies in aquatic fungi:- Hyphomycetes.	Travel : 300 Glassware etc. 1,000 Photography: 200 Chemicals: 500 Total : 2,000
55.	6342	Dr. A.R. Kulkarni Lecturer R.N. Ruia College Bombay.	Ecological studies on Indian medicinal plants.	equipment: 1,000 Chemicals: 1,000 Misc.: 500 2,500
56.	6343	Shri R.K. Sinha Lecturer R.B. College Dalsingsarai.	Biology of medicinal plants with special reference to the genus (Assia, growing at darbhanga, Mithila, N. Bihar).	Books & Journals: 500 Glassware & Chemicals : 1,000 Field work: 500 Misc. & working exp. Total : 2,000
57.	6344	Shri J.P. Misra Head of the Department B.S.N.V. Degree College, Lucknow.	Studies on Tertiary flora of Siwaliks.	Chemicals & Apparatus: 1,000 Books: 500 Field work: 500 Total : 2,000

BOTANY : COLLEGE (CONTD.)

				Rs.
58.	6345	Dr. A.A. Singh Lecturer B.S.N.V. Degree College, Lucknow.	Cytogenetical studies in genus cannabis with special reference to induction of polyploids and mutations.	Chemicals: 1,000 Books: 500 Total : <u>1,500</u>
59.	6346	Dr. B.D. Sinha, Lecturer, L.S. College, Muzaffarpur, (Bihar).	Taxonomy & Biology of the Toxic blue-green algae in water polluted with effluents from sugar mills in Bihar.	Books & chemicals: 1,000 Field work: 500 Equipment: 1,000 Total : <u>3,000</u>
60.	6347	Dr. B.N. Verma Lecturer L.S. College Muzaffarpur.	Study of the food value of the fresh water filamentous green algae to common crops of Tirhut Division, Bihar.	Rocks & Journals: 500 Chemicals & Glassware: 1,000 Travel: 500 Working expenses (including Tank & culture cabinet) 1,000 Total : <u>3,000</u>
61.	6348	Shri B.B. Shrivastava L.S. College Muzaffarpur.	Selection & location of suppressor or temperature sensitive mutants in <i>Aspergillus nidulans</i> .	Books & Journals: 1,000 Chemicals: 1,000 Equipment & Glassware: 1,000 Travel : 0 Misc.: 0 Total : <u>1,000</u>
62.	6349	Dr. P.C. Roy Lecturer Maulana Azad College Calcutta.	Physiology of grain filling in rice varieties.	Chemicals & Glassware: 1,500 Books : 500 Total : <u>2,000</u>

BOTANY : COLLEGES (CONTD.)

1	2	3	4	5
63.	6350	Dr. N. C. Chattopadhyay Lecturer College of Agri. Calcutta Univ. Calcutta.	Studies on the effect of placenta removal of young sweet fruit on the yield and quality of sweet gourds.	Field work : 500 Chemicals & Glassware: 1,000 Travel: 100 Books & Stationery: 400 <hr/> Total : 2,000
64.	6351	Shri A. Chandra, Lecturer Dinabandhu Andrews College Baria, 24 Pargana.	Studies on some economic strains of paddy straw mushrooms (Volvariella species)	Chemicals: 1,000 Equipment & Glassware: 500 Books: 500 <hr/> Total : 2,000
65.	6352	Dr. B. R. Mitra Lecturer R. B. C. College Nainhati.	Studies on leaf growth regulators for summary of the proposed research project.	Chemicals: 1,000 Glassware & apparatus: 500 Books: 500 <hr/> Total 2,000
66.	6353	Dr. A. K. Paul Lecturer Jurdas College Nankeldanga, Calcutta.	Studies on the growth metabolism and germination behaviour of rice seeds under water logged conditions.	Chemicals: 1,000 Equipment: 1,000 <hr/> Total 2,000
67.	6354	Shri V. R. Babu Swami Shardhanand College, Alipur Delhi.	Nutrient Cycling in Grassland Ecosystems.	Equipment: 2,000 Chemicals & Glassware: 1,000 Books : 500 Field work: 500 <hr/> Total : 4,000
68.	6355	Dr. (Mrs.) Kanta Sahar Lecturer Kalindi College East Patel Nagar New Delhi.	Regulation of ribonucleic acids & protein synthesis in wheat endosperms & its possible relationship with hormonal stimulation of enzyme proteins.	Contingency: 500 Glassware: 1,000 Chemicals: 1,000 Books: 500 <hr/> Total : 3,000

BOTANY : COLLEGES (CONTD.)

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69.	6356	Dr.C.H.Rao S.V.College Dhaultan Kuan New Delhi.	Augmenting the production of Cynogenic haploids in some commercial crop plants, through immature pollen irradiation.	Equipment & Chemicals: 1,000 Books: 500 Misc. 500 Total : 2,000
70.	6357	Dr.A.V.S.S. Sambamurty Lecturer S.V.College Dhaultan Kuan New Delhi Delhi Univ.	Genome analysis of certain grasses through bybridiaza tion and cytologi- cal studies Books with special reference to pachytene chromosomes.	Chemicals: 1,000 Books: 500 Misc.: 500 Total : 2,000
71.	6358	Sh.Md.Muhibul Islam Sibsagar College Sibsagar(Assam)	Fungus flora of the Sibsagar Distt.	Books & Chemicals: 500 Field work: 500 Photographs & Misc. : 500 Total : 1,500
72.	6359	Dr.Y.P.Singh Pundir Head,DBS College, Dehradun, Garhwal Univ.	To study the phenomenon of cauliflory in some Indian trees and shrubs.	Books & Equipment: 500 Chemicals & Glassware: 2,000 Travel : 500 Total 3,000
73.	6360	Sh B.K.Gupta Lecturer D.A.V.College, Dehradun.	Monographic studies on Indian Cymbopogons.	Books & Equipment: 1,500 Field work: 1,000 Total : 2,500
74.	6361	Sh J.N.Dwive Sr.Lecturer T.D.College Jaunpur(UP):	Flora of Jaunpur.	Books: 0 Field work : 0 Equipment: 0 Chemicals: 0 Total : 1,000

BOTANY: COLLEGES (CONTD.)

75.	6362	Dr.R.R.Singh Lecturer PG College Ghazipur(UP).	Studies on some virus disease of sunhemp (Vrotal- aris Juncea) of Ghazipur and their control.	Books 500 Chemicals:1,000 Field work 500 Total : <u>2,000</u>
76.	6363	Dr.R.S.Singh Lecturer P.G.College Ghazipur(UP).	A comparative study of attached and detached leaves of Glossopteris & their fructifica- tions.	Books: 300 Chemicals: 500 Photographs 500 Travel: 700 Total : <u>2,000</u>
77.	6364	Dr.R.B.Singh Lecturer T.D.P.G. College, Jaunpur,U.P.	Systematic & ecological study of algae of a lake.	Equipment & Tools : 500 Chemicals 1,200 Books: 300 Total : <u>2,000</u>
78.	6365	Dr.S.K.Gupta Head, P.N.Govt. P.G.College Gyanpur(Varanasi)	Organic productivi- ty energetics & mineral cycling in water shedded areas.	Books: 500 Equipment & Chemicals 1,000 Misc. 500 Total : <u>2,000</u>
79.	6366	Sh C.J.George Tutor St.Xavier's College, Ahmedabad.	Histochemical studies on the vegetative & reproductivity development of Zosters Marina L.	Fabrication and Chemicals 500 Glassware: 300 Field work 200 Total: <u>1,000</u>
80.	6367	Dr.B.S.Bisen Lecturer Govt.Science College Jabalpur.	Studies on the host parasite interactions of curuvlaria spots of Bean(Phaseolous vulgaris).	Books: 500 Chemicals 1,000 Misc.: 500 Total : <u>2,000</u>
81.	6368	Dr.S.K.Hasija Asstt.Prof. Govt.Science College Jabalpur.	Biology of aquatic fungi.	Chemicals 500 Field work 300 Books 500 Misc. 200 Total : <u>1,500</u>

BOTANY : COLLEGES (CONTD.)

				Rs.
82.	6369	Dr.B.K.Sinha Lecturer D.A.V.College Kanpur.	Studies on soil plant relation- ship in relation to chelate supply	Books & Equipment 200 Chemicals 1,000 Apparatus & Fabrication 300 Total : <u>1,500</u>
83.	6370	Dr.S.N. Srivastava P.P.N.College Kanpur.	Taxonomy,morpho- logy, pathogenicity and host range of some selected isolates of Colletetricbum	Apparatus 500 Chemicals 1,000 Total : <u>1,500</u>
84.	6371	Shri J.N. Srivastava Lecturer D.B.S.F.G. College,Kanpur Kanpur Univ.	Morphological & histological studies in some diseased crop plants with special reference to another and ovule development.	Chemicals & Glassware 1,500 Photography 500 <u>2,000</u>
85.	6372.	Dr.A.A.Salanki Lecturer Basaveshwar Science College Bagalkot.	Endogenous Circadian Rhythem in Plants.	Equipment & Chemicals 1,500 Misc. 250 Books 250 Total <u>2,000</u>
86.	6373	Sh.P.Jayaraman Asstt. Prof. Presidency College, Madras.	Ontogenetic studies on plant galls caused by Mites, Insects etc.	T.A.Field 1,000 Books: 500 Chemicals 1,000 Total: <u>2,500</u>
87.	6374	Dr.M.R.James & Prof.S.Edvin. Asstt. Prof. The American College, Madurai.	Studies on certain aspects of lephrosia root & root nodules in relation to bacterial infection.	Books 500 Chemicals 500 Glassware 500 Total <u>1,500</u>

BOTANY : COLLEGES (CONTD.).

88.	6375	Dr.P.G.Sathe Head, Maulana Azad College, Aurangabad.	To study the fungal diseases and aerobio- logical survey particularly to the plants of economic importance in different forests of Maharashtra State.	Field work 1,000 Chemicals 1,000 <hr/> 2,000
89.	6376	Dr.N.D.Kamat, Associate Prof. Institute of Science Aurangabad.	Studies on the fresh water algae of Maharashtra.	Books: 500 Chemicals & Glassware: 1,000 Field work : 500 <hr/> Total : 2,000
90.	6377	Sh O.P.Sharma Lecturer Meerut College Meerut.	Morphological Anatomical & Development. . . . studies in some species of cyperus.	Books: 500 Chemical & Strains: . . . 500. Field work : 500 Glassware: 500 <hr/> Total: 2,000
91.	6378	Shri Hoshiar Singh Lecturer Meerut College Meerut.	Morphological Anatomical & Ontogenetic studies in some Orchidaceae.	Chemicals: 500 Photographic material: 500 Field work: 1000 <hr/> Total : 2,000
92.	6379	Sh P.K.Dubish Lecturer Meerut College Meerut.	Studies on Phizosphere mycoflora of some vegetable crops.	Books: 500 Chemicals: 1,000 Photographic material: 500 <hr/> Total 2,000
93.	6380	Sh. R.D.Gupta NREC College Khurja.	Studies on germination & related problems in some members of compositae.	Books: Chemicals 1,000 Equipment <hr/> Total: 1,000

BUDGETARY : COLLEGES (CONTL.)

94.	6381	Sh D.A.Jain Lecturer Meerut College Meerut.	Morphological anatomical and ontogenetic studies in Bignoniaceae.	Chemicals : 1,000 Photographic materials: 500 Field works: 500 Total : 2,000
95.	6382	Dr. V.K.Sharma D.A.V.College Muzaffarnagar (U.P.).	Statistical relationships between different growth parameters with dry matter production in populus plantations.	Field work: 500 Computation: 500 Chemicals: 1,000 Books: 500 Total : 2,500
96.	6383	Shri B.C.Sharma NR&C College Khurja.	Physiochemical studies of Nicotiana rustica in relation to Bulandshahr soils.	Chemicals: ₹ Equipment: ₹ 1,000 Books: ₹ Field works ₹ Total : 1,000
97.	6384	Sh. S.C.Santra Lecturer Darjeeling Govt. College Darjeeling.	Biochemical and biophysical studies on the post- infectional physiology of wart infected potato.	Books: ₹ Equipment: ₹ 1,000 Chemicals: ₹ Field work: ₹ Total : 1,000
98.	6385	Dr. P.A.Basu Asstt. Prof. Darjeeling Govt. College, Darjeeling.	Study of some medicinal plants of Darjeeling Distt. with special reference to their improvement.	Books: ₹ Equipment ₹ Chemicals ₹ 1,000 Glassware ₹ Field works ₹ Total : 1,000
99.	6386	Shri T.A.Achya Lecturer Darjeeling Govt. College, Darjeeling.	Biological studies of pulse legume inoculant bacterial with reference to pisum sativum & Phaseolus.	Books : ₹ Equipment ₹ 1,000 Chemicals ₹ Glassware ₹ Total : 1,000
100.	6387	Shri N.I.Singh Lecturer St. Edmund's College, Shillong.	Aerobiology of Shillong and its relation to allergic human diseases.	Books & Photocopies 500 Chemicals: 500 Misc. 500 Total : 1,500

BUDGET : O.C.L.L. Grant (CONTD.)

101.	6388	Shri K.Narania Lecturer Agarwal Evening Science College Hyderabad.	Physiological studies on some Deuteromycetes.	Chemicals: 500 Glassware: 500 Books: 500 Total : 1,500
102.	6389	Shri P.Laxminarayana C.M. Arts & Sc. College Warangal(A.P.).	Post Harvest disease of fruit vegetables; certain physiolo- gical aspects.	Travel: 500 Chemicals: 500 misc.: 500 Total : 1,500
103.	6390	Shri C.P.Sharma Lecturer Govt. College Ajmer (Rajasthan).	Cytotaxonomy & experimental studies of the genus Ophioglossum in Raj.	Chemicals: 1,000 Glasswares: 1,000 Field work: 1,000 Total : 1,000
104.	6391	Shri R.D. Shukla Lecturer Govt. College Ajmer	Ecological studies on Ephedrafoliat Boiss.	Chemicals 500 Glasswares 500 Field work 500 Total : 1,500
105.	6392	Mrs. Sheela Jijja Lecturer L.R.S. College Kaladera (Rajasthan).	Histopathological study of Root Knot on Solanum Melanogena and Luffa Acutangula.	Photography 1,000 Chemicals 1,000 Glassware 0 Books 0 Total : 1,000
106.	6393	Dr. P.N. Mathur Head, Govt. College, Ajmer. (Rajasthan).	i) Cultural, Morpho- logical, Cytological studies in some Ascomycetes from Rajasthan. ii) Studies in soil fungi of Rajasthan.	Books: 500 Glassware: 500 Chemicals: 500 Photographic material: 500 Travel: 500 Total : 2,500
107.	6394	Shri P.L. Mittal Sr. Lecturer Govt. College Ajmer (Rajasthan).	Investigations on the physiological ecology of Lepidathis Trinervis Wall. ex. Nees.	Humidity 1,000 Chemicals 1,000 Total : 1,000

BUDGETARY : COLLEGES (CONTD.)

108.	6395	Dr. V.V.S. Tyagi Lecturer Govt. College Kota (Rajasthan).	Physiological & Histoenzymological studies on the Heterocysts of Blue green algae.	Books: 500 Chemicals 1,000 Apparatus 500 Total: 2,000
109.	6396	Shri R.P. Ram Lecturer Ranchi College Ranchi.	Certain physiologi- cal and Biochemical studies of Xanthoohas Vesicitoris (Dowson) Causal Organism of Leaf sport disease of chillies of Ranchi.	Equipment 0 Chemicals 0 1,000 Total: 1,000
110.	6397	Shri P.F. Pandey Lecturer Ranchi College Ranchi.	Physiological and bio-chemical studies of 'Xan- thomonas. Campestris' An incitant of Black Vein Disease of Cabbage.	Equipment 0 Chemicals 0 1000 0 Total: 1000
111.	6398	Dr. S.K. Chaudhary Lecturer G.L. Agrawal College, Daltonganj Palamau, Bihar.	Investigation of mechanism of phenomenon in Cajanus Cajan plants infected with Fusarium oxysporum F. Udum (Butler) Snyder and Hansen & role of phytoalexins if any inducing with resistance.	Chemicals 1,000 Equipment 500 Total 1,500
112.	6399	Dr. S.K. Sarkar Lecturer Ranchi College Ranchi.	Prevention of losses of orange papaya and banana fruits from disease in Chota Nagpur and their control.	Field 0 studies 0 Chemicals 0 1,000 Herbarium 0 Equipment 0 Equipment 0 Total: 1,000
113.	6400	Dr. M.L. Naik Lecturer Govt. College Ambikapur. (M.P.).	Mineral circulation and productivity of Sarguja forests.	Chemicals 0 1,000 Equipment 0 0 Total: 1,000

BOTANY : COLLEGES (CONTD.)

114.	6401	Dr. Y. P. Sharma Lecturer Hindu College Moradabad (U.P.).	Effects of some growth regulators with Gametocidal properties on Hordeum Vulgare.	Chemicals: 500 Field work: 200 Books etc. 300 Glassware: 500 <hr/> Total: 1,500
115.	6402	Dr. A. K. Bisaria Lecturer Hindu College Moradabad (U.P.).	Physiology of reproduction & biochemistry of fruit of Muskmelon with special reference to the effect of Morphactins.	Equipment: 1,000 Chemicals 1,000 Field work 500 <hr/> Total 2,500
116.	6403	Shri C. D. Bhatt Demonstrator Sir P. P. Inst. of Science Bhavnagar (Gujarat).	i) Study of flora of Nangarla Hills. ii) Study of effect of growth regula- tors on Stomatal structure & development.	Books: 500 Travel: 500 Chemicals 500 <hr/> Total : 1,500
117.	6404	Shri N. S. R. Krishna Rao, Lecturer Jawahar Bharati Kavali (A.P.).	A comparative study of certain aspects of the leaf blight and leaf streak pathogens of the rice plant.	Equipment & Chemicals 500 Glassware 500 Books & Stationery 500 Field work 500 <hr/> Total 2,000
118.	6405	Dr. B. Suryanarayana Lecturer Visvodaya College Venkatagiri Town (A.P.).	Exploration of medicinal plants in Nel'ore-Dist.	Books & Equipment 500 Materials 500 Field work 500 <hr/> Total 1,500
119.	6406	Shri B. Behera Lecturer R.D. Women's College Bhubaneswar.	Genetic studies in Amaranthus and its allies.	Chemicals 1,000 Films 500 <hr/> Total 1,500
120.	6407	Shri S. P. Rath Lecturer Ravenshaw College, Cuttack.	Cytological studies in Cyperaceae with special reference to its Taxonomy.	Chemical & Photographic material 1,000 Field work 500 <hr/> Total 1,500

BOTANY : COLLEGES (CONTD.)

121.	6408	Shri S.R. Moharir Asstt. Prof. Govt. College Ratlam (M.P.).	Ecophysiological studies of Crypsis Aculeata and Prigonella occulta.	Glassware & Chemicals Photography Travel Total	500 500 500 1,500
122.	6409	Shri A. Kaul Asstt. Prof. M.V. Mahavidyalaya Ujjain (M.P.).	Some aspects of Ecological and Experimental studies on Bryophysics of Pachmarhi.	Field work Books Apparatus Chemicals & Glassware Total	500 500 500 500 2,000
123.	6410	Dr. S. Bhatnagar Asstt. Prof. Govt. College Jaora (M.P.).	Some studies of Polymorphic populations of calotropis Procera with reference to Ethological and Geographical isolation.	Books Micro-films & Equipment Field trips Total :	 500 500 1,000
124.	6411	Dr. M.S. Ghemawat Sr. Lecturer Govt. College Bundi (Rajasthan)	Powdery mildew of what in Rajas- than: Its occurrence and mechanism of disease resistance.	Chemicals Travel Equipment Misc. Total :	200 500 1,100 200 2,000
125.	6412	Dr. V.P. Fadia Lecturer M.K. Amin Arts Science & Commerce College, Padra (M.S. Univ.)	In vitro studies in cucurbits.	Glassware: Chemicals: Misc. Total	1,000 1,000 500 2,500
126.	6413	Sh. H.B. Singh Head, K.S.S. (PG) College Faizabad (Awadh Univ.)	Studies in Metabolic change in a virus infected legume. Vigna Sinensis savt.	Books: Chemicals Computation Fabrication Total :	300 1,000 400 300 2,000

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BOTANY : COLLEGES (CONTD.)

127.	6414	Dr. B.R. Pandit Lecturer Sir P.P. Instt. of Science Bhavnagar (Saurashtra Univ)	Productivity Potential of Exotic, species propolis Juliflora Oc. Dominated scrubland in Bhavnagar Division	Books Glassware Chemicals Photography Field work Total :	500 500 500 500 500 2,500
128.	6415	Dr. K.M. Vyas Asstt. Prof. in Botany Univ. of Saugar, Sagar (M.P.)	To study the production activity and role of cell, wall degrading Enzymes in relation to fungal pathogenesis.	Chemicals Equipment Misc. Total :	1,000 1,000 500 2,500

List of Minor Research Projects in BIOCHEMISTRY
approved by the Selection Committee.

BIOCHEMISTRY : UNIVERSITIES

S No.	Code No.	Name & designation/ University.	Title of the project.	Details of Grants approved.	
1	2	3	4	5	
1.	6277	Dr. N. Ahmed Reader Aligarh Muslim University Aligarh.	Chemistry of cataract formation under diabetic conditions.	Equipment:	2,500
				Total :	<u>2,500</u>
2.	6278	Dr. S.K. Banerjee Lecturer Deptt. of Bio-chemistry Univ. College of Science 35, Ballygunge Circular Road Calcutta-700019.	Biochemical effects of pesticides in germinating seeds.	Chemicals Contingency	2,000 1,000
				Total	<u>3,000</u>
3.	6279	Dr. D. Sengupta Lecturer Department of Bio-chemistry Calcutta Univ. Calcutta.	Neurobiological and toxicological studies on Citra- viridine.	Chemicals Animals	2,000 1,000
				Total	<u>3,000</u>
4.	6280	Dr. (Mrs) M. Mukharjee Lecturer Deptt. of Biochemistry Calcutta Univ. Calcutta.	Effect of hormonal contraceptives on metabolic pattern of human and rats.	Chemicals Equipment	2,000 1,000
				Total	<u>3,000</u>
5.	6281	Dr. G. Phillip Lecturer Deptt. of Biochemistry Kerala Univ. Trivandrum.	Control mechanism of Glycogen phosphorylase.	Chemicals Equipment	2,000 1,000
				Total	<u>3,000</u>
6.	6282	Dr. K. T. Augusti Lecturer Dept. of Biochemistry Kerala Univ. Trivandrum.	Studies on the biochemical effects of Gliben- clamide.	Chemicals Animals	2,000 1,000
				Total :	<u>3,000</u>

BIOCHEMISTRY : UNIVERSITIES (CONTD.)

1	2	3	4	5
7.	6283.	Dr.M.L.Nagoal Asstt. Prof. P.A.U.,(Deptt. of Chemistry & Bio-Chem, Collage of Basic Sciences) Ludhiana.	Biochemical studies on the toxic principle of Guar.	Chemicals 2,000 Ext. 2,000 <hr/> Total : 4,000
<u>Colleges :</u>				
8.	6284	Shm. V.A. Haldankar Lecturer Lokmanya Tilak Medical College, Bombay.	Study in the composition of amniotic fluid related to length of gestation in Indian Woman.	Chemicals 1,500 <hr/> Total 1,500
9.	6285	Dr.D.M.Vasudevan Asstt. Prof. Medical College Calicut-8. (Kerala).	Evaluation of self mediated immunity in patients having oral Carcinoma.	Equipment 2,000 Chemicals 1,500 <hr/> Total 3,500
10.	6286	Kum.S.P. Vyas. M.M Medical College, Indore.	Regulation of cholesterase study of positive and negative modifiers.	Chemicals & Animals: 3,000 <hr/> Total 3,000
11.	6287	Dr.R.K.Srivastava Asso.Prof. College of Vet J.N. Krishi Viswa-vidyalaya. Jabalpur (M.P.).	Acrosomal enzymes in the spermatozoa of bulls and buffalo bulls.	Chemicals & glassware 3,000 Contingency 1,000 <hr/> Total: 4,000

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List of Minor Research Projects in Chemistry
approved by the Selection Committee.

Universities.

No.	Code No.	Name & designation University	Title of the project	Details of Grant approved.	
1	2.	3	4	5	
6103		Dr. N. Venkateswara Rao, Reader, Andhra Univ.	Analytical Application of Azine and Oxazine Dyes.	Eqpt. Chemicals Total	Rs.2,000 Rs.4,000 Rs.6,000
6104		Dr. Ch.S. Sastry, Lect., Andhra Univ.	Newer Methods in Drug Analysis	Eqpt. Chemicals Total	Rs.4,000 Rs.3,000 Rs.7,000
6105		Shri R. Sambasiva Rao, Lect., Andhra Univ.	Some Physico-chemical studies of the chelating abilities of aryl hydrerines.	Chemicals	Rs.3,000
6106		Dr. P.V. Subba Rao, Lecturer, Andhra Univ.	Kinetics of reactions of co-ordinated ligands.	Chemicals	Rs.5,000
6107		Dr. L. Thakur, Lect., Bhagalpur Univ.	Thermodynamics of Aqueous solutions of some Electrolytes.	Equipment Chemicals Total	Rs.9,000 Rs.1,000 Rs.10,000
6108		Dr. N.A. Kudav, Lect., Bombay Univ.	Studies in synthetic and natural perfumery chemicals and their industrial utilisation	Chemicals Eqpt. Total	Rs.2,500 Rs.4,000 Rs.6,500
6109		Shri R.S. Kulkarni, Lect., Bombay Univ.	Fabrication of a dual column with flame ionisation detectors and Temperature programming unit for use with G.C.	Eqpt.	Rs.6,000
6110		Dr. R.D. Hosangadi, Reader, Bombay Univ.	Studies on oxidative degradation of glucosamine hydrochloride derived from chitin and product distribution analysis.	Eqpt. Chemicals Total	Rs.3,000 Rs.2,000 Rs.5,000
6111		Dr. M.A. Nabar Reader, Bombay Univ.	Phase studies in systems $MO-I_2O_5-H_2O$	Eqpt. Chemicals Total	Rs.2,000 Rs.1,000 Rs.3,000

CHEMISTRY : DEPTS (CONTD).

1	2	3	4	5
10.	6112	Dr. B. I. Nemade, Lect., Bombay University.	I Study of complexes II Electrode kinetics by polarography.	Eqpt. Rs. 4,000 Chemicals Rs. 1,000 Total Rs. 5,000
11.	6113	Dr. V.S. Jathar, Bombay Univ., Bombay.	Modified protein foods from animal sources.	Eqpt. & Chemicals Rs. 3,000
12.	6114	Dr. S.K. Bose, Lect., Calcutta Univ.	Optical, photochemical and conduction studies of metal complexes.	Chemicals Rs. 3,000 Eqpt. Rs. 5,000 Total Rs. 8,000
13.	6115	Dr. N.N. Saha, Lect., Calcutta Univ.	The co-ordination chemistry of biolo- gically active ligands.	Chemicals Rs. 1,000 Eqpt. Rs. 2,000 Total Rs. 3,000
14.	6116	Dr. A.K. Mitra, Lect., Calcutta Univ.	Synthetic studies on naturally occurring Diterpenoids and coumarins.	Eqpt. Rs. 2,000 Chemicals Rs. 3,000 Total Rs. 5,000
15.	6117	Dr. A. Patra, Lect., Calcutta Univ.	Components of Acorus calamus, Heliotropium indicum and Tinospora cordifolia.	Eqpt. Rs. 2,000 Chemicals Rs. 3,000 Total Rs. 5,000
16.	6118	Dr. N.G. Mukherjee Lect., Calcutta Univ.	Quantum chemical studies on molecular systems with special reference to those of chemical and biological importance.	Books Rs. 2,000 Computations Rs. 3,000 Total Rs. 5,000
17.	6119	Dr. (Mrs) Bani Talpatra Lect., Calcutta Univ.	Chemistry of homocycles and heterocycles of some Indian medicinal plants.	Eqpt. Rs. 2,000 Chemicals Rs. 2,000 Total Rs. 4,000
18.	6120	Shri V.N.R. Mallai, Lect., Calicut Univ.	Photochemical utili- sation of essential oils.	Eqpt. Rs. 3,000 Chemicals Rs. 3,000 Total Rs. 6,000
19.	6121	Dr. D.K. Bhardwaj, Lect., Delhi Univ.	A chemicals investiga- tion of some of the Indian medicinal plants.	Eqpt. Rs. 1,500 Chemicals Rs. 1,500 Total Rs. 3,000
20.	6122	Dr. B.S. Garg Lect., Delhi Univ.	Heterocycle-azo-dyes in analysis of pollutants.	Eqpt. 2,000 Chemicals Rs. 2,000 Total Rs. 4,000

1	2	3	4	5
CHEMISTRY : UNIVERSITY (CONTD).				
21.	6123	Dr. N.K. Ray, Reader, Delhi Univ.	Theoretical study of Laser Dyes.	Eqpt. Rs.8,000 Books Rs.1,000 Total Rs.9,000
22.	6124	Dr. N.K. Kaushik, Lect., Delhi University	Studies on the catalytic activity of organic derivatives of Lanthanides.	Eqpt. Rs.3,000 Chemicals Rs.2,000 Total Rs.5,000
23.	6125	Dr. (Mrs.) Sroja Raman, Asstt. Prof. G.B. Pant Univ.	Polarographic studies on the complexes of hydroxy pyridines with transition metals.	Chemicals Rs.3,000
24.	6126	Dr. S.C. Sharma, Asstt. Prof. Himachal Pradesh Univ.	Utilisation of medicinal plant wealth of Himachal Pradesh.	Eqpt. Rs.2,000
25.	6127	Dr. A.K. Mukherjee, Lect., Jadavpur Univ.	Structural studies of cobalt and nickel complexes.	Chemicals Rs.2,000
26.	6128	Dr. P.S. Bassi, Reader, Jammu Univ.	Solidification in binary melts.	Eqpt. Rs.3,000 Chemicals Rs.1,500 Total Rs.4,500
27.	6129	Dr. P.L. Kachroo, Lect., Jammu Univ.	1. Synthesis of C ₃ -alkylated flavanoids. 2. Synthesis of possible Amoetsicides.	Chemicals Rs.3,000 Eqpt. Rs.3,000 Total <u>Rs.6,000/-</u>
28.	6130	Dr. M.L. Dhar, Lect., Jammu Univ.	1. Studies on metal chelates with polyphenolic ligands. 2. Analytical applications of some polyphenols in Inorganic Chemistry.	Eqpt. Rs.1,500 Chemicals Rs.1,500 Total Rs.3,000
29.	6131	Shri N.K. Sharma, Lect., Jammu Univ.	Solidification of binary mixtures and structures of melts.	Eqpt. Rs.3,000 Chemicals Rs.1,000 Total Rs.4,000

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1	2	3	4	5
30.	6132	Dr. B.L. Kalsotra, Lecturer, Jammu Univ.	Reactions of cyclopentadienyl and allied ligands with transition elements.	Chemicals Rs.1,500 Eqpt. Rs.1,500 Total Rs.3,000
31.	6133	Dr. A.M. Bhandari, Lect., Jodhpur Univ.	Physical properties and thermal decomposition of polymeric metal alkoxides and related metal compounds.	Chemicals Rs.2,000 Eqpt. Rs.2,000 Total Rs.4,000
32.	6134	Dr. K. Dey, Lect., Kalyani Univ.	Synthesis of new ligands and their metallic chelates. Biocidal activities of newly synthesised organic, organo metallic and co-ordinated compounds.	Eqpt. Rs.3,000 Animals etc. Rs.3,000 Total Rs.6,000
33.	6135	Dr. D.J. Francis, Reader, Kerala Univ.	Kinetics and mechanism of the photochemical cyclo dehydrogenation of diphenyl amines and related compounds.	Eqpt. Rs.2,000 Chemicals Rs.1,000 Total Rs.3,000
34.	6136	Dr. K. Saramma, Lect., Kerala Univ.	Solvation by dipolar aprotic solvents in S _N 1 reactions.	Eqpt. Rs.2,000 Chemicals Rs.1,000 Total Rs.3,000
35.	6137	Dr. R.D. Srivastava, Reader, Lucknow Univ.	Preparation and development of ion selective Electrodes.	Eqpt. Rs.1,000 Chemicals Rs.2,000 Total Rs.3,000
36.	6138	Dr. (Mrs) Rajmaja Kewla Shukla, Lect., Lucknow Univ.	Aminophosphine complexes of certain transition metals.	Chemicals Rs.2,000
37.	6139	Dr. R.N. Verma Lect., M.S. University Baroda.	Search for the potential liquid crystals (Mesogene)	Chemicals Rs.5,000 Eqpt. Rs.2,000
38.	6140	Dr. A.A. Murty, Lect., I.C.C. Centre, Warangal (Osmania Univ).	Studies in formation of oxygen-nitrogen heterocyclic compounds.	Chemicals Rs.2,000 Eqpt. Rs.2,000 Total Rs.4,000

2	3	4	5
6141	Dr. P. Lingaiah, Lect., P.G. Centre, Warangal (Osmania Univ.)	Use of izoxazoles and substituted isoxazoles as analytical reagents.	Chemicals Rs.1,000 Eqpt. Rs.3,000 Total Rs.4,000
6142	Dr. S.D. Sharma, Lect., Panjab Univ.	Antibacterial agents: Synthesis of penicillins and related β-lactam Antibiotics.	Eqpt. Rs.2,000 Chemicals Rs.1,000 Total Rs.3,000
6143	Dr. S.L. Chadha, Reader, Panjab Univ.	Co-ordination chemistry of metal Halo and Halide Alkoxides.	Chemicals Rs.5,000 Eqpt. Rs.2,000 Total Rs.7,000
6144	Dr. S.K. Vashasht, Lect., Panjab Univ.	Azenes of Tin and Silicon.	Chemicals Rs.6,000 Eqpt. Rs.3,000 Total Rs.9,000
6145	Dr. A.P. Tyagi, Lect., Rajasthan Univ.	Synthesis of some Anthista Minic drugs with antidepressant properties.	Eqpt. Rs.1,500 Chemicals Rs.2,000 Total Rs.3,500
6146	Dr. G. Srivastava, Res. Associate Rajasthan Univ.	Phosphinoborane monomers and polymers	Chemicals Rs.2,000 Eqpt. Rs.2,000 Total Rs.4,000
6147	Dr. R.K. Bansal, Lect., Rajasthan Univ.	Chemical investigation of some medicinal important xerophytic plants.	Chemicals & Contg. Rs.3,000 Eqpt. Rs.2,000 Total Rs.5,000
6148	Dr. R.S. Gupta, Lect., Rajasthan Univ.	Diamagnetic behaviour and chemical bonding organic derivatives.	Chemicals Rs.5,000 Eqpt. Rs.2,000 Total Rs.7,000
6149	Dr. P.S. Verma, Lect., Rajasthan Univ.	Electro chemicals behaviour of some organic compounds at micro electrode.	Chemicals Rs.2,000 Eqpt. Rs.2,000 Total Rs.4,000
6150	Dr. S.A. Jain, Lect., Rajasthan Univ.	Studies in the Chemistry of metabolites of chlorpromazine	Chemicals Rs.2,000 Eqpt. Rs.2,000 Total Rs.4,000

1	2	3	4	5.
49.	6151	Dr. S. Kumar, Lect., Rajasthan Univ.	Synthesis of some antileprotic drugs.	Eqpt. Rs.2,000 Chemicals Rs.3,000 Total Rs.5,000
50	6152	Dr. Y.K. Reddy, Lect., SV Univ.	Mixed ligands in chemical analysis.	Chemicals Rs.3,000 Contg. Rs.2,000 Total Rs.5,000
51.	6153	Dr. K.R. Reddy, Lect., S.V. Univ.	Synthesis of Heterocyclic compounds with nitrogen and sulphur and to study their physiologically activity.	Chemicals Rs.5,000 Eqpt. Rs.2,000 Total Rs.7,000
52.	6154	Dr. K.S. Mukherjee, Lect., Visva Bharati	Chemical investigation of Indian medicinal plants.	Chemicals & Contg. Rs.3,000
53.	6155	Dr. B.P. Das, Lect., Visva Bharati	Insecticidal properties of some Heterocyclic compounds.	Chemicals & Contg. Rs.4,000
54.	6156	Dr. R.K. Prasad, Reader, Bihar Univ.	Oscillating reactions in Homogeneous liquid phase.	Eqpt. Rs.10,000
55.	6157	Dr. (Mrs) K. Basu, Lect., Calcutta Univ.	Role of electrostatic & charge transfer forces in ground state stabilization of molecular complexes.	Eqpt. Rs.5,000
56.	6158	Dr. R.S. Sandhu, Lect., Guru Nanak Univ.	Development of assay methods for the estimation of natural/synthetic pharmaceutical compounds by d.c/pulsating polarographic techniques.	Eqpt. Rs.5,000
57,	6159	Dr. Amrik Singh, Lect., Guru Nanak Univ.	Synthesis of 4-amino-thiazoles and heterocyclic systems derived from 4-aminothiazoles of therapeutic interest.	Eqpt. Rs.3,000

contd..

1	2	3	4	5
58.	6160	Dr. B. Singh Lect., Guru Nanak Univ.	Thermodynamics of binary and ternary mixtures.	Eqpt. Rs.4,000
59.	6161	Dr. S.N. Shukla, Lect., Lucknow Univ.	The study of kinetics and mechanism of oscillatory reactions.	Eqpt. Rs.2,000

List of Minor Research Projects in Chemistry
approved by the Selection Committee for financial
assistance during 1975-76.

CHEMISTRY - COLLEGES

S.No.	Code No.	Name, Designation/ Colleges	Title of the Project	Details of grants approved.	
1	2	3	4	5	
1.	6162	Dr. S.K. Wadhwa Lecturer, Agra College, Agra.	Synthesis with Diazoalkanes.	Equipment: Total:	Rs. 3,000 <u>Rs. 3,000</u>
2.	6163	Dr. L.K. Saxena, Lecturer; Agra College, Agra.	Chemical kine- tics of some redox reactions.	Books: Chemicals: Equipment: Total:	Rs. 500 Rs. 1,500 Rs. 1,500 <u>Rs. 3,500</u>
3.	6164	Sh. A.K. Goswami, Lecturer, K.B. College, Mathura.	Role of mixed emulsifier in emulsion stability.	Chemicals: Glasswares: Books: Total:	Rs. 2,000 Rs. 400 Rs. 300 <u>Rs. 2,700</u>
4.	6165	Sh. L.R. Singh, Lecturer, B.S.A. College, Mathura.	Studies on Physicochemical and adsorption properties of surface active substances.	Equipments: Chemicals: Total:	Rs. 1,000 Rs. 1,000 <u>Rs. 2,000</u>
5.	6166	Dr. Arvind Kumar Lecturer, Agra College, Agra.	Polarographic studies of Propionals litate complexes of some metal raw.	Equipment: Chemicals: Total:	Rs. 3,000 Rs. 1,000 <u>Rs. 4,000</u>
6.	6167	Dr. P.C. Mathur Agra College, Agra.	Kinetics and mechanism of oxidation of organs of compounds by hexacyanoferrate (iii) Catalysed by metal ions.	Chemicals: & Glasswares) Equipment: Total:	Rs. 1,000 <u>Rs. 1,000</u> <u>Rs. 2,000</u>

CHEMISTRY - COLLEGES (CONTD.)

.....1.....2.....3.....4.....5.....

7.	6168	Dr. R.C. Sharma Lecturer, Agra College, Agra.	Physico-chemical studies on ternary complexes of some metals and their pharmaceutical applications.	Chemicals: Rs.2,000 Equipment: <u>Rs.2,000</u> Total: <u>Rs.4,000</u>
8.	6169	Dr. S.P. Jain, Lecturer, Agra College, Agra.	Interaction of Ionic surface active substances at oil/water interface.	Equipment: Rs.2,000 Chemicals: <u>Rs.1,500</u> Total: <u>Rs.3,500</u>
9.	6170	Dr. H.S. Rathore Lecturer, Chemistry Deptt. Z.H.E. & Tech. College, A.M.U., Aligarh	Studies on Analytical Importance Relations in the Solid State and in the solution state.	Chemicals: Rs.2,000 Equipment: <u>Rs.1,200</u> Total: <u>Rs.3,200</u>
10.	6170	Sh. Emmanuel Singh, Lecturer, E.C. College, Allahabad.	Synthesis & Studies of various α -keto-acids and their condensation with various phenols & other studies.	Chemicals: Rs.1,500 Books: Rs. 500 Equipment: <u>Rs.1,500</u> Total: <u>Rs.3,500</u>
11.	6172	Sh. Y.V. Rao Asstt. Lecturer Govt. College, Rajahmundry-4 A.P.	Chemogenerated Manganese (III) AS SAN Analytical Reagent - Determination of organic and Inorganic substances.	Books: Rs. 350 Chemicals: <u>Rs.1,000</u> Total: <u>Rs.1,350</u>
12.	6173	Dr. P.V.K. Rao Reader, Andhra University College of Science & Technology, Waltair.	Some thio-semi-carbazones as chelating agents for transition metal cations.	Chemicals: Rs.2,000 Equipment: <u>Rs.2,000</u> Total: <u>Rs.4,000</u>

CHEMISTRY - COLLEGES

13.	6174	Dr. P.M. Rao, Lecturer, Government College Rajahmundry-3.	Polarographic Studies of Metal Complexes.	Chemicals: Rs.2,500 Books: Rs. 500 Total: <u>Rs.3,000/-</u>
14.	6175	Sh. Y.R. Prasad, Demonstrator, Govt. College, Rajahmundry, A.P.	Chemistry of Plant Products study of chemical constitution and Anti Microbial Activity of some essential oils.	Chemicals: Rs.1,500 Equipment: <u>Rs.1,000</u> Total: Rs.2,500
15.	6176	Sh. S.B. Sharma Lecturer, M.L.K. (P.G.) College, Balrampur (U.P.)	Infrared and Electronic spectral studies of the complexes of Bexathioyamates and Tetraselenocya- nates with certain Lewis Basis.	Equipment: Rs.1,000 Chemicals: <u>Rs.1,000</u> Total: Rs.2,000
16.	6177	Sh. P.P. Singh, Reader, M.L.K. (PG) College, Balrampur (U.P.)	Study of the complexes of tetrathiocyanate and tetrase- lenocyanates.	Equipment: Rs.2,500 Chemicals: <u>Rs.1,500</u> Total: Rs.4,000
17.	6178	Sh. S.A. Khan Lecturer, M.L.K. (PG) College, Balrampur, U.P.	Infrared and electronic spectral studies of the complexes of thiocyanate, cyanate and mixed thiocyanate Cyanate (MM'(NCS) ₂ with Heterocyclic ligands.	Equipment: Rs.2,000 Chemicals: <u>Rs.1,500</u> Total; <u>Rs.3,500</u>
18.	6179	Dr. U.P. Shukla, Lecturer, M.L.K. (PG) College Balrampur (U.P.)	Studies of the complexes of Tetrahalide and Mixed Tetra Halide and Pseudohalide.	Equipment: Rs.1,000 Chemicals: <u>Rs.1,000</u> Total: Rs.2,000

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CHEMISTRY - COLLEGES (CONTD.)

19.	6180	Dr. I.M. Pande, Lecturer, M.L.K.P.G. College, Balrampur (UP)	Thermodynamic Properties of Chelates of the First row Transition elements.	Chemicals: <u>Rs.1,000</u> Total: <u>Rs.1000</u>
20.	6181	Sh. A.K. Srivas- tava, Lecturer, B.L.K. (PG) College, Balrampur (U.P.)	Studies on Tetrapalide complexes of Amides and Thidamides.	Equipment: <u>Rs.1,000</u> Chemicals: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
21.	6182	Km. A. Tiwari Lecturer, Kasturba Girls Degree College, Bhopal.	Study of some metal complexes with penicillin.	Equipment: <u>Rs.1,000</u> Chemicals; <u>Rs.1,000</u> Total; <u>Rs.2,000</u>
22.	6183	Dr. B. Chatterjee, Lecturer, Burdwan Raj College	Coordination complexes of Ofer (III) Mx (III) and Ni (III) with pyridine Carboxylic acids quinoline carboxylic acids and their mixed chelates.	Chemicals: <u>Rs.2,500</u> Total: <u>Rs.2,500</u>
23.	6184	Dr. A. Kumar, J.S. College, Motipur, P.O. Muzaffarpur.	Studies on Oxi- dation of Hydrozinc.	Equipment: <u>Rs.1,500</u> Chemicals: <u>Rs. 500</u> Total: <u>Rs.2,000</u>
24.	6185	Dr. G.S. Niranjan Lecturer, D.V.C. (PG) College, Orai (Bundelkhand University).	Biochemical studies of non- cultivated herbaceous legumes.	Equipment: <u>Rs.1,000</u> Chemicals: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
25.	6186	Dr. A. Datta, Lecturer, Presidency College, Calcutta.	Effect of Erythro- poietin on the structure and function of thyroid gland.	Chemicals: <u>Rs.1,000</u> Equipment: <u>Rs.1,000</u> Animal & Animal Food: <u>Rs.2,000</u> Total: <u>Rs.4,000</u>

CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4	5
26.	6187	Sh. S.K. Chatterjee, Lecturer, Hoogly Mohsin College, Calcutta.	Optical and Phisco chemical investigations on metal chelates.	Chemicals: Rs. 500 Equipment: <u>Rs.1,500</u> Total: <u>Rs.2,000</u>
27.	6188	Dr. A. Hajra, Lecturer, Vivekananda College, Thakurpuram, Calcutta-63.	Studies on the effect of monovalent and divalent cations in enzyme-catalyzed reactions.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
28.	6189	Dr. A.K. Saha, Lecturer, R.B.C. College Naihati.	Chemistry of chromium in some less familiar oxidation states.	Chemicals: <u>Rs.1,500</u> Total: <u>Rs.1,500</u>
29.	6190	Sh. J.K. Bhar, Lecturer, R.B.C. College, Naihati.	Metallic complexes and their applications.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
30.	6191	Dr. S.R. Sen, Lecturer, R.B.C. College, Naihati (24-Pargans)	Biocidal activities on newly synthesised organic Inorganic mettalic pounds.	Chemical: Rs.2,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.3,000</u>
31.	6192	Dr. A.K. Ray, Lecturer, Serampore College, Sarampore, Hooghly (WB).	Applications of agglomeration and membrane Technology in industry.	Chemicals: Rs. 500 Equipment: <u>Rs.1,500</u> Total: <u>Rs.2,000</u>
32.	6193	Sh. M.Pattanayek, Lecturer, F.C. College, Diamond Harbour.	Paper electrophoretic studies on metal ions.	Equipment: <u>Rs.3,500</u> Total: <u>Rs.3,500</u>

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CHEMISTRY (CONTD.)

1	2	3	4	5
33.	6194	Dr. M. Katyal, Lecturer, St. Stephen's College, Delhi-110007.	Analysis of Nitrogenous Pollutants in Environment.	Chemicals: Rs.1,500 Equipment: Rs.1,500 Total: Rs.3,000
34.	6195	Dr. D.P. Goel, Lecturer, St. Stephen's College, Delhi-110007.	Physico-chemical studies of the metal complexes of various pyrimidines - Thioricouloric Acids.	Chemicals: Rs.1,500 Equipment: Rs.1,500 Total: Rs.3,000
35.	6196	Dr. R. Seshadri Lecturer, Sree Venkateswara College, Dhaultan Kuan, New Delhi.	Microbial modi- fications of some chemical compounds.	Chemicals: Rs.1,500 Equipment: Rs.2,000 Total: Rs.3,500
36.	6197	Dr. (Mrs.) M. Bandopadhyay, Lecturer, Daulat Ram College, Delhi-110007.	Chemical investi- gation of Indian medicinal plants and application of some important chemical reactions on flavonoids.	Equipment: Rs.1,500 Chemicals: Rs.1,500 Total: Rs.3,000
37.	6198	Dr. S.G. Datta, Lecturer, Hans Raj College, Delhi-110007.	A chemical study of the aspergillus flavus metabolites.	Chemicals: Rs.2,000 Equipment: Rs.1,000 Total: Rs.3,000
38.	6199	Dr. R.R. Misra, Lecturer, Hindu College, Delhi-110007.	Thermodynamic studies on the applications of chemical fertilizers to Indian soils.	Equipment: Rs.2,000 Chemicals: Rs.500 Total: Rs.2,500
39.	6200	Dr. R.C. Rastogi, Lecturer, Hans Raj College, Delhi.	Quantum chemical studies of the spectra of a series of aromatics & ab-initio FSCO study of the shape of some molecules.	Equipment: Rs.2,000 Computation: Rs.1,000 Total: Rs.3,000

CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4	5
40.	6201	Sh. V.B. Agrawal, Lecturer, Hans Raj College, Delhi-110007.	Electrochemical studies of synthetic polymers.	Chemicals: Rs.2,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
41.	6202	Dr. R.K. Malhotra Lecturer, College of Pharmacy, Pusa, New Delhi-110012.	Synthesis and Biological activity of some azesterpids.	Equipment: Rs.1,000 Chemicals: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
42.	6203	Dr. S. Prakash, Lecturer, Shivaji College, Karampura, New Delhi.	Organometallic compounds of niobium & tantalum.	Chemicals: Rs.2,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.3,000</u>
43.	6204	Dr. K.K. Sharma, Lecturer, Delhi College, Ajmeri Gate, Delhi-110006.	Analytical utility of thiourea-deri- vatives in the spectro-photo- metric determination and micro-detection platinum and base metals.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
44.	6205	Dr. B.R. Thukral, Lecturer, & Dr. S.C. Datta, Lecturer, Hans Raj College, Delhi.110007.	A study of inter- action of afla- toxins with amino-acids and nucleic acid basis.	Chemicals: Rs.1,500 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,500</u>
45.	6206	Sh. V.K. Ahuja Lecturer, Hans Raj College, Delhi-110007.	Theoretical study of organic dye lasers.	Equipment: <u>Rs.4,000</u> Total: <u>Rs.4,000</u>

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CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4	5
+6.	6207	Dr. B.R. Thukral, Lecturer, Hans Raj College, Delhi-110007.	Interaction of DI & trivalent metal cations with tetraphosphates.	Equipment: Rs.1,000 Chemicals: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
+7.	6208	Dr. P.S. Raghavan, Lecturer, A.R.S.D. College, New Delhi-110021.	Reduction mechanism of organic compounds at the D.M.E. and estimation of metal Ions amperometrically.	Equipment: Rs.2,500 Chemicals: <u>Rs.1,000</u> Total: <u>Rs.3,500</u>
+8.	6209	Dr. H. Mohan, Lecturer, Hastinapur College, Moti Bagh, New Delhi-110021.	Photolysis and radiolysis of octacyano tungstate (IV) and Octacy- anomolydeten.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
+9.	6210	Dr. Hari Ram Sharma Lecturer, Hindu College, Delhi-110007.	Synthesis of nitrogen & Oxygen heterocyclics as potential anti- microbial agents.	Equipment: Rs.1,000 Chemicals: <u>Rs.2,000</u> Total: <u>Rs.3,000</u>
50.	6211	Dr. G.S. Manku Lecturer, Hans Raj College, Delhi-110007.	An investigation of the metal complexes of some new AZO compounds for their analytical uses for the estimation of the elements in water, soils and industries.	Chemicals: Rs.3,000 Equipment: <u>Rs.2,000</u> Total: <u>Rs.5,000</u>
51.	6212	Dr. (Mrs.) Bimla Kwatra, Lecturer, Miranda House Delhi-110007.	Synthesis of Liquid crystal like molecules and study of their properties.	Chemicals: <u>Rs.2,000</u> Total: <u>Rs.2,000</u>

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CHEMISTRY - COLLEGES (CONTD.)

1.....2.....3.....4.....5.....

52. 6213 Dr. V. Panda, Chemical and Chemicals: Rs.1,500
 Lecturer, Pharmacological Total: Rs.1,500
 Sri Venkateswara studies of Indian
 College, Rhoadadendrons.
 Dhaulan Kuan,
 New Delhi-110021.

53. 6214 Dr. Y.K. Bhoon, Magnetic and Chemicals
 Lecturer, spectral-investi- Equipment: Rs.1,000
 Sri Venkateswara gations on Total: Rs.1,000
 College, transition.
 Dhaulan Kuan,
 New Delhi-110021.

54. 6215 Dr. V.L. Narasimha Some Physico-Chemicals
 Rao, Lecturer, chemical aspects of synthetic Equipment: Rs.1,500
 Sri Venkateswara of hydroxylapatites. Total: Rs.1,500
 College,
 Dhaulan Kuan,
 New Delhi-110021.

55. 6216 Dr. Y.N. Gupta, Chemical exami- Equipment
 Head, nation of some &
 S.R.T. Govt. medically Chemicals: Rs.3,000
 Degree, College, important Total: Rs.3,000
 Tehri (Garhwal) aromatic & other
 biologically
 active plants of
 Gharhwal Region.

56. 6217 Sh L.D.S. Yadav Search for new Chemicals
 Lecturer, 1,3,4, - &
 M.G.D. College, Oxadiazoles as Gglasswares: Rs.2,000
 Gorakhpur potential Total: Rs.2,000
 bacteriodes.

57. 6218 Dr. G.M. Ratilal, Development Chemicals
 Lecturer, Studies in the &
 Havan's R.A. preparation and Equipment: Rs.3,000
 College of Characterisation Total: Rs.3,000
 Science, of systhetic humic
 Ahmedabad. like substances as
 humic feretti-
 lizers.

CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4	5
58.	6219	Sh. B.R. Sharma, Lecturer, D.A.V. College, Jullundar.	Molecular thermo- dynamic of associated mixtures. The study of weak interactions of some binary mixtures.	Chemicals: Rs. 1,000 Equipment: Rs. 2,000 Computation Rs. 500 Total: Rs. 3,500
59.	6220	Dr. O.P. Yadav, Lecturer, College of Basic Sciences & Humanities, H.A.U. University, Hissar.	Catalytic oxidation of hydrocarbons.	Chemicals: Rs. 1,500 Equipment: Rs. 2,500 Total: Rs. 4,000
60.	6221	Dr. K.K. Chaturvedi Lecturer, Helkar Science College, Indore.	Chemical and pharmacological studies on some anticancer indigenous plants.	Chemicals: Rs. 1,000 Equipment: Rs. 1,000 Total: Rs. 2,000
61.	6222	Sh. J.K. Agrawal, Lecturer, Shri G.S. Instt. of Technology & Science, Indore.	Studies on metal complexes of aminoglycosides antibiotics.	Chemicals: Rs. 1,000 Equipment: Rs. 1,000 Total: Rs. 2,000
62.	6223	Dr. K.K. Verma, Lecturer, Govt. Sc. College, Jabalpur.	Studies on Analysis of organic sulphur compounds via functional groups.	Equipment: Rs. 1,000 Chemicals: Rs. 2,000 Total: Rs. 3,000
63.	6224	Sh. Y. Singh Rajput, Sr. Res. Asstt. College of Vety.. Sc. & A.H. Jabalpur.	Biochemical studies on Bovine semen and interaction with cervical succus in vitro.	Chemicals: Rs. 2,000 Equipment: Rs. 3,000 Total: Rs. 5,000

CHEMISTRY - COLLEGES (CONTD.)

1. 2. 3. 4. 5.

64.	6225	Dr. M.C. Agrawal, Lecturer, H.B. Tech. Instt. Kanpur.	Mechanistic studies on the oxidation of some amino acids.	Chemicals: Rs. Equipment: <u>Rs.2,000</u> Total: <u>Rs.2,000</u>
65.	6226	Dr. S.S. Misra Lecturer, Feroze Gandhi College, Raebreli.	Studies on potential Germicides.	Chemicals: Rs.1,000, Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
66.	6227	Dr. R.S. Tewari, Lecturer, H.B. Tech. Instt. Kanpur.	Synthesis of Harmones and structurally related compounds using ylide intermediates.	Chemicals: <u>Rs.2,500</u> Total: <u>Rs.2,500</u>
67.	6228	Dr. D.S. Gupta, Lecturer, V.S.S.D. College, Kanpur.	Synthesis of 5-alkyl-ring A-substituted - 11-Demethy - 11 elipticine, 9-Azaellipticine Isoquinolino (6,7-c) pyrazoles; isoquinolino (6,7-d) Pyrimidines & piperidino (4,3-c) Pyrazoles As possible anticancer agents.	Chemicals: <u>Rs.2,000</u> Total: <u>Rs.2,000</u>
68.	6229	Dr. S.C. Khurana, Lecturer, D.V. (PG) College, Orai.	Formulation and application of a new method for the polarographic study of irreversibly reducible mixed ligarang complexes.	Books : Rs. 500/- Chemicals: <u>Rs.2,000/-</u> Total <u>Rs.2,500/-</u>
69.	6230	Sh. K.S. Khetwal, Lecturer, Govt. (PG) College, Pithoragarh.	Abiogenesis of certain Biologically important key Molecules.	Chemicals: Rs.1,000 Equip-ment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>

CHEMISTRY - COLLEGES (CONTD.)

1.	2.	3.	4.	5.
70.	6231	Km. U.R. Pant, Lecturer, Govt. (PG) College, Pithoragarh.	Molecular properties of some Diatoms.	Books & Journals: Rs.1,000 Equipment: Rs.1,000 Total: Rs.2,000
71.	6232	Dr. G.K. Sinha, Sr. Lecturer, D.S.B. College, Nainital.	Chemical and Physiological studies of some important Minor constituents of some Aromatic plants of Kumaun-Region.	Chemicals: Rs.1,000 Equipment: Rs.1,000 Total: Rs.2,000
72.	6233	Sh.V.B. Kapil, Lecturer, M.B. Degree College, Haldwani.	Study of some important aromatic medi- cinal plants raised in Tarai Region of Kumaun Hills.	Chemicals: Rs.1,000 Equipment: Rs.1,000 Total: Rs.2,000
73.	6234	Sh.C.S. Mathela, Lecturer, D.S.B. College, Nainital.	Chemical Study of some aromatic/ medicinal plants of Kumaon.	Chemicals: Rs.1,000 Equipment: Rs.1,000 Total: Rs.2,000
74.	6235	Miss N. Patta, Lecturer, Univ. College, Kurukshetra.	Photocyclization reactions of some organic molecules.	Equipment: Rs.1,000 Chemicals: Rs.1,000 Total: Rs.2,000
75.	6236	Sh. S.P. Arora, Lecturer, M.L. National College, Yamuna Nagar.	Transport Phenomenon through artificial membranes.	Chemicals: Rs.1,500 Equipment: Rs.1,500 Total: Rs.3,000
76.	6237	Dr. R.B. Yadava, Lecturer; C.M.Sc. College, Darbhanga.	Thermodynamic study of molecular interaction in liquid mixtures.	Chemicals: Rs.1,000 Equipment: Rs.2,000 Total: Rs.3,000

CHEMISTRY - COLLEGES (CONTD.)

77.	6238	Dr. B.K. Choudhary, Lecturer, C.M.Sc. College, Darbhanga.	Study of standard Chemicals & potential of PbHg/Pb ₂ Electrode and thermodynamic behaviour of lead acetate in aqueous solutions.	Chemicals & Equipment: Total:	Rs. 2,00 Rs. 2,00
78.	6239	Dr. A.G. Ramachandran Nair, Reader, J.N. Instt. of PG Medican Education & Research, Pondicherry.	Phytochemical investigation of south Indian Plants.	Chemicals & Material: Total:	Rs. 4,00 Rs. 4,00
79.	6240	Dr. R. Singh, Lecturer, G.J. College, Rambagh-Patna.	Studies on fungicidal and insecticidal coordination compounds.	Chemicals: Equipment: Total:	Rs. 1,00 Rs. 1,00 Rs. 2,00
80.	6241	Dr. J. Singh Arora, Lecturer, D.A.V. College, Muzaffarpur.	Studies on the interaction of drugs and metal chelates with proteins and compounds.	Chemicals: Equipment: Total:	Rs. 1,00 Rs. 1,00 Rs. 2,00
81.	6242	Sh. B.K. Tyagi, Lecturer, D.J. College, Baraut.	Development & study of new type of composite Transistor configurations useful in pulse generation and instrumentation.	Equipment: Total:	Rs. 2,00 Rs. 2,00
82.	6243	Dr. M.P. Swami, Lecturer, Meerut College, Meerut.	Magneto spectral studies on some complexes of nitrogen containing ligands.	Chemicals: Equipment: Total:	Rs. 1,50 Rs. 1,00 Rs. 2,50

CHEMISTRY - COLLEGES (CONTD.)

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83.	6244	Dr. D.K. Rastogi, Lecturer, Meerut College, Meerut.	Spectral data vis-a-vis nephelauxetic effect and stereochemistry of some metal complexes having d ² d ⁷ and d ⁸ configuration.	Chemicals: Total:	<u>Rs.2,000</u> <u>Rs.2,000</u>
84.	6245	Dr. R.K. Upadhyay, Lecturer, N.R.E.C. College, Khurja.	Analytical investigations on ketoanils.	Chemicals: Total:	<u>Rs.2,500</u> <u>Rs.2,500</u>
85.	6246	Sh.G. Mittal, Lecturer, I.P. Degree College Bulandshahar.	Stereochemical features vis-a- vis spectral and Magnetic data of some metal complexes of Nitrogen and oxygen donor ligand.	Chemicals: Books: Total:	<u>Rs.1,500</u> <u>Rs. 500</u> <u>Rs.2,000</u>
86.	6247	Sh. C.L. Jain, Lecturer, N.M.H. College, Ghaziabad.	Electronic and Magnetic pro- perties of metal chelates with substituted thiosemi carbazones.	Chemicals: Total:	<u>Rs.1,000</u> <u>Rs.1,000</u>
87.	6248	Dr. D.M.L. Garh, Lecturer, J.V.Jain College, Saharanpur.	Studies on sulphur post- cides.	Chemicals: Total:	<u>Rs.2,000</u> <u>Rs.2,000</u>
88.	6249	Dr. J.S. Tyagi, Lecturer, Meerut College, Meerut.	Synthesis of a few Halexene Pyrimidines & Kinetic studies of their reaction with Nucleophiles.	Chemicals: Total:	<u>Rs.2,500</u> <u>Rs.2,500</u>

CHEMISTRY - COLLEGES C (CONTD.)

1	2	3	4	5
89.	6250	Dr. R.P. Verma, Lecturer, D.A.V. College, Mazaffarnagara	A comparative study on physical properties of Alkaline earth and transition metal soaps in mixed solvents.	Equipment: Rs.1,000 Chemicals: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
90.	6251	Dr. D.K. Rastogi, Lecturer, Meerut College, Meerut.	Recent aspects on the synthesis and stereo-chemistry of Schiff base complexes with transition elements.	Chemicals: <u>Rs.1,500</u> Total: <u>Rs.1,500</u>
91.	6252	Sh.H.C. Khara, Lecturer, I.P. Degree College Bulandshahr.	Electronic spectral data vis-a-vis nephelauxetic effect-calculation and accuracy of the interelectronic repulsion parameter in some metal complexes of amine-oxide ligands.	Chemicals: <u>Rs.1,000</u> Total: <u>Rs.1,000</u>
92.	6253	Sh.S.C. Rastogi, Lecturer, Meerut College, Meerut.	Physico-chemical and spectral properties of some heavy metal ion complexes with N containing ligands derived from Benzo furan.	Chemicals: <u>Rs.1,000</u> Total: <u>Rs.1,000</u>
93.	6254	Sh.B.S. Pannu, Asstt. Prof. College of Basic Sciences & Humanities, Panjab Agri. Univ. Ludhiana.	Studies on metal complexes of derivatives of salicylic acid.	Chemicals: <u>Rs.1,500</u> Total: <u>Rs.1,500</u>
94.	6255	Sh.G. Punnaiah, Lecturer, Arts & Science College, Warangal.	Kinetics of Nuclwophilic substitution of aromatic Halides in various aquo-Organic Mixtures.	Chemicals: <u>Rs.1,000</u> Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>

CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4
95.	6256	Sh.P.R.N. Rao, Lecturer, Arts & Sc.College, Warangal.	Kinetics of oxidation of substituted Bengaldehydes by $KMnO_4$. Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
96.	6257	Sh.N.R.K. Raju, Lecturer, Department of Chemistry, Osmania University, Hyderabad.	A Mechanistic study of Photo- sensitised ox- idation of Mines. Flash-work at BARC: Rs.1,000 Chemicals: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
97.	6258	Dr.N.R. Bhaddane, Prof. S.S.V.P.S.Sc. College, Dhulia (Maharashtra).	1. Biogenetically patterned synthesis of sesquiterpene lactones. Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u> 2. Chemical exami- nation of com- posita plants.
98.	6259	Dr. S.D. Deore, Lecturer, in Botany & Dr.N.R. Bhaddane, Professor in Chem. S.S.V.P.S.Sc. College, Dhulia.	Microbial Transformations of Organic Compounds. Equipment: Rs.1,500 Contingency & Chemicals: Rs.1,000 etc. Total: <u>Rs.2,500</u>
99.	6260	Dr.V.K. Chadha, Lecturer, Govt. Bangur College, Didwana.	Heterocyclic systems containing bridge head nitrogen atom of medicinal interest. Chemicals: Rs.2,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.3,000</u>
100.	6261	Sh.S.P. Mathur, Lecturer, Govt. Lohia College, Churu, (Rajasthan)	Analytical usefulness of Biological active ligands. Chemicals: <u>Rs.2,000</u> Total: <u>Rs.2,000</u>

CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4	5
101.	6262	Dr. M. Hasan, Lecturer, S.D.(PG) College Beawar, (Rajasthan)	Determination of critical micelle concentration of surfactants using Ion exchange membrane electrodes.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,500</u> Total: <u>Rs.2,500</u>
102.	6263	Dr. P.R. Tales- ara, Lecturer, Govt.College, Jalore, (Rajasthan)	Dipole dipole inter- action and dielectric polarisation.	Chemicals: Rs.1,000 Books: <u>Rs. 500</u> Total: <u>Rs.1,500</u>
103.	6264	Dr. K.C. Gupta, Lecturer, Govt. College, Kota (Rajasthan)	Polarography of Mercapto compounds in aqueous and non-aqueous media.	Books: Rs. 500 Chemicals: <u>Rs.1,000</u> Equipment: <u>Rs.1,500</u> Total: <u>Rs.3,000</u>
104.	6265	Drs.V.P. Mehta, Lecturer, S.D.(PG)College, Jaipur (Rajasthan)	Study of Lithium soaps in mixed solvents using silver soap electrode.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
105.	6266	Dr. S.V. Chiranjeevi Rao, Lecturer, G.M. College, Sambalpur Sambalpur Univ.	Physico-chemical studies on ion exchange reactions of Hydroxylapatites.	Chemicals: Rs.1,500 Equipment: <u>Rs.1,500</u> Total: <u>Rs.3,000</u>
106.	6267	Sh.H.K. Sadafule, Demonstrator, D.B.F. Dayanand College of Arts & Science, Kolhapur.	Study of the Chemistry of the Interfaces.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: <u>Rs.2,000</u>
107.	6268	Dr. L.N. Patnaik, Lecturer, Ravenshaw College, Cuttack.	Dyes for use as photographic sensitizers and dye lasers.	Chemicals: <u>Rs.2,000</u> Total: <u>Rs.2,000</u>

CHEMISTRY - COLLEGES (CONTD.)

1	2	3	4	5
08.	6269	Dr. B.K. Mahapatra Lecturer, Ravenshaw College, Cuttack.	Investigations on some transition metal complexes.	Chemicals: Rs.2,000 Equipment: <u>Rs.1,000</u> Total: Rs.3,000
09.	6270	Dr.V.R. Shastry, Lecturer, School of Studies in Chemistry, Vikram Univ. Ujjain.	Studies in Kinetics and mechanism of Homogeneous acid catalysed ox- idative Decar- boxylation by potassium per- manganate and other oxidants.	Chemicals: <u>Rs.2,000</u> Total: Rs.2,000.
110.	6271	Dr. P.C. Verma, Lecturer, M.S. College, Ujjain.	Effect of certain aryl hydroxamic acids in carcinogenic activity.	Chemicals: Rs.1,000 Equipment: <u>Rs.1,000</u> Total: Rs.2,000
111.	6272	Sh.S.N. Kakkar, Lecturer, M.V. Mahavidyalaya Ujjain.	Studies on the spectrochemical properties of some transition metal complexes.	Chemicals: <u>Rs.1,000</u> Total: Rs.1,000
112.	6273	Sh.B.L. Wazir, Lecturer, Islamia Sc. & Commerce College, Srinagar.	Schiff's base- metal complexes Equilibrium studies and analytical application.	Chemicals: Rs.1,000 Contingency: <u>Rs. 500</u> Total: Rs.1,500
113.	6274	Sh. P.S. Deshmukh Lecturer, Govt. College, Khargone.	Studies of substitution effect and thermodynamics of some thallium(I) complexes.	Chemicals: <u>Rs.1,000</u> Total: Rs.1,000

GEOLOGY - UNIVERSITY DEPTTS.

I

S. No.	Code No.	Name & designation university	Title of the project	Details of grants approved.	
1	2	3	4	5	
1	6507	Dr. T.K.S. Prakasa Rao, Deptt. of Geo- physics, Andhra Univ., Waltair.	Investigation of earthquake source parameters and tectonics in the Himalyan Region.	Film strips Printing Computation Stationary Total	Rs. 900 Rs. 600 Rs. 1,000 Rs. 500 Rs. 3,000
2	6508	Dr. B. Mahabaleswar Lect., in Geology, Bangalore Univ., Bangalore.	A study of the carbonatites in and around Hogenkal area, Tamilnadu.	Fieldwork Books Chemicals Thin Sections Misc. Total	Rs. 500 Rs. 500 Rs. 1,000 Rs. 500 Rs. 500 Rs. 3,000
3	6509	Dr. A.K. Chosh Lect., in Geology, Calcutta Univ., Calcutta.	Sulphide Mineralisa- tion in the eastern part of Darjeeling Distt., WB and its bearing on Metallogeny in Eastern Himalaya	Field work Cra-polishing Books Chemicals Total	Rs. 1,500 Rs. 1,000 Rs. 500 Rs. 1,000 Rs. 4,000
4	6510	Shri T. Kataki Lect. in Applied Geology, Dibrugarh Univ., Dibrugarh.	Geology of sylvetta region, Mikir hills, Assam with particular reference to carbonate rocks.	Fieldwork Books Chemicals Total	Rs. 800 Rs. 200 Rs. 500 Rs. 1,500
5	6511	Sh. N.K. Mohabey Lect. in Geology, Nagpur Univ. Nagpur.	Structural, petrological & geochemical studies of Mafic & associated rocks, North East of Tumsar (Maharashtra)	Fieldwork Chemicals Misc. Total	Rs. 1,000 Rs. 500 Rs. 500 Rs. 2,000
6	6512	Sh. A.A. Paradkar Res. Asstt., Deptt. of Geology, Poona Univ., Poona	A study of kinatic deposits and asso- ciated rocks of Bahadron area, Bhandara Distt., Maharashtra State.	Field work Chemicals Films etc. Total	Rs. 500 Rs. 800 Rs. 200 Rs. 1,500
7	6513	Sh. A.K. Awasthi, Lect. in Geology, Roorkee Univ., Roorkee.	Stratigraphical and sedimentological stud- ies of transaravalli Vindyas in Jodhpur and Nagpur Distts. Raj.	Books etc. Computation Contg. Field work Total	Rs. 500 Rs. 500 Rs. 500 Rs. 1,000 Rs. 2,500
8	6514	Dr. V.N. Agrawal Asstt. Prof. in Applied Geology, Sagar Univ., Sagar.	Investigation of the structural and meta- morphic histories of the precambrian metamorphic rocks of the Central portion of the Narmada valley and their correlation with similar rocks etc.	Fieldwork Photographic material Misc. Total	Rs. 1,000 Rs. 500 Rs. 500 Rs. 2,000

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1	2	3	4.	5.
6.	6515	Dr. J.C.V. Sastri Lect., in Geology Mysore Univ., Mysor.	hydrogeochemical studies leading to endemic fluorosis.	Chemicals Rs.1,500 Field work Rs.1,500 Total Rs.3,000

geology - colleges.

10.	6516	Sh. A.A. Chakrabarti, Lect. in Geology, Durgapur Govt. College, Durgapur.	The structural and stratigraphic evolu- tion of the pelhi system rocks in the Bhim- Jassakhera area Udaipur Distt.	Field work Rs.1,000 Chemicals & stationary Rs. 600 Books etc. Rs. 800 Total Rs.2,400
11.	6517	Dr. C. Bhattacharya, Lect. in Geology Durgapur Govt., College, Durgapur.	Development of mathe- matical models for Migmatisation.	Fieldwork Rs.1,000 Thin section Rs.1,000 Chemicals Rs.1,000 Books Rs.1,000 Computation Rs.1,000 Total Rs.5,000
12.	6518	Dr. S. Ray, Lect., in Geology Bengal Engg., College, Howrah.	Chemical study of acid granulites in Tamil Nadu & Karnataka	Field work Rs.2,000 Contg. Rs.1,000 Books and Jrls Rs.1,000 Total Rs.4,000
13.	6519	Dr. K.P. Ghosh, Lect., in Geology Presidency College Calcutta.	Structural and metamorphic evolution of the B.G.C. Arvalli, Raialo and Delhi rocks around Bedia, Udaipur and its bearing on Stratigraphy.	Field Work Rs.1,000 Thin section Rs. 500 Misc. Rs. 500 Total Rs.2,000
14.	6520	Sh. D. Ghosh Lect. in Geology, Bengal Engg., College, Howrah.	Structural evolu- tion of the Dharwar rocks around Doddagundi, Karnataka State & its relation to stratigraphy & metamorphism.	Field work Rs.1,000 Analysis Rs. 500 Thin section Rs. 500 Misc. Rs. 500 Total Rs.2,500
15	6521	Sh. P.K. Bandyo- padhyay, Lect. in Geology, Presidency College, Calcutta.	Petrology of the Chakradharpur granite gneiss body in the western part of Singbhum shear zone Bihar with special reference to its origin & emplacement.	Field work Rs.1,000 Thin section Rs. 500 Misc. Rs.1,000 Total Rs.2,500

contd.

2	3	4	5	
6522	Sh. D.K. Dasgupta, Presidency College, Calcutta.	Carbonates and associated alkaline rocks of Mer, Sundria and Sildar Hills, Birchi Distt., Rajasthan & their status in relation to alkali-carbonatite complexes of the Deccan Volcanic Province.	Chemical analysis Thin sections Misc. Total	Rs.2,000 Rs. 500 Rs. 500 Rs.3,000
6523	Sh. M.B. Chakrabarti Lect. in Geology, Presidency College, Calcutta.	Geology of the Iron ore group and the associated rocks on western part of the Iron ore range and adjoining areas in Singhbhum-Koh-jhar Sundargarh, Distts of Bihar, Orissa.	Field work Misc. Total	Rs.1,000 Rs.1,000 Rs.2,000
6524	Sh. C.A. Kalita, Lect. in Geology Sibsagar College Sibsagar, F.O. Joysagar.	Sedimentological & palynological study of sub-surface - sediments from the Rudrasagar oil field (Assam).	Books Chemicals Fieldwork Misc. Total	Rs. 500 Rs.1,000 Rs. 500 Rs.1,000 Rs.3,000
6525	Sh. R. Barghain, Lect. in Geology, Sibsagar College, Sibsagar, PO Joysagar.	Biostratigraphic zonation of Tipam series.	Geol. Chemicals Fieldwork Misc. Total	Rs.1,000 Rs. 500 Rs. 500 Rs. 500 Rs.2,500
6526	Sh. M.P. Sharma Lect. in Geology, Arya Vidyapeeth College, Gauhati.	Mineralogy & geochemistry of the Kynatic deposits and associated metamorphic of parts of Kanigiri Taluk, Prakasam Distt. AP.	Fieldwork X-ray work Chemical analysis Misc. Total	Rs.1,500 Rs.1,000 Rs.1,000 Rs. 500 Rs.4,000
6527	Sh. S.K. Chadha Prof. in Geology, Govt. G.M. Sc. College, Jammu.	Studies of the rock units sedimentological studies of the rock units of the areas between Jangal Gali and Dalal (JK)	Fieldwork Contg. Total	Rs.2,000 Rs. 500 Rs.2,500
6528	Sh. Rajendra Kant, Deptt. of Geology, B.S.V.V. Degree Col. Lucknow	Paleontological and stratigraphical studies of lower Tertiary rocks between Narain Sarovar and Bangarh S.N. of Kutch with special reference to Calcareous algae.	Fieldwork Misc. Total	Rs.1,500 Rs. 500 Rs.2,000
6529	Sh. A.K. Sen, Demonstrator in Geology, Asutosh College, Bhowanipur (WB)	Geobotanical studies of Iron-manganese field of Barbil, Keojarh, Distt. Orissa.	Chemicals Books Fieldwork Total	Rs. 500 Rs. 700 Rs.1,500 Rs.2,700
6530	Sh. S.D. Shukla, Head of the Geology Deptt. SGRK College Dehradun.	Some aspects of Siwaliks in a part of Doon Valley.	Books Fieldwork Misc. Total	Rs. 500 Rs.1,500 Rs.1,000 Rs.3,000

List of Minor Research Projects in Geography
approved by the Selection Committee.

GEOGRAPHY - UNIVERSITIES:

No.	Code No.	Name & Designation University	Title of the Project	Details of Grants approved.
2	3		4	5
6531		Dr.K.Z. Amani, Lecturer, Aligarh Muslim University, Aligarh.	Linguistic Geo- graphy of India.	Field work & Library work: Rs.1,000 Total: Rs.1,000
6532		Sh.V.U.B. Rao, Lecturer in Geography, College of Sci & Technology, Andhra Univ. Waltair.	Geomorphology of the Coast from Visakhapatnam to Pudemadaka.	Field work: Rs.2,500 Equipment: Rs. 500 Books: Rs. 500 Contingency: Rs.1,000 Total: Rs.4,500
6533		Dr.D.N. Singh, Lecturer in Geography, Banaras Hindu University, Varanasi.	Transportation and Regional Development with particular reference to eastern Uttar Pradesh.	Field work: Rs.3,000 Contingency: Rs.1,000 (including stationery, postage, maps, & papers) Total: Rs.4,000
6534		Dr.Rama Yagya Singh, Lecturer, in Geography, Banaras Hindu Univ. Varanasi.	Analysis, Search and Planning of Rural Growth Centres in a part of the lower Ganga Ghadhara Doab. Eastern U.P.	Field work: Rs.2,000 Contingency: Rs.1,000 Total: Rs.3,000
6535		Dr. H.N.Sharma Lecturer in Geography, Univ. of Gauhati, Gauhati.	Accessibility and rural development in Assam.	Field work: Rs.2,500 Contingency: Rs.1,000 Books: Rs. 500 Total: Rs.4,000
6536		Sh.J.N. Pandey, Lecturer, in Geography, Gorakhpur Univ. Gorakhpur (UP)	Determination of land use changes, Arable Potentials and land use develop- ment in Saryupur Plain Analytical investigation in Agricultural Typology.	Field work: Rs.2,500 Books & Journals: Rs. 500 Equipment: Rs. 500 Contingency: Rs. 500 Total: Rs.4,000

GEOGRAPHY - UNIVERSITIES (CONTD.)

Sl. No.	Name	Institution	Topic	Field work	Books & Xeroxing	Contingency	Total
6537	Mrs. Atiya Habeeb Kidwai, Asstt. Prof., Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University.		Characteristics and process of urbanisation in colonial India - A case study of Calcutta & its Hinterland (1850-1914).	Rs. 2,200	Rs. 600	Rs. 2,000	Rs. 4,800
6538	Sh. S. S. Naregal, Prof. in Geography, Karnatak Univ., Dharwar-3.		Rural and Urban Development in Karnataka Coast - A study in Economic and Human Geography.	Rs. 1,000	Rs. 500	Rs. 1,500	Rs. 3,000
6539	Sh. S. G. Kadarmandalgi, Cartographer, Karnatak Univ., Dharwar.		Agricultural Geography of Rice Cultivation in Karnataka.	Rs. 500	Rs. 1,500	Rs. 500	Rs. 2,500
6540	Sh. Baleshwar Thakur, Lecturer in Geography, Patna University, Patna.		Urban Settlements in Eastern India: Entropy changes and Pattern Analysis.	Rs. 1,000	Rs. 500	Rs. 1,000	Rs. 2,500
6541	Sh. P. W. Deshmukh, Lecturer in Geography, Shivaji Univ. Kolhapur.		A study of Central Places in Upper Krishna Valley.	Rs. 2,000	Rs. 1,000	Rs. 200	Rs. 3,200
6542	Smt. Gouri Dutta, Lecturer in Geography, Utkal University, Bhubaneswar.		Demographic Structure of Midnapore - A study in Population Geography.	Rs. 500	Rs. 2,000	Rs. 500	Rs. 3,000

GEOGRAPHY - COLLEGES

2	3	4	5
6543	Sh. G.S. Lal, Head of the Deptt. Govt. PG College, Chamolie.	Landscape patterns in Chamoli Distt. of U.P. Himalayas.	Field work: Rs.2,000 Collection of Libraries:Rs.2,000 Drawing, Mapping materials & Equipment: Rs.1,000 Books: Rs. 500 Total: Rs.5,500
6544	Dr. A. Kumar, Lecturer in Geography, T.N.B. College, Bhagalpur.	Morphometric properties of drainage basins and slope form in Chotanagpur High lands.	Equipment: Rs.3,000 Field Work: Rs.2,000 Total: Rs.5,000
6545	Sh.B. Lal Sinha, Lecturer, Rajendra College, Chapra.	Central place system in Mithila plain (Bihar).	Books: Rs. 500 Field work: Rs.3,000 Contingency: Rs. 300 (including drawing requirements) Total: Rs.3,800
6546	Dr.N. Mohammad, Lecturer, Kirori Mal College, Delhi-110007.	Technological change & spatial diffusion of Agricultural innovations in Trans-Ghaghara Plain.	Books & Journals: Rs. 350 Contingency:Rs.1,250 (including stationery map, typing data processing) Total: Rs.1,600
6547	Sh.R. Saikia, Lecturer, Cotton College, Gauhati.	Geomorphology of the Kepili Basin: A case study.	Books & Journals: Rs. 250 Field work: Rs. 250 Equipment: Rs. 250 Field work: Rs. 500 Contingency for purchase of topo- graphical maps, etc. Rs. 500 Total: Rs.1,500

List of Minor Research Projects in Geography
approved by the Selection Committee.

GRAPHY -- UNIVERSITIES:

No.	Code No.	Name & Designation University	Title of the Project	Details of Grants approved.
2	3		4	5
6531		Dr.K.Z. Amani, Lecturer, Aligarh Muslim University, Aligarh.	Linguistic Geo- graphy of India.	Field work & Library work: Rs.1,000 Total: Rs.1,000
6532		Sh.V.U.B. Rao, Lecturer in Geography, College of Sci & Technology, Andhra Univ. Waltair.	Geomorphology of the Coast from Visakhapatnam to Pudemadaka.	Field work: Rs.2,500 Equipment: Rs. 500 Books: Rs. 500 Contingency: Rs.1,000 Total: Rs.4,500
6533		Dr.D.N. Singh, Lecturer in Geography, Banaras Hindu University, Varanasi.	Transportation and Regional Development with particular reference to eastern Uttar Pradesh.	Field work: Rs.3,000 Contingency: Rs.1,000 (including stationery, postage, maps, & papers) Total: Rs.4,000
6534		Dr.Rama Yagya Singh, Lecturer, in Geography, Banaras Hindu Univ. Varanasi.	Analysis, Search and Planning of Rural Growth Centres in a part of the lower Ganga Ghadhara Doab. Eastern U.P.	Field work: Rs.2,000 Contingency: Rs.1,000 Total: Rs.3,000
6535		Dr. H.N.Sharma Lecturer in Geography, Univ. of Gauhati, Gauhati.	Accessibility and rural development in Assam.	Field work: Rs.2,500 Contingency: Rs.1,000 Books: Rs. 500 Total: Rs.4,000
6536		Sh.J.N. Pandey, Lecturer, in Geography, Gorakhpur Univ. Gorakhpur (UP)	Determination of land use changes, Arable Potentials and land use develop- ment in Saryupur Plain Analytical investigation in Agricultural Typology.	Field work: Rs.2,500 Books & Journals: Rs. 500 Equipment: Rs. 500 Contingency: Rs. 500 Total: Rs.4,000

GEOGRAPHY - UNIVERSITIES (CONTD.)

Sl. No.	Name	Subject	Details	Total
6537	Mrs. Atiya Habeeb Kidwai, Asstt. Prof., Centre for the Study of Regional Development, School of Social Sciences, Jawaharlal Nehru University.	Characteristics and process of urbanisation in colonial India - A case study of Calcutta & its Hinterland (1850-1914).	Field work: Rs. 2,200 Books & Xeroxing: Rs. 600 Contingency for purchase drawing requirements & Computation: Rs. 2,000 Total: Rs. 4,800	Rs. 4,800
6538	Sh. S. S. Naregal, Prof. in Geography, Karnatak Univ., Dharwar-3.	Rural and Urban Development in Karnataka Coast - A study in Economic and Human Geography.	Field work: Rs. 1,000 Books: Rs. 500 Contingency (include expenses for Sty. Paper & Typing etc.): Rs. 1,500 Total: Rs. 3,000	Rs. 3,000
6539	Sh. S. G. Kadarmandalgi, Cartographer, Karnatak Univ., Dharwar.	Agricultural Geography of Rice Cultivation in Karnataka.	Books: Rs. 500 Field work: Rs. 1,500 Contingency: Rs. 500 Total: Rs. 2,500	Rs. 2,500
6540	Sh. Baleshwar Thakur, Lecturer in Geography, Patna University, Patna.	Urban Settlements in Eastern India: Entropy changes and Pattern Analysis.	Books & Journals: Rs. 500 Field Work: Rs. 1,000 Contingency to include cost of data processing, etc.: Rs. 1,000 Total: Rs. 2,500	Rs. 2,500
6541	Sh. P. W. Deshmukh, Lecturer in Geography, Shivaji Univ. Kolhapur.	A study of Central Places in Upper Krishna Valley.	Field work: Rs. 2,000 Contingency: Rs. 1,000 Books: Rs. 200 Total: Rs. 3,200	Rs. 3,200
6542	Smt. Gouri Dutta, Lecturer in Geography, Utkal University, Bhubaneswar.	Demographic Structure of Midnapore - A study in Population Geography.	Books: Rs. 500 Field Work: Rs. 2,000 Contingency for maps & Typing etc.: Rs. 500 Total: Rs. 3,000	Rs. 3,000

GEOGRAPHY - COLLEGES

2	3	4	5
6543	Sh. G.S. Lal, Head of the Deptt. Govt. PG College, Chamolie.	Landuse patterns in Chamoli Distt. of U.P. Himalayas.	Field work: Rs.2,000 Collection of Libraries:Rs.2,000 Drawing, Mapping materials & Equipment: Rs.1,000 Books: Rs. 500 Total: Rs.5,500
6544	Dr. A. Kumar, Lecturer in Geography, T.N.B. College, Bhagalpur.	Morphometric properties of drainage basins and slope form in Chotanagpur High lands.	Equipment: Rs.3,000 Field Work: Rs.2,000 Total: Rs.5,000
6545	Sh.B. Lal Sinha, Lecturer, Rajendra College, Chapra.	Central place system in Mithila plain (Bihar).	Books: Rs. 500 Field work: Rs.3,000 Contingency: Rs. 300 (including drawing requirements) Total: Rs.3,800
6546	Dr.N. Mohammad, Lecturer, Kirori Mal College, Delhi-110007.	Technological change & spatial diffusion of Agricultural innovations in Trans-Ghaghara Plain.	Books & Journals: Rs. 350 Contingency:Rs.1,250 (including stationery map, typing data processing) Total: Rs.1,600
6547	Sh.R. Saikia, Lecturer, Cotton College, Gauhati.	Geomorphology of the Kepili Basin: A case study.	Books & Journals: Rs. 250 Field work: Equipment: Rs. 250 Field work: Rs. 500 Contingency for purchase of topo- graphical maps, etc. Rs. 500 Total: Rs.1,500

BIOGRAPHY - COLLEGES (CONTD.)

1	2	3	4	5
6548	Sh.C.S. Joshi, Lecturer, D.B.S. College, Dehradun.	Service Centres in Garhwal Himalaya.	Field work: Rs. 750 Books & Journals: 250 Contingency: Rs.1,000 (including typing & stationery etc.) Total: Rs.2,000	
6549	Sh.J.L. Raina, Lecturer in Geography, Govt.G.M.Sc. College, Jammu.	Evolution of landforms in Jammu Hills.	Books: Rs. 500 Equipment: Rs. 500 Field work: Rs.2,000 Total: Rs.3,000	
6550	Dr. T. Singh, Head of the Deptt. D.A.V. College, Lucknow.	Tourism in India: - A study in Recreation resources & Socio-economic aspects of new Migration.	Field work: Rs.3,500 Books & Journals: Rs. 500 Total: Rs.4,000	
6551	Sh.G.Soundaravalli Professor in Geography, Govt. Arts College, Karur, (Madras State).	Morphometric analysis of Amravathi River Basin.	Equipment: Rs.1,500 Books: Rs. 500 Field work: Rs.1,600 Contingency: Rs.1,000 Total: Rs.4,600	
6552	Sh. S. Ansari, Lecturer, S.S.V.(PG)College, Hapur.	Regional Planning and Economic development - Case study of Bihar.	Books: Rs. 500 Field work: Rs.1,800 Equipment: Rs. 500 Total: Rs.2,800	
6553	Sh.J.N. Sharma, Head of the Deptt. of Geography, S.S.V(PG) College, Hapur.	Influence of land- use on the distri- butional pattern of population in the central Ganga- Yamuna Doab.	Field work: Rs.2,000 Contingency: Rs.1,000 for purchase of drawing requirements and for data processing. Books & Journals: Rs. 500 Total: Rs.3,500	

GEOGRAPHY - COLLEGES (CONTD.)

2	3	4	5
6554	Sh.S.G. Bapurao, Lecturer, Arts, Science & Commerce College, Shahunagar, Kolhapur.	The remedies for the utilisation of waste land in South Konkan.	Field work: Rs.1,500 Books: Rs. 200 Contingency to purchase drawing requirements & typing: Rs. 500 Total: Rs.2,200
6555	Sh.S.S. Baburai, Lecturer, Shree Warana Mahavidyalaya, Warnagar (Kolhapur).	Spatio-temporal development of Dairy farming in Warana-Basin - A Geographical appraisal.	Books: Rs. 300 Field work: Rs.2,000 Contingency: Rs. 500 for drawing requirements & typing etc. Total: Rs.2,800
6556	Dr.B.L. Kumawat, Lecturer in Geography, Vidya Bhawan Rural Instt. Udaipur.	A study of Market-Centres and their role in area development - A case study of Udaipur-Plateau.	Field work: Rs.2,500 Books & Journals: Rs. 500 Contingency Rs.1,000 including typing, drawing, requirements, map drawing and simple field work equipment: Total: Rs.4,000
6557	Sh.K. Mahto, Lecturer in Geography, Patna Univ. Patna.	Population mobility in Eastern India: A study in population Geography.	Books & Maps: Rs. 750 Field work: Rs.2,500 Contingency Rs.1,000 for data processing & typing reports: Total: <u>Rs.4250</u>

List of Minor Research Projects in Home Science
approved by the Selection Committee.

HOME SCIENCE (UNIVERSITY DEPARTMENTS)

No.	Code No.	Name & Designation University	Title of the Project	Details of Grants Approved.
6275		Smt. P. Geervani, Associate Prof. A.P.Ag. University, Hyderabad.	The nature & quality of carbohydrates and proteins in pulses and digestibility as affected the home processing.	Chemicals: Rs.3,000 Equipment: <u>Rs.2,000</u> Total: Rs.5,000
6276		Shm.Veenu Seth, Lecturer, Lady Irwin College N. Delhi.	Effect of protein quality on carbohydrate metabolism.	Chemicals: Rs.2,500 Equipment: Rs.1,000 Total: Rs.3,500

MATHEMATICS - Universities

1	2	3	4	5
1.	6558	Dr. K. Lal, Reader in Maths., B.H.U. Varanasi.	Fluid Mechanics and allied branches.	Typing & postage Rs. 1,000
	6559	Dr. S.N. Prasad, Reader, PG Deptt. of Maths., Bhagalpur Univ.	A study on simple al- gebraic systems, Alge- braic space and simple separation in topologi- cal spaces.	Books 750
3.	6560	Sh. V.D. Madan, Lect. in Maths, School of Corres- pondence Courses, Delhi University.	Functional education and their applications	Books Contg. Total Rs. 500 Rs. 500 Rs. 1,000
	6561	Dr. B.S. Jain, Head of Maths., Deptt. School of Correspondence Courses, Delhi University.	Ancient Indian Maths.	Books Field work Contg. Total Rs. 500 Rs. 500 Rs. 1,500
	6562	Dr. S. Singh, Head of the Deptt. of Maths Guru Nanak University, Amritsar	The structure theory of modules over here- ditary noetherian prime rings.	Photostat copies Stationery Total Rs. 1,000 Rs. 500 Rs. 1,500
	6563	Dr. A.B. Roy, Lect., in Maths. Jadavpur Univ., Calcutta-32.	Study of central ner- vous system of differ- ent living organisms in relation to informat- ion content and infor- mation processing.	Reprints Contg. Total Rs. 1,000 Rs. 500 Rs. 1,500
	6564	Dr. R.K. Singh, Lect. in Maths, Jammu University, Jammu.	Study of composition operators	Books P.A. Total Rs. 1,500 Rs. 500 Rs. 2,000
3.	6565	Sh. N.M. Bujurke, Lect. in Maths, Karnataka Univ. Dharwar.	Oscillatory and suctorm and problems in viscoelasticity and MHD	Books & Misc. Rs. 500
	6566	Dr. R.N. Agarwal, Lect., in Maths, Meerut College, Meerut.	Developing learning pack- ages and testing their effectiveness for training of teachers and effective implementation of modern Mathematics programmes in elementary classes in U..	Fabrication Fieldwork Total Rs. 2,000 Rs. 500 Rs. 2,500

1	2	3	4	5
10.	6567	Sh. A. Radhakrishna, Lect., in Maths P.G. Centre, Vidyaranyaपुरी, Warangal.	Ordered Algebraic systems Semi-groups, Non-Associative Rings.	Fieldwork Rs. 500 Stationery & postage Rs. 500 Total Rs. 1,000
11.	6568	Dr. H.J. Agarwal Reader & Head of Deptt. of Statistics Rajasthan Univ.	Construction and analysis multidimensional designs and related topics.	Books Rs. 1,000 Computation Rs. 1,000 Total Rs. 2,000
12.	6569	Dr. N.C. Jain, Lect. in Maths, Rajasthan Univ.	The effect of section/ injection of the Bound- ary layers with and without variable physical properties.	Books Rs. 500 Computation Rs. 700 Contg. Rs. 300 Total Rs. 1,500
13.	6570	Sh. R.C. Chaudhary Lect. in Maths, Rajasthan Univ. Jaipur.	Flow problems of non- newtonian fluids	Computation Rs. 1,000 Eqpt. Rs. 250 Total Rs. 1,250
14.	6571	Sh. M.V. Bhatt, Reader in Maths Sardar Patel Univ. Vallabh Vidyanagar	Lubrication of MHD porous bearings.	Books Rs. 1,000 Computation Rs. 500 Total Rs. 1,500
15.	6572	Sh. D.S. Gundu Rao Asstt. Prof. in Maths Univ. of Ag. Sc., Bangalore.	Some studies in Ring Theory	Books Rs. 2,000
16.	6573	Dr. R.C. Jain, Lect., in Maths & Statistics, Vikram University Ujjain.	Study of a test procedure after three preliminary tests of significance in mixed model.	Computation Rs. 1,000 Books Rs. 1,000 Total Rs. 2,000
17.	6574	Sh. S.M. Sinha, Reader & Head of the Deptt. of Operational Research Delhi University.	Bicriterion Programming.	Books Rs. 1,000 Stationery Rs. 500 Total Rs. 1,500
18.	6575	Sh. R. Roy, Lect., in Maths, Regional Engineering College, Rourkala	Some study of the non-newtonian fluids	Books Rs. 1,000 Computation Rs. 1,000 Total Rs. 2,000

19.	6576	Dr. M.M.Channabasappa Head of the Deptt of Maths, Karnataka Regional Engg., College, Suratkal (Karnataka)	Theoretical and experimen- tal studies regarding mini- mation of losses in the conveyance of fluids in lands (including bends) by lining the walls with non- erodible performable material	Eqpt. & fabrication Working Expenses & computation charges Total	Rs. 8,000 Rs. 1,500 Rs. 9,500
20.	6577	Dr.G.Ranganna, Prof., Deptt of Applied Mechanics & Hydraulics, Karnataka Regional Engg.College Suratkal(Karnataka)	Flow past Granmular media	Eqpt.& fabrication Computation Contg. Total	Rs. 3,000 Rs. 1,000 Rs. 1,000 Rs. 5,000

COLLEGES

1.	6578	Sh. M.S. Murthy, Lect. in Maths, Govt. College, Raja Mundry.	Head and Mass transfer problems	Stationery Books Total	Rs. 1,000 Rs. 2,000 Rs. 3,000
2.	6579	Sh. B.G. Jayaram, Lect. in Maths, St. Joseph's College Bangalore.	Methods of functional analysis in approximation theory	Books Contg. Total	Rs. 1,000 Rs. 1,000 Rs. 2,000
3.	6580	Sh. R. Nayak, Lect., in Maths, R.C.M. Sc. College, Khallikote.	A few problems on flow of non-newtonian fluids.	Books Computation Contg. Total	Rs. 1,000 Rs. 500 Rs. 1,000 Rs. 2,500
4.	6581	Sh. C.K. Yadav, Lect. in Maths, Chapra Mahavidyalaya, Chapra (Bihar)	Relativistic cosmology	Books Computation Contg. Total	Rs. 2,000 Rs. 1,000 Rs. 1,000 Rs. 4,000
5.	6582	Sh. R.K.Bhattacharya Lect. in Maths, B.K.C. College, Calcutta-35.	Effect of heterogeneity of Earth's cruston elastic wave propagation.	Books Computation Total	Rs. 1,000 Rs. 2,000 Rs. 3,000
6.	6583	Dr. V.C. Nair, Asstt. Prof. and Dr. T.R. Ramakrishna, Lect. Deptt. of Maths Regional Engg. College Calicut.	Optimization of the transportation system	Books Fieldwork Computation Total	Rs. 1,000 Rs. 1,500 Rs. 4,000 Rs. 6,500

1	2	3	4	5
27.	6584	Dr. M.C. Puri Lect., in Maths, Hans Raj College, Delhi.	Transporation problems	Books Rs. 1,000 Contg. Rs. 500 Total Rs. 1,500
28.	6585	Sh. H.L. Bhatia Lect. in Maths, P.G.-D.A.V. College, New Delhi.	Working on transportation problems and trade off.	Books Rs. 1,500
29.	6586	Sh. M. Rajbongshi Head of the Maths Deptt. North Lakhim- pur College.	Combinatorial search problems	Books Rs. 1,500 Fieldwork Rs. 1,000 Total Rs. 2,500
30.	6587	Dr. B. Prasad, Lect. in Maths, DAV PG College, Azamgarh.	Boundary shock waves with its application to meteor flight problems and astro physical phenomem.	Books Rs. 1,500 Contg. Rs. 500 Total Rs. 2,000
31.	6588	Dr. P.N. Tandon, Head of the Deptt. of Maths, H.B. Tech. Institute, Kanpur.	Some problems in lubrication theory and their application of human joints.	Contg. Rs. 3,000
32.	6589	Sh. D. Alka, Lect. in Maths, S.S.M. Colleges of Arts & Sc., Shahabad (Karnataka).	Some new results in graph theory.	Books Rs. 500
33.	6590	Sh. O.P. Rana Lect., in Maths., Chotu Ram Arts College, Sonapat.	Finite deformation in elastic bodies	Books Rs. 40 Fieldwork Rs. 1,50 Total Rs. 1,90
34.	6591	Dr. G. Abraham, Head of the Deptt. of Maths, Madras Christian College, Madras.	Development of observation- al astronomy	Books Rs. 2,00 Fieldwork Rs. 1,00 Contg. Rs. 50 Total Rs. 3,50
35.	6592	Dr. R. Siromoney Associate Prof. in Maths, Madras Christian College, Madras.	1. Parallelism 2. Monograph on formal languages and automata theory.	Books Rs. 1,00 Contg. Rs. 1,50 Total Rs. 2,50
36.	6593	Sh. M. Chandrasekharan Asstt. Prof. in Maths. Madras Christian College, Madras.	Factor analytic studies of certain chola inscri- ptions in Tamil Nadu.	Fieldwork Rs. 1,0 Computation Rs. 1,0 Eqpt. Rs. 1,0 Contg. Rs. 5 Total Rs. 3,5

1	2	3	4	5
37.	6594	Dr. G. Siromoney Madras Christian College, Madras.	Two dimensional growth models.	Books Rs. 2,000 Computation Rs. 2,000 Contg. Rs. 1,000 Total Rs. 5,000
38.	6595	Dr. T. Govindarajulu Asstt. Prof. in Maths Regional Engg. College Tiruchirapalli.	Singular perturbation problems in Hydrodynamics and hydromagnetics	Books Rs. 500 Computation Rs. 1,000 Total Rs. 1,500
39.	6596	Sh. B.N. Rastogi Head of the Maths Deptt. A.S. Degree College, Mawana(UP).	The stability of fluid flows in particular reference to earth atmosphere.	Computation Rs. 1,500 Books Rs. 1,000 Total Rs. 2,500
40.	6597	Dr. R.K. Gupta Head of the Deptt. of Maths, Malviya Regional Engineering College, Jaipur.	Unsteady convective flow of blood	Books Rs. 1,000 Computation Rs. 2,000 Total Rs. 3,000
41	6598	Sh. M.C. Goyal Lect. in Maths Maharaja's College, Jaipur.	Study of viscous fluid flows.	Computation Rs. 1,000 Eqpt. Rs. 100 Total Rs. 1,100
42.	6599	Dr. Y.N. Gaur Lect., in Maths M.R. Engg. College, Jaipur.	Flow problems in fluid mechanics.	Books Rs. 1,000 Computation Rs. 1,500 Travel Rs. 500 Total Rs. 3,000
43.	6600	Sh. D.S. Lal Lect., in Maths, K.B. College, Bermo P.O. Jarangdhi, Giridih (Bihar).	Study of generalised languerre functions.	Books Rs. 1,500 Travel Rs. 1,000 Total Rs. 2,500
44.	6601	Dr. G.K. Pradhap Reader in Maths, College of Engg. Kurla (Orissa).	Topics in Hydrodynamic stability.	Books Rs. 2,000 Computation Rs. 2,000 Total Rs. 4,000
45.	6602	Sh. A.G. Gopal Lect. in Maths, Arts Commerce & Sc., College, Sahunagar (Kolhapur)	Self-gravitating magnetofluids	Books & other research articles Rs. 1,000 Contg. Rs. 1,000 Total Rs. 2,000
46.	6603	Sh. B.M. Sharma, Lect. in Maths, SKN College of Ag., Johner (Rajasthan).	Rayleigh-Taylor instability.	Books Rs. 1,000 Computation Rs. 1,000 Total Rs. 2,000

1	2	3	4	5	
47.	6604	Sh. P.S. Thapliyal Lect. in Maths. Birla Govt. P.G. College Srinagar (Garhwal)	Green's function applied to phonus problems.	Books Computation Travel Total	Rs. 2,000 Rs. 2,000 Rs. 1,000 Rs. 5,000
48.	6605	Sh. C.L. Koul Lect. in Maths M.R. Engg. College Jaipur.	Investigations in generalised laplace transforms and special functions	Books Computation Total	Rs. 1,000 Rs. 1,500 Rs. 2,500
49.	6606	Dr. R. Sahu Lect. in Maths, B.S. College, Lohardanga.	A study of certain special functions.	Books	Rs. 2,000
50.	6607	Sh. R.K. Singh Lect. in Stats., Lucknow University.	Assessment of factors of population growth and estimation of growth rate in U.P.	Survey Books Contg. Total	Rs. 2,500 Rs. 1,000 Rs. 1,000 Rs. 4,500

List of Minor Research Projects in
Physics approved by the Selection
 Committee for financial assistance
 during 1975-76.

UNIVERSITIES:

No.	Code No.	Name, Designation/ University.	Title of the Project	Details of grants approved
6001		Dr. Mohammad Zafar, Lecturer, Aligarh Muslim Univ.	Hadron-Hadron interactions at High Energies.	Objectives: Rs.3000/- Books: Rs. 500/- Sandal: Rs. 900/- Vil M...: Rs: 300/- Counters: Tissue Papers: Rs. 300/- Total: <u>Rs.5000/-</u>
6002		Dr. S.P. Agrawal, Reader in Physics, A.P.S. Univ. Roze, (M.F.)	To study the short term as well as long term variations of cosmic ray intensity using multiplicity data.	Compu- Rs.1000/- tion: Desk Cal.: Rs.6000/- Publication etc.: Rs. 500/- Total: <u>Rs.7500/-</u>
6003		Dr. Yashwant Singh, Lecturer, Department of Physics Banaras Hindu Univ. Varanasi.	Molecular Theory of liquids and liquid crystal- line phase.	Computation: Rs.4000/- Total: <u>Rs.4000/-</u>
6004		Dr. K.K. Dey Reader in Physics Banaras Hindu Univ. Varanasi.	Optimum design of Antenna Array.	Computation Rs.1000/- Equipment: Rs.5000/- Total: <u>Rs.6000/-</u>
6005		Dr. G.D. Baruah, Lecturer, Physica department, Dibrugarh Univ. Dibrugarh.	Spectroscopic investigations Bioluminescence	Equipment: Rs.7500/- Books: Rs.1000/- Field work: Rs.1500/- Total: <u>Rs.10000/-</u>

PHYSICS - UNIVERSITIES (Contd.)

2	3	4	5
5. 6006	Dr. S.K. Sarmah, Lecturer, Deptt. of Physics, Gauhati University, Gauhati.	Climatology of Assam.	Contingency & Chemicals: Rs. 1,000 Data Collec- tion: Rs. 2,500 Books: Rs. 1,000 Equipment: Rs. 3,000 Computation: Rs. 1,000 Total: <u>Rs. 6,000</u>
7. 6007	Dr. H.B. Lal, Lecturer, Deptt. of Physics, Gorakhpur Univ. Gorakhpur.	Electrical Transport & Magnetic Properties of Magnetic Semi-conduc- tors.	Books etc: <u>Rs. 2,400</u> Chemicals: Rs. 4,000 Fabrication: Rs. 2,000 Field Work: Rs. 1,500 Total: <u>Rs. 9,900</u>
8. 6008	Dr. Upendra Kumar, Lecturer, Deptt. of Physics Gorakhpur Univ. Gorakhpur.	Studies of some biophysical systems using physical systems.	Book etc: Rs. 1,000 Equipment & Fabrication: Rs. 4,000 Computation & Travel: <u>Rs. 2,000</u> Total: <u>Rs. 7,000</u>
9. 6009	Dr. A.K. Pant, Lecturer, Deptt. of Physics, Gorakhpur Univ. Gorakhpur.	Crystallograp- hic studies of some Bio- Physically important molecules.	Chemicals: Rs. 2,000 Computation: Rs. 2,000 Total: <u>Rs. 4,000</u>
10. 6010	Dr. S.C. Datt, Reader, Deptt. of P.G. studies & Research in Physics, Jabalpur Univ. Jabalpur.	Electrical & Thermal proper- ties of some organic semi- conductors.	Chemicals & Glasswares: Rs. 2,000 Equipment & Fabrication: Rs. 7,000 Books etc.: Rs. 1,000 Total: <u>Rs. 10,000</u>

2	3	4	5
1. 6011	Dr. T.R. Joshi Lecturer in Applied Physics P.S. UNIVERSITY Baroda, Baroda.	Luminescence study of pure and doped alkali halides.	Chemicals: Rs. 1,500 Contingency: Rs. 1,500 Total: <u>Rs. 3,000</u>
2. 6012	Dr. A.A. Joshi, Reader, Meerut University, Meerut.	i) Defects in alkali halide crystals. ii) Magnetic anisotropy in thin films	Computation: <u>Rs. 2,500</u> Total: <u>Rs. 2,500</u>
3. 6013	Dr. V.K. Agarwal Lecturer, Instt. of Advanced Studies, Meerut University, Meerut.	A study of dielectric properties of liquid crystals in magnetic field at microwave frequencies.	Equipment: Rs. 8,000 Chemicals: <u>Rs. 2,000</u> Total: <u>Rs. 10,000</u>
4. 6014	Dr. R. Gowda Lecturer, Deptt. of P.G. studies & Research in Physics. Mysore Univ., Mysore.	Photoelectric cross section measurements.	Fabrication: Rs. 4,000 Equipment: Rs. 4,000 Photocopies & stationary: <u>Rs. 1,000</u> Travel: <u>Rs. 1,000</u> Total: <u>Rs. 10,000</u>
5. 6015	Dr. S. Rajago- palan, Lecturer Deptt. of Physics, Nagpur Univ. Nagpur.	Ultrasonic attenuation & dispersion studies.	Equipment: Rs. 6,300 Chemicals: <u>Rs. 1,000</u> Books: <u>Rs. 800</u> Computation: <u>Rs. 500</u> Misc.: <u>Rs. 800</u> Total: <u>Rs. 9,400</u>
6016	Sh. E. Rajagopal, Lecturer in Physics Srivenkateswara University, Tirupati.	Ultrasonic absorption near critical point and ultrasonic velocity dispersion.	Components: Rs. 4,000 Fabrication: <u>Rs. 2,500</u> Chemicals: <u>Rs. 1,500</u> Total: <u>Rs. 8,000</u>

1	2	3	4	5
17. 6017	Dr. Y.S.Reddy Lecturer Sri Venkateswara University Tirupati.	Spectroscopic investigations on transition metal halides and transition metals complexes.	Chemicals: Photographic materials: Glass & Sillica: Light sources: Total:	Rs.1,000 Rs.2,000 Rs.2,000 Rs.1,000 <u>Rs.6,000</u>
18. 6018	Sh. S.A. Ghosh Lecturer in Physics Visva-Bharati Shantiniketan (W.B.)	A study of the effects of different electr- olytes and magnetic field on the electrotaxia of nematodes.	Books: Equipment: Total:	Rs.1,000 <u>Rs.3,200</u> <u>Rs.4,200</u>
19. 6019	Dr. V.P. Gupta Reader Physics Deptt. Jammu Univ. Jammu.	Study of vibration- al and electronic spectra of poly- atomic molecules by experimental and theoretical methods.	Computation Total:	<u>Rs.2,000</u> <u>Rs.2,000</u>
20. 6020	Dr. S.N. Prasad Lecturer, Physics Deptt. Ranchi Univ. Ranchi.	Crystal structure analysis of metallic derivatives of Amino acids.	Chemicals: Computation: Misc.: Total:	Rs.1,000 Rs.3,000 <u>Rs.1,000</u> <u>Rs.5,000</u>
21. 6021	Dr. S.C.Syal Lecturer Physics Deptt. Agra College Agra.	Measurements of of Magnetic Susceptibility of rare earth compounds & Cumarins.	Books: Chemicals & Components: Equipment: Misc.: Total:	Rs.1,500 Rs.5,000 Rs.1,500 <u>Rs.1,000</u> <u>Rs.9,000</u>
22. 6022	Shri H.Sinha Lecturer Agra College Agra.	Lattice Dynamics of FCC metals.	Computation: Misc.: Total:	Rs.2,500 <u>Rs.500</u> <u>Rs.3,000</u>

2	3	4	5
23. 6023	Shri S.S. Sharma, Lecturer, Agra College, Agra.	Crystal equilibrium & Lattice Dynamics of cubic metals.	Computation: <u>Rs. 1,500</u> Total: <u>Rs. 1,500</u>
24. 6024	Shri J.K. Sharma, Lecturer, St. John's College, Agra.	Magnetic studies of Transition metals compounds.	Computation & Travel: <u>Rs. 2,000</u> Misc.: <u>Rs. 500</u> Total: <u>Rs. 2,500</u>
25. 6025	Shri R.S. Shere, Lecturer, Swing Christian College, Allahabad.	Lattice dynamical study of F.C.C. & B.C.C. Metals.	Computation: & Travel <u>Rs. 2,500</u> Total: <u>Rs. 2,500</u>
26. 6026	Dr. B.P. Pandey Lecturer, M. D. A. Postgraduate College, Balrampur Gonda U.P.	Lattice dynamics of partially Ionic semi- conductors.	Computation, Books & Contingency: <u>Rs. 3,000</u> Total: <u>Rs. 3,000</u>
27. 6027	Dr. D.S. Dake, G.W.P.A., Lecturer, Central College, Bangalore.	Structural studies of Organo-Metallic Compounds by X-ray methods.	Computation: <u>Rs. 2,000</u> Chemicals: <u>Rs. 1,000</u> X-ray films: <u>Rs. 1,000</u> Contingency: <u>Rs. 1,000</u> Total: <u>Rs. 5,000</u>
28. 6028	Miss. C.L. Chatterjee, Lecturer in Physics, Sundarvatti Mahila College, Bhagalpur.	Spectral studies of some aromatic compounds including Ultra violet, Infrared, Raman Spectra.	Books: <u>Rs. 1,000</u> Chemicals: <u>Rs. 1,000</u> Equipment: <u>Rs. 500</u> Field work: <u>Rs. 500</u> Publications: <u>Rs. 500</u> Total: <u>Rs. 3,500</u>

1	2	3	4	5
29. 6029	Shri M.A. Chattopadhyay, Lecturer, Abhedanandas Mahavidyalaya, Sainthia, Birbhum.	Some aspect of double electron objection in the photoabsorption process.	Computation Total	<u>Rs. 2,500</u> <u>Rs. 2,500</u>
30. 6030	Dr. B.N. Roy, Reader, D.S. College, Muzaffarpur.	Applications of the Binary encounter & quantum approximations to atomic collision processes.	Computation: Total	<u>Rs. 2,500</u> <u>Rs. 2,500</u>
31. 6031	Dr. S.S. Desgupta, Lecturer, St. Xavier's College Calcutta.	Neutron induced reactions using the variable energy cyclotron.	Equipment: Computation: & Books etc: Total:	<u>Rs. 8,000</u> <u>Rs. 2,000</u> <u>Rs. 10,000</u>
32. 6032	Shri S.P. Sen, Lecturer, K.N. College, Berhampore.	Studies on atmospheric gravitywaves in the lower atmosphere by propagation type experiment in the long wave band.	Equipment: Computation: Contingency: Total	<u>Rs. 9,000</u> <u>Rs. 700</u> <u>Rs. 300</u> <u>Rs. 10,000</u>
33. 6033	Dr. R.A. Jain, Lecturer, Airimal College, Delhi.	Study of dislocations & imperfections in crystals using lang technique.	Equipment: X-ray films & Chemicals: Total	<u>Rs. 1,000</u> <u>Rs. 1,000</u> <u>Rs. 2,000</u>
34. 6034	Dr. Tara Chand, Lecturer, St. Stephen's College, Delhi.	Biophysical studies of membranes and their applications.	Chemicals: Books: Equipment: Publication, Postage etc.. Total	<u>Rs. 1,000</u> <u>Rs. 500</u> <u>Rs. 8,000</u> <u>Rs. 500</u> <u>Rs. 10,000</u>

2	3	4	5										
6035	Dr. V.K. Sharma, Head of the Deptt., U.R. Govt. Degree College, Fehri, Garhwal.	Theoretical studies of some physical processes in earths' atmosphere.	<table border="0"> <tr> <td>Books:</td> <td>Rs. 2,000</td> </tr> <tr> <td>Equipment:</td> <td>Rs. 2,000</td> </tr> <tr> <td>Computation:</td> <td>Rs. 2,000</td> </tr> <tr> <td>Total:</td> <td><u>Rs. 6,000</u></td> </tr> </table>	Books:	Rs. 2,000	Equipment:	Rs. 2,000	Computation:	Rs. 2,000	Total:	<u>Rs. 6,000</u>		
Books:	Rs. 2,000												
Equipment:	Rs. 2,000												
Computation:	Rs. 2,000												
Total:	<u>Rs. 6,000</u>												
6036	Dr. P.L. Ram, Lecturer, Govt. I.G. College, Kotdwara (Garhwal)	Impurity induced properties of solids.	<table border="0"> <tr> <td>Books etc.:</td> <td>Rs. 2,000</td> </tr> <tr> <td>Computation:</td> <td><u>Rs. 3,000</u></td> </tr> <tr> <td>Total:</td> <td><u>Rs. 5,000</u></td> </tr> </table>	Books etc.:	Rs. 2,000	Computation:	<u>Rs. 3,000</u>	Total:	<u>Rs. 5,000</u>				
Books etc.:	Rs. 2,000												
Computation:	<u>Rs. 3,000</u>												
Total:	<u>Rs. 5,000</u>												
6037	Dr. C.L. Verma, Head of the Deptt. Govt. P.S. College, Uttarkashi.	Studies of photo-conductive properties of impurity doped ZnO & CdS and Bi ₂ S ₃ .	<table border="0"> <tr> <td>Equipment:</td> <td>Rs. 10,000</td> </tr> <tr> <td>Chemicals & Books:</td> <td></td> </tr> <tr> <td>Total:</td> <td>Rs. 10,000</td> </tr> </table>	Equipment:	Rs. 10,000	Chemicals & Books:		Total:	Rs. 10,000				
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Chemicals & Books:													
Total:	Rs. 10,000												
6038	Sh. R.C. Pandey Lecturer, Kisan Degree College, Basti.	Experimental and advanced theoretical studies in organic semiconductors.	<table border="0"> <tr> <td>Equipment:</td> <td>Rs. 4,000</td> </tr> <tr> <td>Books:</td> <td>Rs. 1,500</td> </tr> <tr> <td>Chemicals:</td> <td>Rs. 1,000</td> </tr> <tr> <td>Field work:</td> <td>Rs. 1,000</td> </tr> <tr> <td>Total:</td> <td>Rs. 7,500</td> </tr> </table>	Equipment:	Rs. 4,000	Books:	Rs. 1,500	Chemicals:	Rs. 1,000	Field work:	Rs. 1,000	Total:	Rs. 7,500
Equipment:	Rs. 4,000												
Books:	Rs. 1,500												
Chemicals:	Rs. 1,000												
Field work:	Rs. 1,000												
Total:	Rs. 7,500												
6039	Sh. G.C. Singh, Lecturer, P.S. College, Gazipur.	Molecular spectra & its interactions.	<table border="0"> <tr> <td>Books:</td> <td>Rs. 1,000</td> </tr> <tr> <td>Equipment & Fabrication:</td> <td>Rs. 1,000</td> </tr> <tr> <td>Computation:</td> <td>Rs. 1,000</td> </tr> <tr> <td>Total:</td> <td>Rs. 3,000</td> </tr> </table>	Books:	Rs. 1,000	Equipment & Fabrication:	Rs. 1,000	Computation:	Rs. 1,000	Total:	Rs. 3,000		
Books:	Rs. 1,000												
Equipment & Fabrication:	Rs. 1,000												
Computation:	Rs. 1,000												
Total:	Rs. 3,000												
6040	Sh. S. Tripathi, Lecturer, National Degree College, Barhalganj.	Spectroscopic studies of simple molecules.	<table border="0"> <tr> <td>Books:</td> <td>Rs. 1,000</td> </tr> <tr> <td>Equipment, Chemicals & Fabrication:</td> <td>Rs. 1,500</td> </tr> <tr> <td>Total:</td> <td>Rs. 2,500</td> </tr> </table>	Books:	Rs. 1,000	Equipment, Chemicals & Fabrication:	Rs. 1,500	Total:	Rs. 2,500				
Books:	Rs. 1,000												
Equipment, Chemicals & Fabrication:	Rs. 1,500												
Total:	Rs. 2,500												

PHYSICS - COLLEGES (CONTD.)

1	2	3	4	5
41.	6041	Sh. V.M. Pandey Lecturer, Sachchidananda College, Ballia.	Electro.Lumines- cence and photo- luminescence in organic semi-conducting materials.	Equipment : Rs.2,000 & apparatus. Chemicals: Rs.1,000 Misc.: Rs. 500 Total Rs.3,500
42.	6042	Sh. A.N.Pandey Lecturer, A.N. Govt. College, Gyanpur, Varanasi.	Crystal dynamics of ionic & semiconducting solids.	Books: Rs. 500 Computation: Rs.1,000 Total Rs.1,500
43.	6043	Dr. K.S. Upadhyaya Lecturer, A.N. Govt. College Gyanpur, Varanasi.	Study of the dynamical and thermal properties of monovalent and divalent ionic crystals.	Books: Rs.1,000 Computation: Rs.1,500 Travel: Rs. 500 Stationery & postage Rs. 850 Total Rs.3,850
44.	6044	Dr. S.S. Shrivastava Asstt. Professor, Bolkar Science College, Indore.	Theoretical calculation of the line shape & half width of Compton profile in some transition elements.	Computation: Rs.3,000 Contingency: Rs.1,000 Total Rs.4,000
45.	6045	Dr. A.G. Bhatnagar Lecturer, Bolkar Science College Indore.	Study of transition metals and rare-earth elements using X-ray electron spectroscopy.	Equipment : Rs.8,000 Books, Jour- nals(Reprints.) Rs.1,000 Misc.: Rs.1,000 Total Rs.10,000
46.	6046	Dr. B.L. Sharda, Reader, S.P.S. Instt., Tech. & Sc., Indore (M.P.)	The study of the plasma parameters in R.F. discharge in transverse magnetic field.	Fabrication & design of experimental set up.: Rs.9,600 Books Rs. 400 Total Rs.10,000

PHYSICS COLLEGES (CONTD)

6047	Dr. A.V. Goleap, Lecturer, Sh. S. S. Instt. of Tech. & Science, Indore.	Design of Co2 laser for the study of the effect of the external parameters such as magnetic field, temper- ature, pressure etc.	Equipment: Fabrication: Books: Misc.:	Rs. 7,000 Rs. 1,000 Rs. 1,000 Rs. 1,000
			Total	<u>Rs. 10,000</u>
6048	Dr. A. J. Phadke, Lecturer, Sh. S. S. Instt. of Tech. & Science, Indore.	Estimation of plasma para- meters by Radio frequency probe.	Equipment: Mis.:	Rs. 3,000 Rs. 1,000
			Total	<u>Rs. 4,000</u>
6049	Sh. D. Neema, Lecturer, Sh. S. S. Instt. of Tech. & E., Indore.	Design & Deva- lopment of electron gun for betatron and its power supply.	Equipment: Books & sundry:	Rs. 9,000 Rs. 1,000
			Total	<u>Rs. 10,000</u>
6050	Dr. A. K. Bhatta- Charya, Asstt. Prof. Jolkar Sc., College, Indore.	Study of core- rearrangement effect on multipole polarizabilities.	Computation: Total	Rs. 3,000 Rs. 3,000
6051	Dr. S. A. Rathore, Lecturer, Jolkar Sc., College, Indore.	Electron & hole tunneling in surface accumu- lation & inversion layer of GaAs, InAs, etc. in M.O.S. Structures.	Equipment: Mis.:	Rs. 4,000 Rs. 1,000
			Total:	<u>Rs. 5,000</u>
6052	Dr. L. K. Sharma Reader, Govt. Engg. College, Jabalpur.	Surface states on ionic crystals and semiconductors with certain other problems in solid state theory.	Micro Film: Computation: Total:	Rs. 1,000 Rs. 1,000 Rs. 2,000

PHYSICS-COLLEGES (C.F.D.)

1	2	3	4	5
53.	6053	Sh. S. K. Ghoshal, Lecturer, Ranaghat Govt., College, Ranaghat, Madia.	Theoretical investigation of optical properties of many electron atoms and molecules.	Computation & Contingency: Total <u>Rs. 2,500</u> <u>Rs. 2,500</u>
54.	6054	Dr. Vijay Kumar, Professor, Nagar- J nasagar Engg. College Hyderabad.	As investi- gation of the mechanism of electrical conduction in organic compounds.	Equipment: Books: Total <u>Rs. 9,500</u> <u>Rs. 500</u> <u>Rs. 10,000</u>
55.	6055	Sh. G. A. Joshi, Sr. Lecturer, J. A. V. College Kanpur.	Study of microwave absorption in gases & liquids.	Misc: Computation: Chemical: Equipment: Total <u>Rs. 500</u> <u>Rs. 1,000</u> <u>Rs. 1,000</u> <u>Rs. 5,000</u> <u>Rs. 7,500</u>
56.	6056	Shri J. S. Dixit, Lecturer, D. A. V. College, Kanpur.	Lattice Dynamics of solids.	Computation & Misc.: Total <u>Rs. 2,500</u> <u>Rs. 2,500</u>
57.	6057	Dr. D. S. Privastwa, Lecturer, H. S. Tech., Instt. Kanpur.	Some Luminescence studies of alkali halides doped with mercury like Ions.	Books, reprints, stationery etc.: Chemicals: Fabrication: Apparatus: Misc. Total <u>Rs. 1,000</u> <u>Rs. 3,000</u> <u>Rs. 2,500</u> <u>Rs. 1,500</u> <u>Rs. 1,000</u> <u>Rs. 9,000</u>

PHYSICS - COLLEGES (CONTD)

2.	3.	4	5
6058	Sh. A.R. Venkataraman, Professor, N.S.J. College, Shertallai.	An apparatus for photographing interference fringe systems in the visible & I R regions of the Spectrum.	Apparatus : Rs. 4,000 Travel : <u>Rs. 1,000</u> Total : <u>Rs. 5,000</u>
6059	Dr. P. Parameeswaran, Pillai, Lecturer, Veda Thempi-Memorial College, Dhanuvachapum.	Influence of lone pair electrons on molecular constants.	Calculator : Rs. 2,000 Contingency : <u>Rs. 500</u> Total : <u>Rs. 2,500</u>
6060	Sh. R.C. Joshi, Lecturer, Govt. P.G. College, Almora.	Luminescence and charge transfer transitions in Dyes.	Chemicals : etc. : <u>Rs. 2,000</u> Miss. : <u>Rs. 500</u> Total : <u>Rs. 2,500</u>
1. 6061	Sh. S.C. Joswani, Lecturer, M.L.N. College, Yamunagar.	Uranium detection in plants.	Fabrication : Rs. 2,000 Misc. : <u>Rs. 500</u> Total : <u>Rs. 2,500</u>
2. 6062	Sh. J.P. Sharma, Lecturer, Govt. College, Faridabad.	Spectroscopic study of polyatomic molecules.	Computation : Rs. 2,000 Contingency : <u>Rs. 500</u> Total : <u>Rs. 2,500</u>
33. 6063	Sh. K.A. Manocha, Lecturer, Medical College, Rohtak.	Nuclear techniques applied to health physics.	Computation : Rs. 2,000 Contingency : <u>Rs. 500</u> Total : <u>Rs. 2,500</u>

PHYSICS - COLLEGES (CONTD)

1	2	3	4	5	
64.	6064	Sh. J.C. Varna, Lecturer, M.L. National College, Yamuna Nagar	Current injection in a graded band gap semiconductor.	Computation: Contingency: Total	Rs. 2,000 Rs. 500 <u>Rs. 2,500</u>
65.	6065	Dr. V. Singh & Dr. V.P. Seth, Lecturers, R.G. Regional Centre, Rohtak.	Electric magnetic and optical properties of the alloys in the crystalline and non crystalline states.	Equipment: Chemicals: Components: Books: Total	Rs. 4,000 Rs. 4,000 Rs. 1,000 <u>Rs. 1,000</u> <u>Rs. 10,000</u>
66.	6066	Dr. S.I. Ahmad Head of the Deptt. Shri Degree College, Lucknow.	A study of internal fields in crystals.	Components & Chemicals: Contingency: Total	Rs. 2,000 Rs. 500 <u>Rs. 2,500</u>
67.	6067	Sh. B.M. Arthur, Associate Prof. Madras Christian College, Pambaran, Madras.	Studies in Molecular Spectroscopy	Computation: Contingency: Total	Rs. 2,000 Rs. 500 <u>Rs. 2,500</u>
68.	6068	Sh. T.A. Nambinarayanan, Lecturer, Jawaharlal Institute of P.S. Medical Educational & Research Fondicherry.	The study of Hydrogen Bonding by Ultrasonic method in some solutions	Chemicals & glasswares: Photographic Materials: Books: Misc.: Total	Rs. 2,000 Rs. 2,500 Rs. 400 Rs. 100 <u>Rs. 5,000</u>
69.	6069	Sh. K. Priniyasa Menja, Demonstrator, Jawaharlal Institute of P.S. Medical Education & Res. Fondicherry.	Role of Hydrogen Bonds in Biological apertites.	Equipment: Chemicals: Glassware: Books: Misc.: Total	Rs. 2,000 Rs. 1,500 Rs. 500 Rs. 400 Rs. 100 <u>Rs. 4,500</u>

PHYSICS - COLLEGES (CONTD)

1	2	3	4	5	6
70.	6070	Sh. R. Varadrajana Asstt. Prof. National College, Tiruchirapalli.	Quantum mechanical calculation of dielectric polarizabilities.	Calculator: Total	<u>Rs. 4,000</u> <u>Rs. 4,000</u>
71.	6071	Sh. N. Sundaresan. Asstt. Prof. National College, Tiruchirapalli.	Determination of 1:1 complexed structures in liquid phase.	Fabrication: Chemicals: Total	<u>Rs. 8,000</u> <u>Rs. 2,000</u> <u>Rs. 10,000</u>
72.	6072	Sh. A.R. Ramkumar Demonstrator, National College, Tiruchirapalli.	I.R. integrated intensity studies of carbonyl-hydro- xyl systems with special reference to pulsed charge cloud mode.	Recording charges: Chemicals Total	<u>Rs. 4,000</u> <u>Rs. 2,000</u> <u>Rs. 6,000</u>
73.	6073	Dr. A. Prema Lecturer, S.R. College, Tiruchirapalli.	Yakovovsky's equations & its application to four body problems.	Computation: Total	<u>Rs. 2,500</u> <u>Rs. 2,500</u>
74.	6074	Dr. K. V. Naga- nathan, Asstt. Professor, S.S.G. Arts College, Coimbatore.	i) X-ray crystal- lographic studies on Biological Molecules & Organic Compounds. ii) Fabrication of films measuring devices.	Accessories for X-ray Camera: Books, Journals & Chemicals. Computation. seminars etc.: Total	<u>Rs. 6,000</u> <u>Rs. 2,500</u> <u>Rs. 1,500</u> <u>Rs. 10,000</u>

PHYSICS COLLEGES (CONTD).

1	2	3	4	5
75.	6075	Dr. G.J. Srinivasan, Asstt. Prof. Rajah Serfoji Govt. College, Thanjavur.	Potential constants and mean amplitudes of vibration.	Electronic Calculator: Contingency: Total Rs. 1,000 Rs. 500 <u>Rs. 1,500</u>
76.	6076	Sh. D. Anbarathan, Demonstrator, Govt. Arts College, Gudallore.	Studies of compressibility & Internal pressure of Hydrogen Bonded liquids.	Equipment: Chemicals: Books: Field work: Total Rs. 6,000 Rs. 2,860 Rs. 961 Rs. 150 <u>Rs. 9,971</u>
77.	6077	Sh. U.B. Dayanobharao, Lecturer, Mahatma Gandhi, Mahavidyalaya, Ahmedpur, Distt. Osmanabad.	A study of the integral transforms with applications to boundary value problems in physics.	Computation: Contingency: Total Rs. 2,000 Rs. 500 <u>Rs. 2,500</u>
78.	6078	Dr. S.D. Deshpande, Prof. Govt. College of Engg., Aurangabad.	Studies in solar XUV radiations & development of XUV spectra for different solar activity phases.	Calculator: Misc.: Total Rs. 6,000 Rs. 1,000 <u>Rs. 7,000</u>
79.	6079	Dr. V. Narain, Lecturer, Meerut College, Meerut.	Study of solar coronas.	Computations: Misc.: Total Rs. 2,000 Rs. 500 <u>Rs. 2,500</u>
80.	6080	Sh. M.X. Agrawal, Lecturer, N.R.E.C. College Khurja.	Lattice dynamics of heavier alkali halides of rock salt structure.	Computation: Misc.: Total Rs. 2,000 Rs. 500 <u>Rs. 2,500</u>

PHYSICS-COLLEGES (COND)

2	3	4	5
6081	Sh. G.N. Agarwal, Lecturer, N.R.E.C. College, Khurja.	Effect of elect- ron gas modifi- cation on lattice vibrations of hexagonal close packed metals.	Computation: Rs. 2,000 Misc.: Rs. 500 Total <u>Rs. 2,500</u>
6082	Sh. Rita Jain, Lecturer, Meerut College, Meerut.	Lattice dynamical study of Ionic crystals.	Computation Rs. 1,000 Misc.: Rs. 500 Total <u>Rs. 1,500</u>
6083	Sh. Ashok Kumar, Saxena, Lecturer, N.R.E.C. College, Khurja.	Spectroscopic & Magnetic studies in some rare-metal schiffs base addicts.	Chemicals & glassware etc.: Rs. 2,500 Total <u>Rs. 2,500</u>
6084	Sh. R.K. Goel, Lecturer, D.N. College Meerut.	Theoretical & experimental studies of molecular parameters of some polyatomic molecules & Ions using spectroscopic methods.	Chemicals: Rs. 2,000 Contingency: Rs. 500 Total <u>Rs. 2,500</u>
6085	Sh. M. Pandya Reader, M.M. Modi PG College Modinagar.	Polarization studies in fluorescence spectrum of organic dyes and compounds.	Chemicals & contingency: Rs. 2,500 Total <u>Rs. 2,500</u>
6086	Ch. D. Rayalu, Asstt. Lect., Rakatiya Medical College Warangal.	Studies on diffracted field characteristics of a few important class of apodisation filters.	Computation & Contingency: Rs. 2,500 Total <u>Rs. 2,500</u>

PHYSICS - COLLEGE (CONTD)

1	2	3	4	5
87.	6087	Sh. G.S. Rajaram, Lecturer, Sir Parashu- rambhai College, Poona.	Fabrication of ultraviolet sources and detecting system for characterisation of materials.	Equipment: Rs. 6,000 Chemicals: Rs. 2,000 Total: <u>Rs. 8,000</u>
88.	6088	Dr. P.C. Hurkat Reader, J.L.H. Medical College, Ajmer	Some haemodynamic & electrophysiological studies during hypotermia in dogs.	Maintenance of animals: Rs. 1,000 Fabrication: Rs. 1,500 Chemicals: <u>Rs. 2,000</u> Total: <u>Rs. 4,500</u>
89.	6089	Dr. M.L. Mehta, Lecturer, Govt. College, Barmer.	Theoretical study in molecular force field.	Computation: Rs. 500 Travel: Rs. 500 Books: <u>Rs. 400</u> Total: <u>Rs. 1,400</u>
90.	6090	Sh. L. Singh, Lecturer, K.G.K.P.G. College, Moradabad.	Separable NN interaction and properties of few body systems.	Computation: Rs. 2,000 Contingency: <u>Rs. 500</u> Total: <u>Rs. 2,500</u>
91.	6091	Sh. M.K. Dhasmana, Lecturer, K.G.K.P.G. College, Moradabad.	Non local separable interaction and tri-nucleon calculations.	Computation: Rs. 2,000 Contingency: <u>Rs. 500</u> Total: <u>Rs. 2,500</u>
92.	6092	Dr. M.L. Sharma Lecturer, K.G.K.P.G. College, Moradabad.	Investigation on heavy ion transfer reactions.	Books: Rs. 1,500 Computation: Rs. 2,500 Travel: <u>Rs. 1,000</u> Total: <u>Rs. 5,000</u>

PHYSICS - COLLEGES (CONTD)

2	3	4	5
6093	Dr. M.M. Prataprai Lecturer K.L.V. Arts & Sc. College, Jammagar.	Scattering of low energy electrons by polar molecules.	Calculator: Rs. 1,000 Contingency: Rs. 500 Total: <u>Rs. 1,500</u>
6094	Dr. S.B. Shrivastava, Lecturer, M.V. Mahavi- dhyalaya, Ujjain.	Electron momentum distribution in metals by position annihilation angular correlations and conpton profile.	Computation: Rs. 2,000 Contingency: Rs. 500 Total: <u>Rs. 2,500</u>
6095	Shri D.P. Sharma, Lecturer, Agrā College Agrā.	Variable energy blast wave in magnetics Dynamics.	Computation: Rs. 2,000 Contingency: Rs. 500 Total: <u>Rs. 2,500</u>
6096	Shri D.P. Dixit, Lecturer, Holkar Co., College, Indore.	Chemical effects on electron binding energies in Zirconium by the X-ray method.	Fabrication: Rs. 7,500 Chemicals: Rs. 1,500 Books: Rs. 450 Total: <u>Rs. 9,450</u>
6097	Shri S.L. Sharma, Lecturer, Holkar Sc. College, Indore.	Absorption spectra of Copper in Binary Alloys.	Fabrication: Rs. 3,000 Chemicals & Metals: <u>Rs. 2,000</u> Total: <u>Rs. 5,000</u>
6098	Shri S.K. Bodiyal, Lecturer, G.G. College, Jamma.	Analysis of high energy deuteron interactions with nuclear emulsion nuclei.	Computation: Rs. 1,000 Contingency: Rs. 500 Total: <u>Rs. 1,500</u>

PHYSICS COLLEGES (CONTD.)

99.	6099	Dr. S. A. Kail, Physicist, Govt. Medical College, Jammu.	Investigation of Interaction of elementary particles at ultrahigh energies.	Computation: Rs. 2,000 Contingency: <u>Rs. 500</u> Total <u>Rs. 2,500</u>
100.	6100	Shri K. K. Chopra, Reader, S.D. College, Muzaffarnagar.	Lattice dynamics and thermophysical properties of some solids.	Computation: Rs. 2,000 Contingency: <u>Rs. 500</u> Total <u>Rs. 2,500</u>
101.	6101	Shri B. Bhattacharjee, Head, St. Anthony's College, Shillong.	Exploration of a simple relation- ship between elementary particles.	Computation: Rs. 2,000 Contingency: <u>Rs. 500</u> Total <u>Rs. 2,500</u>
102.	6102	Dr. B. K. Rao, Lecturer, Regional Engg. College, Rourkela.	Application of many body techniques to the study of interacting atoms.	Computation: Rs. 2,000 Contingency: <u>Rs. 500</u> Total <u>Rs. 2,500</u>

ZOOLOGY UNIVERSITIES

No.	Code No.	Name & designation University	Title of the project	Details of grants approved.	
2	3		4	5	
6422		Dr. S. Haider Lect. in Zoology BHU, Varanasi.	Hypothalamic centre of reproduction in some fishes with reference to induced spawong.	Chemicals & Photographic goods Specimen collection of fishes Total	Rs. 4,000 Rs. 1,000 Rs. 5,000
6423		Dr. A. Sidhi Lect. in Zoology, BHU Varanasi.	Ultrastructural immunolo- gical and chemotherapeutcal studies of experimental tumours in mice after treat- ment with CIS Dichlorodia- mine platinum(II)	Eqpt. Chemicals Feed and Glassware etc. Total	Rs. 4,000 Rs. 2,000 Rs. 1,000 Rs. 7,000
6424		Dr. D.K. Nanda Lect. in Zoology, Calcutta Univ. Calcutta.	Effect of prostaglandins on the neuroendocrine mechanism of roaches, periplaneta Americana.	Chemicals Contg. Total	Rs. 2,000 Rs. 1,000 Rs. 3,000
6425		Sh. S.C. Day, Lect. in Zoology Gauhati University Gauhati.	Ecomorphology of the ichthyofaun of the Umium River, Meghalaya.	Fieldwork Eqpt. Photo- graphic materials & Chemicals Total	Rs. 1,000 Rs. 2,000 Rs. 3,000
6426		Dr. S. Chakrabarty Lect. in Zoology Kalyani University Kalyani (WB)	Biology & Taxonomic studies of Gall mites (West Bengal)	Chemicals Microcages Photographic accessories Fieldwork Glassware Total	Rs. 800 Rs. 700 Rs. 500 Rs. 1,000 Rs. 500 Rs. 3,500
6427		Dr. N. Ramachandra Prabhu, Lect. in Zoology, Kerala Univ. Trivandrum.	Functional analysis of the soil invertebrate community of tropical evergreen forest.	Chemicals Eqpt. Travel Contg. Total	Rs. 750 Rs. 1,000 Rs. 500 Rs. 250 Rs. 2,500
6428		Dr. H.S. Chhatpar Lect. in Zoology, M.S. University of Baroda, Baroda.	Biodete riation	Chemicals Glassware Contg. Total	Rs. 2,000 Rs. 1,000 Rs. 500 Rs. 3,500

	2	3	4	5
8.	6429	Dr. M.S. Gururaj, Lect. in Zoology, Mysore University, Mysore.	Chromosome Biology of the South Indian Chiroptera	Chemicals & photographic materials Rs. 1,500 Specimens Rs. 1,500 Fieldwork Rs. 1,000 Total Rs. 4,000
9.	6430	Dr. S.A. Suryawanshi Reader in Zoology Nagpur University, Nagpur	Glycolytic enzyme activity during chronic insulin treatment in bandicoot Bandicota Bengalesis.	Animals Rs. 1,000 Enzymes Rs. 2,000 Chemicals Rs. 1,000 Photographic material and microfilms etc. Rs. 1,000 Total Rs. 5,000
10.	6431	Dr. P.D. Prasad Rao, Lect. in Zoology, Nagpur University, Nagpur.	Influence of hypothalamic catecholaminergic nuclei on the colour change: A fluorescence microscopic & experimental study.	Eqpt. Rs. 2,000 Fieldwork Rs. 1,000 Chemicals Rs. 2,000 Photographs Rs. 1,000 Total Rs. 6,000
11.	6432	Dr. M.K. Khare, Reader in Zoology, North Eastern Hill University, Shillong	Experimental & environmental studies on the development on the development of chick embryo.	Poultry Incubator Rs. 1,800 Chemicals Rs. 500 Hatchable Hens' eggs Rs. 500 Contg. Rs. 200 Total Rs. 3,000
12.	6433	Dr. J.R.B. Alfred, Lect. in Zoology North Eastern Hill Univ. Shillong.	Biosystematics & ecology of family chironomidae.	Chemicals & Glassware Rs. 2,000 Fieldtrips Rs. 1,000 Total Rs. 3,000
13.	6434	Sh. N.K. Choudhury Lect. in Zoology Sambalpur Univ. Sambalpur.	Limnological studies of Hiradund Dam Reservoir	Eqpt. & Chemicals Rs. 1,000 Fieldwork Rs. 500 Total Rs. 1,500
14.	6435	Dr. S.K. Tewari Asstt. Prof. in Zoology, Saugar Univ. Saugar.	Effects of Hormones & anti- thyroid drugs in the beha- viour and development of some fresh water fishes.	Chemicals Rs. 1,000 Aquaria & glassware Rs. 500 Fieldwork Rs. 500 Total Rs. 2,000
15.	6436	Dr. V.K. Rajbanshi Asstt. Prof. in Zoo- logy, Udaipur Univ. Udaipur.	Effects of toxic effluents on the metabolism of certain fishes of economic importance.	Eqpt. Rs. 2,000 Chemicals Rs. 1,000 Photographic material & films etc. Rs. 500 Fieldwork Rs. 500 Total Rs. 4,000

2	3	4	5		
16.	6437	Dr. M.V.S. Rao, Lect. in Zoology Utkal University Bhubaneswar	Biology of the Gharial <i>Fovialis gangeticus</i> at Nandankanan Zoological Garden, Orissa	Fieldwork Contg. Total	Rs. 2,500 Rs. 1,000 Rs. 3,500
<u>Colleges</u>					
17.	6438	Sh.R.K. Garg Head of the Deptt. of Zoology, K.R. College, Mathura.	Studies on the common house beetle, <i>dermestes frischi</i> kugali (col, Dermestidae)	Chromatography Paper & chemicals Draco-G-60 etc. Total	700 Rs. 250 Rs. 1,000 Rs. 1,950
18.	6439	Dr. IPEM, IPE, Lect. in Zoology St. John's College, Agr.	Taxonomic studies on the genus <i>melangromyza</i> (Hendel) (Diptera: Agromyzidae)	Fieldwork Contg. Total	Rs. 1,000 Rs. 500 Rs. 1,500
19.	6440	Dr. A.S. Murthy Lect. in Zoology Andhra University (PG Centre) Guntur	Pesticidal pollution of natural waters and its effect on freshwater organisms.	Eqpt. and glassware Chemicals Fieldwork Total	Rs. 1,000 Rs. 1,000 Rs. 500 Rs. 2,500
20.	6441	Dr. Hari H. Singh Lect. in Zoology K.V. Institute of Sc. and Tech., Sultanpur (Aardh University) Faizabad.	Some neuroendocrinological studies in insect pests and their probable role in con- trol measures.	Chemicals & eqpt. Special Chemicals Fieldwork Photograph Total	Rs. 1,000 Rs. 500 Rs. 500 Rs. 500 Rs. 2,500
21.	6442	Dr. (Miss) Behrose S. Gandhi, Lect. in Zoology, Women's College, Varanasi.	Aging in mammals	Chemicals Animals Misc. Total	Rs. 1,000 Rs. 1,000 Rs. 500 Rs. 2,500
22.	6443	Dr. (Miss) Mercy Jacob Lect., in Zoology, Women's College, Varanasi.	Induced chromosomal Aberrations in Mammals by X-rays.	Chemicals animals and glassware	Rs. 2,500
23.	6444	Dr. S. Ravichandra, Lect. in Zoology, Central College, Bangalore.	Studies on ecology and Biochemistry of Siluroid fishes.	Aquarium Kit etc. Transportation fish, chemicals etc. Total	Rs. 1,000 Rs. 1,000 Rs. 1,500 Rs. 3,500

Zoology-Colleges (Contd).

1	2	3	4	5
24. 6445	Dr. Shakuntala Katre, Lect., in Zoology, Central College, Bangalore.	Ecophysiology of Host- parasite System (<u>Lebistes</u> <u>Reticulatus</u> and <u>Lemens</u>)	Aquarium & glassware etc. Fish-collection etc. Chemicals & contg. Total	- Rs.1,000 - - Rs.1,000 - Rs. 500 - Rs.2,500
25. 6446	Sh. D.C. Sinharay, Lect., in Zoology, T.D.B. College, Ramiganj.	A critical study of ortholadinae (<u>Dipetera</u> <u>Chironomidae</u>) of Eastern India.	Eqpt. Chemicals Fieldwork Total	- Rs.1,000 - Rs. 500 - Rs. 500 - Rs.2,000
26. 6447	Sh. U.N. Singh, Lect., in Zoology, M.S. College, Motihari.	General survey of aquatic insects and effects of eco-system on aquatic insects of lakes of Motihari (Champaran) Bihar.	Chemicals Eqpt. Fieldwork Total	- Rs. 500 - Rs.2,150 - Rs. 500 - Rs.3,150
27. 6448	Dr. R.N. Thakur, Lect., in Zoology, L.N. Pirhut Mahavidyalaya, Muzaffarpur.	Effect of fertilizers on paddy-field fish culture.	Eqpt. Chemicals Fieldwork Total	- Rs.1,000 - Rs.1,000 - Rs.1,000 - Rs.3,000
28. 6449	Sh. T.K. De, Lect., in Zoology, Charu Chandra College Calcutta.	Trial of suitable antifertility agents on Spermatogenesis in Mammalian species.	Haemocytometer Animals Chemicals Total	Rs.2,000 - Rs.1,000 - Rs.1,000 - Rs.4,000
29. 6450	Dr. K.K. Misra, Lect., in Zoology, R.B.C. College, Naihati, 24-Parganas.	Comparative pathology of <u>Trypanosoma evansi</u> in Heterologous Hosts.	Animals purchase & maintenance Cages Chemicals & glassware Chromatography Misc. Total	Rs.1,000 Rs. 500 Rs. 500 Rs.1,200 Rs. 300 Rs.3,500
30. 6451	Sh. S.C.Saha, Lect., in Zoology, R.B.C. College, Naihati, 24-Parganas.	Comparative study of enzymes activity in brain of fish, amphibia, reptiles and mammals under acute physiological and physical stresses.	Animals, Cages & feed Chemicals & glassware Misc. Total	Rs.1,500 Rs.1,500 Rs. 500 Rs.3,500
31. 6452	Dr. A.K. Bhaduri Lect., in Zoology, Vidyasagar College, Calcutta.	Faunistic survey of soil Oribatid Mites (acari) of West Bengal & Sikkim.	Fieldwork Misc. Total	Rs.2,000 Rs. 500 Rs.2,500

Zoology-Colleges (contd.)

2	3	4	5
6453	Sh. M.M. Pramanik, Lect., in Zoology, S.C. College, Habra, (W.B.)	Taxonomy of the Mosquito tid mites associated with beetles from Assam and West Bengal.	Fieldwork Rs. 2,000 Misc. Eqpt. Rs. 500 Total Rs. 2,500
6454	Mrs. S. Sarkar, Lect., in Zoology, B.B. College Agartala.	Studies on the oribatid Mites of Tripura (India)	Eqpt. Rs. 500 Chemicals Rs. 500 Glassware Rs. 200 Books Rs. 300 Total Rs. 1,500
6455	Sh. K.T. Vijaya- mahadevan, Zoology Deptt., St. Joseph's College, Calicut.	Effects of heavy metals on the taste buds of fish and other vertebrates Histological and Histochemical studies.	Eqpt. Rs. 1,000 Glassware Rs. 500 Chemicals Rs. 500 Fieldwork Rs. 750 Misc. Rs. 250 Total Rs. 3,000
6456	Sh. M.I. Tobias, Lect., in Zoology, St. Thomas College Trichur.	Ecology systematics and bionomics of the fishes of the inundated paddy-fields and canals of Trichur Distt., Kerala.	Paper etc., Photographs and trips to guide Rs. 1,000
6457	Sh. K.D. Rao, Lect., Sri Venkateswara College, New Delhi.	Effects of Tuvvenile hormone on the embryonic development in insects.	Glassware & chemicals Rs. 1,000 Radiactive compounds Rs. 1,000 Stains Rs. 500 Contg. Rs. 500 Total Rs. 3,000
6458	Miss Sumitra Taneja, Lect., in Zoology, S.S.T.B. College, Delhi.	Studies on chromosomal polymorphism and cytotaxonomy of chiro- nophotomids of India.	Chemicals glassware & photography Rs. 2,000 Fieldwork Rs. 500 Total Rs. 2,500
6459	Dr. R.C.Mehta, Lect., in Zoology, Ranjnas College, Delhi.	Use of Hormones for insect control.	Eqpt. Rs. 1,000 Chemicals & glassware Rs. 1,000 Contd. Rs. 500 Total Rs. 2,500
6460	Dr. K.S. Balasubra- manian, Lect., in Zoology, Delhi College, Delhi.	Photoperiodism Pineal and reproduction.	Eqpt. Rs. 1,000 Chemicals & glassware Rs. 1,000 Birds & food Rs. 1,000 Total Rs. 3,000

Zoology-Colleges (contd.)

1	2	3	4	5	
40.	6461	Dr. Aruna Mohan, Lect., in Zoology, Gargi College, New Delhi.	Neurosecretion in mammals	Animals, feeds & cages Chemicals & glasswares Total	Rs.1,500 Rs.1,000 Rs.2,500
41.	6462	Dr. K.K. Grover, Lect., in Zoology, Hans Raj College, Delhi.	Chromosomal studies of Indian Mosquitoes and cytogenetic effects of 4-radiation and Chemos- terilants on amopheles Stephensi.	Animals feeds & cages Chemicals & glasswares etc. Total	Rs.1,500 Rs.1,000 Rs.2,500
42.	6463	Dr. R.K. Gauba, & Dr. Sudhir Vasal, Lecturers in Zoology, Hindu College, Delhi.	Correlations between environmental factors and water-carp yield.	Animals etc. Chemicals & glassware etc. Contg. Total	Rs.2,000 Rs.1,000 Rs. 500 Rs.3,500
43.	6464	Dr. S.K. Beri, Lect., in Zoology, D.B.S. College; Dehradun.	Studies on leaf miners (Agromyzidae:Diptera) with special reference to agriculturally important plants.	Laboratory Eqpt. Fieldwork. Photographic eqpt. Total	Rs.1,500 Rs.1,000 Rs. 500 Rs.3,000
44.	6465	Dr. H.S. Verma Lect., in Zoology K.N. Govt. College Gyanpur, Varanasi.	Effects of pollution on fresh water fishes of U.P. Studies on Histopatholo- gal and biochemical changes due to urea pollution on Lohita.	Eqpt. Chemicals Stationary Fieldwork Total	Rs.1,000 Rs.1,000 Rs. 500 Rs. 500 Rs.3,000
45.	6466	Sh. S. Srivastava, Lect., in Zoology, S.M.M. (P.G.) Colleges Ballia.	Studies of Endocrine glands in relation to lasma calcium regula- tion in certin teleostean fishes.	Chemicals Eqpt. Fieldwork Total	Rs.1,000 Rs.1,000 Rs. 500 Rs.2,500
46.	6467	Dr. S.S. Srivastava Lect., in Zoology, T.D. College, Jaunpur. (U.P.)	A survey of throid tumour in Indian freshwater fishes its structure, development and physiolo- gical effects on other endocrine glands its probable cause and remedy.	Fieldwork Glassware Misc. Total	Rs. 500 Rs.1,000 Rs. 500 Rs.2,000
47.	6468	Prof. P.Y. Parmar Head of the Deptt., of Zoology, St. Xavier's College, Ahmedabad.	Ascorbic acid metabolism in chicken tissues under normal and altered physiological conditions.	Chemicals & glas ware Animals Misc. Total	Rs.1,000 Rs. 500 Rs. 500 Rs.2,000

Zoology---Colleges (Contd.)

1	2	3	4	5
48.	6469	Sh. M. Stephen Lecturer, Univ. College, Trivandrum, Kerala.	A monographic study on the biology of Larvivorous Fishes of Kerala.	Equipment: Rs.1,000 Field work: Rs. 500 Chemicals Rs.1,000 & Misc. Total Rs.2,500
49.	6470	Dr. A. Madhavan Professor, Bharat Mata College, Cochin-21.	Breeding Habits & Ecology of Inolian Bate.	Equipment etc.: Rs.1,000 Chemicals: Rs. 500 Misc.: Rs. 500 Field work: Rs. 500 Total Rs.2,500
50.	6471	Dr. G.K. Karnavar, Lecturer, Mahatma Gandhi College, Kesavada, puram, Trivandrum.	Control of Insect Pests by Growth Regulating Hormones.	Equipment Rs.2,000 Chemicals Rs.1,500 Misc.: Rs. 500 Total Rs.4,000
	6472	Dr. J.S.Bisht Lecturer, D.S.B. Govt.College Nainital, U.P.	A quantitative study of the seasonal Fluctuations in Zooplankton and the Physics Chemical conditions of the Mountain lake of Nainital.	Chemicals Rs.1,000 Equipment: Rs.1,000 Total Rs.2,000
52.	6473	Dr. S.D.Bhatt Lecturer, Govt. PG College Nainital (U.P.)	Pituitary Isletogonad interrelations in conjunction with the reproductive cycle in a fish.	Equipment: Rs.1,000 Glassware & Chemicals: Rs.1,000 Misc.: Rs. 500 Total Rs.2,500
53.	6474	Shri I.M. Singh Hattar, Lecturer, Govt. College, Bhimani, (Haryana)	Thrips in Haryana.	Chemicals etc.: Rs. 500 Field work: Rs. 500 Total Rs.1,000
54.	6475	Dr. L.P.Srivastava Prof. C.M. Sc.College Darbhanga. (Bihar)	Studies on helminth parasites of some airbreath- ing fishes.	Equipment Rs.1,000 Chemicals: Rs.1,000 Field work: Rs. 500 Total Rs.2,500
55.	6475	Dr. M.R. Chandran, Prof. Raha Serfaji College Thamjavur	Further studies on crabs.	Equipment: Rs.1,000 Field work: Rs. 400 Chemicals Rs. 600 Total Rs.2,000

Zoology-Colleges contd.

1	2	3	4	5
56.	6477	Shri S.V.M. Abdul Kasim, Asstt. Prof. The New College, Madras-14.	Ecological survey and production of intertidal sand fauna in Marine (Marine beach) & estuarine cadayar beach of east coast during North-east Monsoon.	Field work: Rs. 500 Chemicals & glassware: Rs. 1,000 Total Rs. 1,500
57.	6478	Dr. S. Kannan, Prof. Thiagrajan, College, Madurai-625009	Biochemical investi- gations on the hy- persensitive reactions of economically important plants to the root knot nematode infection.	Chromate- graphy etc. Rs. 1,000 Chemicals; Rs. 1,000 Equipment: Rs. 3,000 Misc.: Rs. 500 Total Rs. 5,500
58.	6479	Shri K.G. Sivarama Krishnana Asstt. Prof. Madhura College Madurai-11.	Studies on the lodic epheme- ptera of South India.	Field work: Rs. 1,000 Chemicals: Rs. 500 Contingency: Rs. 500 Total Rs. 2,000
59.	6480	Shri A.N. Sirsikar, Science College Manded, Marathwada Univ.	Studies on mitoses associated with economically important plants from Marathwada.	Equipment: Rs. 1,000 Chemicals Rs. 500 Field work Rs. 500 Total Rs. 2,000
60.	6481	Dr. (Mrs.) Vasantha, Lecturer, Yashwant Mahavidyalaya, Manded, (Maharashtra).	Studies on the nutritional value of the fresh water crabs of Marathwada.	Specimens: Rs. 500 Chemicals Rs. 1,500 Incidentable: Rs. 500 Total Rs. 2,500
61.	6482	Shri P.D. Advant Science College Manded, (Marathwada)	Control of seaanum Gall midges Dasyneura Sesami grover and Asphondylia Sesami felt by cultural and chemical means.	Field work: Rs. 500 Chemicals: Rs. 500 Equipment: Rs. 1,000 Misc.: Rs. 500 Total Rs. 2,500
62.	6483	Dr. R.C. Dalela, Reader, B.A.V. College, Muzaffarnagar, U.P.	Histochemical and biochemical changes in the Gonjads of few teleost fishes along with seasonal cycle.	Chemicals: Rs. 500 Equipment: Rs. 1,000 Field work: Rs. 500 Total Rs. 2,000

Zoology-College (Contd.)

1	2	3	4	5
63.	6484	Dr. S.V.S.Rana Lecturer, D.A.V. College Muzaffarnagar (U.P.)	Studies on the possible role of enzymes in the ageing process of different tissues of mammals.	Chemicals: Rs.1,000 Misc.: Rs. 500 Animals: Rs. 500 Total Rs.2,000
64.	6485	Dr. K.V.Sastry, Lecturer, D.A.V. College, Muzaffarnagar, U.P.	Affect of pesticides on the metabolism of teleost fishes.	Chemicals: Rs.1,000 Field work: Rs.1,000 Total Rs.2,000
65.	6486	Dr. Anandapur, Lecturer, M.G.M.College Udipi.	Ecology of St. Mary's Islands.	Photographic equipment & chemicals Rs.1,000 Glassware: Rs. 500 Field work: Rs.1,000 Total Rs.2,500
66.	6487	Shri K.F.Achar Lecturer, Sri Bhuvanendra College, Barkela (Mysore State)	Diplopod Cytology	Chemicals glasswares etc. Rs.1,000 Field work: Rs. 500 misc.: Rs. 250 Total Rs.1,750
67.	6488	Shri A.R.Jha Lecturer, Govt. College, Nagaur, (Rajasthan)	Some aspects of the social behaviour of the rhesus macaque. Macacaul att.	Photography Rs. 500 Field eqpt. Rs. 500 Field work: Rs.1,000 Contingency: Rs. 500 Total Rs.2,500
68.	6489	Dr. N.K. Lohia Lecturer Maharaja's College Jaipur.	Control of fertility in the male Indian Hanuman Langur Presbytis antellus antellus diffrans.	Equipment: Rs.1,000 Chemicals: Rs. 500 Animals Rs.2,000 Total Rs.3,500
69.	6490	Dr. S.D. Mulshrestha, Govt. College Kota, (Rajasthan)	Morphology, histology and histo chemistry of the caudal Neurosecretory system of some air-breathing fishes.	Chemicals: Rs.1,000 Field work: Rs. 500 Total Rs.1,500

Zoology-Colleges (Contd)

1	2	3	4	5	
70.	6491	Dr. A.K. Karel, L.B.S. College, Jaipur, (Rajasthan)	Effect of chemosterilants	Equipment: Glassware & Chemicals: Cages & Animals Total	Rs.1,500 Rs.1,000 Rs. 500 Rs.3,000
71.	6492	Shri A.K. Sinha, Lecturer, Tata College, Chaibasa.	Histopathological studies of vertebrates tissue in helminthic infecting with special reference to the histochemistry and cytochemistry of pathological tissues.	Field work: Chemicals: Total:	Rs.1,000 Rs.1,500 Rs.2,500
72.	6493	Shri M. Firoz Lecturer, Ranchi College, Ranchi.	Studies of the kidney of some teleosts with special reference to fishes inhabiting water bodies situated in vicinity of industrial complexes of Ranchi.	Chemicals: Field work: Misc. Total	Rs.1,000 Rs. 500 Rs. 500 Rs.2,000
73.	6494	Dr. C.P. Kapoor Bareilly College Bareilly.	To study the effect of follicle stimulating hormone luteinizing hormone, pituitary extract and pregnenyl on the Gonads of Castla Catla (Ham).	Chemicals: Equipment etc.: Field work: Total	Rs.1,000 Rs.1,000 Rs. 500 Rs.2,500
74.	6495	Shri H.V.R. Rao, Demonstrator, S.R.R. Govt College Gudur, S.V. Univ.	Ecological and cer- tain physiological studies in aquatic snails.	Chemicals: Equipment: Glassware: Total:	Rs. 500 Rs.1,000 Rs. 500 Rs.2,000
75.	6496	Shri D.K. Bhatt Assistant Prof. Udaipur Univ.	Biological and physiochemical characterisation of Zinc Smelter effluent (Water Pollution Problem).	Chemicals & Glassware: Animals: Travel: Total	Rs.1,500 Rs. 500 Rs. 500 Rs.2,500

Zoology-Colleges (Contd.)

2	3	4	5	
6497	Sh. B.V.Seshagiri Rao, Lecturer, D.N.R. College, Bhimavaram.	Systematics and population study of certain clupied fishes.	Chemicals: Field work: Total	Rs. 500 Rs.1,000 Rs.1,500
6498	Sh. M.V.S.S.S. Dhanapathi Lecturer D.N.R. College Bhimavaram.	Systematics and ecology of rotifers.	Chemicals & equipment: Field work: Misc.: Total	Rs. 500 Rs.1,000 Rs. 500 Rs.2,000
6499	Sh. R.N. Mukherjee Lecturer, T.D.B. College, Raniganj.	Adreno-Gonadal relationship in avian reproduction.	Equipment: Chemicals & Glasswares: Total	Rs.1,000 Rs. 500 Rs.1,500

UNIVERSITY GRANTS COMMISSION

Meeting:

Date : 22nd March, 1976

Item No.2(b): To receive the items of information.

- (1) Indo-Iraqi Cultural Exchange Programme
1976-77.

The following items have been assigned to University Grants Commission for implementation.

Item No.	Particulars of items	Duration
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SCIENCE AND TECHNOLOGY

1. The two sides will set up a Joint Committee of Scientists/academicians Professors to identify the specific areas of further collaboration in the fields of Fundamental and Applied Sciences.
(To be implemented along with D.S.T., C.S.I.R. Ministry of Education & S.W.)

HIGHER EDUCATION

14. The two sides will set up a Joint UGC Committee of academicians/professors to identify the specific areas of collaboration in the fields of humanities and social sciences.
15. The two sides will support mutual relations between universities and academic institutions to exchange experience, research work, studies and projects of mutual interest. In this respect they will start with bilateral cooperation between the University of Delhi and the Baghdad University.
16. Both sides will exchange upto 5 visiting Professors in the fields of humanities, social sciences, sciences, engineering & technology. Upto one month.
Details to be worked out by mutual consultation. p.t.o.

1.....2.....3.....

17. Both sides will cooperate in the exchanges of academic and administrative staff of universities and institutions of higher learning e.g. Registrars, Controllers of Examination, Deans of Faculties and Student Welfare Offices (Details to be worked out by mutual consultation).
18. The two sides will exchange professors to work at universities and educational institutions of the other country on contract basis. Subject of specialisation and terms and conditions to be discussed through diplomatic channels.
19. Iraqi side will extend all possible assistance to Indian Professors and scientific research workers at their universities and institutions for study and research relating to Oriental and Arabic language studies and literature.
20. The two sides will exchange publications and other scientific printed materials between selected institutions of India and Iraq.
26. Iraqi side will help in the Area Study Programme in the Indian Universities.
28. Both sides will provide facilities to Professors, teachers and scholars visiting the other country during the period of the sabbatic leave or other leave.

(2) Indo-French Cultural Exchange Programme
1976-77.

The Government of India, Department of Culture, have assigned the following items to the Commission for implementation under the above programme:-

1.....2.....3.....

1. India will send and France will receive 7 professors/experts in European/French History, Sociology including Political Society, Political system, Economics, Modern Trends in higher education etc. The exact fields will be decided by mutual consultation. 12 man-months
2. France will send and India will receive 7 professors/experts in European/French History, Sociology including Political Society, Political System, Economics, Modern trends in higher education etc. The exact fields will be decided by mutual consultation. -do-
3. France will send and India will receive 10 French teachers to teach French Language, Literature and Civilisation. 2 academic years each.
4. France will send and India will receive one expert to participate in refresher course in French language to be organised at the Centre of French Studies/Central Institute of Foreign Languages, Hyderabad. Upto 6 weeks each.
5. India will invite one professor each/year to help the Centre of French Studies in producing teaching materials in French including preparation of text books. One semester each.
6. India will invite one professor each year to teach contemporary Inter-national relations at the Centre of French Studies in French; and at the School of International Studies and at the School of Social Sciences, Jawaharlal Nehru University in English. 2 months each.
7. France will send and India will receive one visiting professor each year for lecturing in an Indian University on "Political thought and current affairs of France". 3-4 weeks
8. France will cooperate in the development of the Centre for Scientific Information (The details of cooperation will be worked out by mutual consent).

9. France will offer the Centre of French Studies books for the library and the latest equipment for teaching French (The details will be worked out by mutual consent)
15. Both sides will encourage the organisation of two bi-national seminars on Social Sciences/Sciences one in India and one in France. The details will be worked out by mutual consent.
16. India will send and France will receive 2 academicians to participate in a Seminar in the field of Sciences/Social Sciences/Rural Economy to be held in France. 3 weeks each.
20. France will offer around 13 scholarships for Indian students, who have obtained their degree in French.
21. France will offer 5 fellowships each year for the Indian teachers to perfect their knowledge of French Language literature and civilization and also for doing higher research in French studies (Of these at least 3 fellowships will be for the Centre of French Studies at the Jawaharlal Nehru University)..
37. France and India will encourage the establishment of particular relations between the Department of History and South East Asia Studies of Sri Venkateswara University, Tirupati, Andhra Pradesh and the corresponding university or institution in France in the chosen fields of teaching and research - to be mutually agreed upon
40. Each side will exchange professors/experts in the various fields of fundamental sciences and technology such as Mathematics, Physics, Life Sciences, Oceanography, Electronics and Communications, Optics, Optics and Non-conventional source of energy. 30 man-months each side. This exchange will include both short visits of 2-4 weeks & long-term visits of 6 months to one year.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 22nd March, 1976.

Item No. 2(c): (i): To receive the statement of proposals which could not be accepted by the commission.

The following proposals of colleges have not been approved for financial assistance under Rs. 5 lakh scheme during Fifth Five Year Plan period due to non-fulfilment of the eligibility conditions in respect of student enrolment in degree classes and permanent faculty strength.

S.No.	Name of the Colleges	Project	Estimated cost (Rs.)	Date of Order	Reasons
<u>L.N. Mithila University</u>					
1.	Ramesh Jha Mahila College, Darbhanga	Teaching Accommodation	3,11,729	24.4.75	Low enrolment
<u>Sambalpur University</u>					
2.	Larambha College, Larambha	i) Women's Hostel	1,95,000	26.12.75	Low enrolment and of faculty strength
		ii) Teacher's Hostel	1,13,600	26.12.75	
		iii) Lab. Eqpt. & furniture	1,00,000	26.12.75	
		iv) Books & journals	30,000	26.12.75	
3.	Bhima Bhoi College Rairakhal	i) Principal's Q	64,000	19.2.76	Low enrolment and of faculty strength
		ii) Staff quarters	4,31,500	-do-	
4.	Bonaigarh College, Bonaigarh	i) Books & Journals	40,000	17.2.76	-do-
		ii) Teaching Accommodation	12,38,596	17.2.76	-do-
5.	Rajgangpur College Rajgangpur	Library Bldg.	1,89,552	19.2.76	-do-
		Lecture Hall	77,487	19.2.76	-do-
		Books & Journals	1,00,000	19.2.76	-do-
		Principals Qr.	45,516	19.2.76	-do-
		Staff Qrs.	97,743	19.2.76	-do-
<u>Berhampur University</u>					
6.	Govt. Women's College Berhampur	i) Books & Journals	1,60,000	2.1.76	-do-
		ii) Staff Qr. for non teaching staff	80,000	2.1.76	-do-

p.t.o.

iii)	Lab. equipment & furniture	1,87,000	2.1.76	Low enrolment
iv)	Principal Qr.	80,000	2.1.76	and of
v)	Lab. Building	1,70,000	2.1.76	faculty strength
vi)	Books & Journals	40,000		
vii)	Equipment	60,000	2.1.76	-do-

Dibrugarh University

7.	Majuli College, Kamalbari	i)	Extension of College bldg.	2,00,000	1.1.76	-do-
		ii)	Men's Hostel	3,00,000	1.1.76	-do-

Magadh University

8.	R.L.S. Yadava College Bakhtiarpur.	i)	Equipment	1,01,530		Low strength of teaching staff.
		ii)	Books & journals	1,24,300		

Bhagalpur University

9.	Godda College, Godda	i)	Principal's Qr.	1,30,853.75	3.3.1976	Low enrolment
		ii)	Books	80,000	3.3.1976	-do-
		iii)	furniture	60,000	3.3.1976	-do-

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 22nd March, 1976

Item No. 3 : To approve the statement of grants released after the last meeting of the Commission held on 16th February, 1976.

P L A N

<u>Name of the University and Colleges</u>	<u>Subject</u>	<u>No. of instalment</u>	<u>Grants approved</u>
<u>Agra University</u>			
	Purchase of Equipment during 5th plan period (Basic grant)		10,000
	Purchase of Books & Journals - Basic grant.		30,730
	Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	Ist	56,000
	Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	Ist	84,000
<u>Affiliated Colleges</u>			
M. College, Mandausi (UP)	Construction of Non-Resident Students Centre - Release of balance grant.	2nd	10,000
-do-	Construction of Library Buildings.	VIIIth	3,350/-
John's College, Agra (UP)	Students' Aid Fund in Colleges - Grant for 1975-76		1,584

p.t.o.

Agra University (Affiliated Colleges contd.)

Mahatma Gandhi Balika Vidyalaya Degree College, Ferozabad (UP).	Students' Aid Fund in the colleges Grant for 1975-76.		684
Mahatma Gandhi Memorial Degree College, Sambhal (Distt. Moradabad UP)	-do-		750
Jawaharlal Nehru College, Etah (UP)	Grants towards the loan of books to Students - Setting up of Book-Bank.	Ist	11,250/-
St. John's College, Agra.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences Payment of first instalment of grant.	Ist	750
R.E.S. College Bichpur (UP).	-do-	Ist	500
-do-	-do-	Ist	1,000
K.F. College, Mathura.	-do-	Ist	975
Govt. PG College, Chamolie.	-do-	Ist	2,750
Agra College, Agra.	-do-	Ist	1,000
-do-	-do-	Ist	1,000
G.E. Pant Degree College, Kadla (Budaun UP)	Grant towards the loan of books to students - Setting up of Book-Bank.	Ist	4,500
DEI Women's Training College, Dayalbagh, Agra.	Basic grant for the development of Post-Graduate studies in Humanities and Social Sciences - Purchase of Library Books and Journals for Post-Graduate Departments during the Vth Five Year Plan.	Ist	10,000
Dharam Samaj College, Aligarh (UP)	Basic grant for the development of Post-graduate studies in science subjects purchase of Library books and journals - Scientific Equipment during the V Five Year Plan period.	Ist	10,000

Agra University (Affiliated Colleges Contd.)

Raja Balwant Singh College, Agra.	College Science Improvement Programme - Selected Colleges Project - Grant-in-aid.	4th	50,000
D.S. College, Aligarh.	-do-	3rd	1,00,000
Agra College, Agra.	-do-	3rd	50,000
-do-	College Humanities and Social Sciences Development Programme Payment of grant.		7,200
Shri Varshneya College, Aligarh.	Development of play fields & purchase of accessories for games and sports.	2nd & final	1,500
Raja Balwant Singh College, Agra.	Construction of additional teaching accommodation.	2nd	60,000
Agra College, Agra.	University Grants Commission Assistance for thereseach project entitled "Lattice Dynamics of Metals & Alloys" by Dr. J.C. Uppdhyay, Lecturer in Physics, Agra College, Agra.		5,000

Total :-

3,38,523

Aligarh Muslim University

Award of Junior Research Fellowship to Shri S. Asghar Mehdi under Area Studies Programme - Release of Grant.	2,400
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p.t.o.

Aligarh Muslim University Contd.

Award of Post-graduate Scholarships of the value of Rs. 400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.		1,70,000
Introduction of Professional Courses in various departments.		25,598
-do-		1,00,000
A.M.U. - Jawaharlal Nehru Medical College - Purchase of Equipment for -		2,500
Purchase of Equipment during Fifth Plan period - Basic grant.		2,00,000
Purchase of Equipment for various department during 5th plan period.		6,00,000
Purchase of books & journals for various departments during 5th plan period.		3,00,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	Ist	1,30,000
Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	Ist	2,00,000
Junior Research Fellowships in Sciences - payment of fellowship and contingency grant.		3,140
-do-		3,590.32
-do-		4,090.32
Construction of Library Building at the Womens' College - Fourth plan scheme.		50,000

p.t.o.

Aligarh Muslim University (Contd.)

Construction of 12 Dupliex Lecturers Quarters.		1,00,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant.	Ist	1,600
-do-	Ist	1,250
-do-	Ist	2,000
-do-	Ist	500
A.M.U. - Purchase of Books & Journals for Jawaharlal Nehru Medical College.		6,092.34
Construction of Provoest House at 375 Engineering Students Hostel.		75,000
External services of the Buildings of Women's Polytechnic, Composite hostel for 260 women students work-shop boys Laboratories etc. of the University Polytechnic.	3rd	25,000
Writing of university level books/ monographs.		1,924.60
A.M.U - Construction of Residences for Accounts Officer, Matron Nursing Officer, Sisters & Nurses for the Hospital attached to Jawaharlal Nehru Medical Colleges.	IVth	50,000
Development of Area Studies Programme - Award of scholarships to Mr. Mohd. Shahidullah Khan at Master's level.		360
Basic grant for the purchase of equipment during the Vth plan for development of Engineering & Technology.	2nd	25,000

Aligarh Muslim University (Contd.)

University Grants Commission Assistance for the research project entitled "Geochemistry, control and enrichment of major and assenary minerals in pegmatites of Bihar and Rajasthan Mica Belt.		8,000
Replacement of furniture of Students Union Hall.	2nd & last	10,000
Support for research-programmes during the Fifth Five Year Plan period- Department of Physics - Release of First Instalment of grant.	Ist	1,50,000
Establishment of Students Aid fund in the Universities - Grants for the year 1975-76.		25,000
Utilisation of services of outstanding retired teachers - payment of grant in respect of Dr. Moin Absan Jazbi.		4,806.45
Writing of University Level Books/ Monographs.		121.16
		<hr/>
	Total :-	<u>23,77,973.19</u>

3. Allahabad University

Organisation of workshop in Psychology.	15,000
Award of Post-graduate Scholarships of the value of Rs. 400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.	43,000

p.t.o.

Allahabad University Contd.

Junior Research Fellowship in Humanities and Social-Sciences - Allocation of funds for implementation of scheme during 1976-77.	Ist	1,00,000
-do-	Ist	1,50,000
Organisation of workshop in Psychology.		5,000
Purchase of library books & journals (Humanities) during the plan period - Sanction of grant for.		1,00,000
-do-		1,00,000
-do-		7,972
-do-		92,028
Writing of University level books/monographs.		483.33
University Grants Commission Assistance for the Research Project entitled "Structural Studies of Indian Gondwana plants with Modern Methods" of Prof. D.D. Pant, Head of the Department of Botany, University of Allahabad, Allahabad - Release of the 4th instalment of grant.		13,971
University Grants Commission Assistance for the research project entitled "Comparative and Morphotaxonomic studies of living and Fossil plants".		4,800
University Grants Commission Assistance for the research project entitled "Studies in Kinetics and Mechanism of Oxidation of some Organic Compounds by some oxidants Through one Electron and Two Electron Transfer Processes" Dr. H.P. Singh, Department of Chemistry, University of Allahabad, Allahabad - Fifth Five Year Plan period.		2,400

Allahabad University (Contd.)Affiliated Colleges

Ewing Christian College, Allahabad.	Students' Aid Fund in the Colleges - grant for 1975-76.	3,750
Moti Lal Nehru Regional Engineering College, Allahabad.	Travel grant to Dr. I.C. Agarwal, Reader in Civil Engineering Deptt. for presenting his paper at Second International Conference on water waste and Health in Hot countries to be held at University of Techno- logy, Loughborough, Leicestershire, England from September 21 to 24, 1975.	3,578.33
Total :-		6,44,982.66

4.

Andhra University

Utilisation of services of out- standing Retired Teachers - payment of grant in respect of Shri O.N. Sastri.	2,500
-do-	1,000
Award of Post-graduate Scholarships of the value of Rs. 400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.	1,77,000
Programme of Special Assistance to Selected Department of Physics.	65,000
-do-	55,000

p.t.o.

Andhra University (Contd.)

Andhra University - Increased intake to the Postgraduate Courses in Science Subjects - Payment of Recurring Grant.	3rd	30,000
College Science Improvement Programme University Leadership Project in Chemistry : Grant-in-all.	2nd	1,00,000
-do-		1,00,000
Establishment of Students' Aid Fund in the Andhra University - payment of grant.	2nd	2,480
Establishment of a Department of Continuing education - sanction of grant for.		20,000
Assessment of the work of Junior Research Fellow as to become eligible to receive fellowship of Rs.500/- p.m. to Shri M.V. Krishnayya.		845.16
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	Ist	1,24,000
University Grants Commission Assistance for the research project entitled		20,000
-do-		5,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant	Ist	1,250
-do-	Ist	1,500
-do-	Ist	2,225
- do -	Ist	2,500
-do-	Ist	2,000
Financial assistance to teachers in the universities and colleges for undertaking research of learned work in Humanities including Social Sciences /Sciences - Payment of first instalment of grant.	Ist	1,500

Andhra University Contd.

Grant-in-aid for the purchase of Scientific Equipment, payment of grant P.G. Centre, Guntur-Basic grant. 1,00,000

Affiliated Colleges

Govt. College, Raja Mundry	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences- Payment of first instalment of grant (Code No. 6578).	Ist	1,500
Andhra Loyala College, Vijayawada.	-do- (Code No. 6323)	Ist	2,000
Satavahana College, Vijayawada (AP).	-do- (Code No. 6324)	Ist	1,250
D.N.R. College, Bhimavaram	-do- (Code No. 6498)	Ist	1,000
-do-	-do- (Code No. 6497)	Ist	750
A.L. College of Education, Guntur-2 (AP).	Financial Assistance to Teachers for research/learned work in Humanities and Social Sciences - Payment of second instalment of grant.	2nd	1,175
Govt. College Rajahmundry	-do-	Ist	1,100
V.K.R. College, Buddhavaram.	-do-	Ist	500
A.M.A.L. College, Anakapalli (AP).	-do-	Ist	500
Sree Kanaseema Bhanaji Ramars College, Analapuram.	Students Aid Fund in the Colleges- Grant for 1975-76.		2,900
Mrs. A.V.M. College, Visakhapatnam	-do-		1,876
K. T. Boddy Women's College, Gudivanda (AP).	-do-		677
The Padandipadu College of Arts & Science, Padanandipadi (AP).	-do-		827

p.t.o.

Affiliated Colleges Contd.

Tellakula Jalayya Polisetty Somasundaram College, Guntur.	Students' Aid Fund in the Colleges Grant for 1975-76.		2,148
Maharajah's College, Visianagram (AP).	-do-		1,985
-do-	-do-		501
Govt. College, Rajahmundry	-do-		2,717
Mrs. A.V.N. College, Visakhapatnam.	College Science Improvement Programmes Selected Colleges Project, Grant in aid.	3rd	50,000
S.R.R. & S.V. Govt. College, Vijaywada (AP).	Students Welfare Programme - Payment of final grant.		2,927.37
V.S.R. College, Tenali (AP).	Construction of cycle stand and Library Building Payment of grant.	3rd	75,000
AS Govt. College, for Women, Kakinada.	Grant towards the loan of books to students Setting up of Book Banks.	Ist	8,000
Govt. College, Srikkakulam (AP)	-do-	Ist	5,000
V.S.M. College, Ramachandrapuram	-do-	Ist	8,000
Andhra Medical College, Visakhapatnam.	Utilisation of services of outstand- ing retired teachers - payment of grant in respect of Dr. P. Brahmayya Sastri.		4,691.119
Chundi Ranganayakulu College, Chilakaluripet.	Construction of Non Resident students Centre - payment of final grant.		5,000

Total

17,32,217.46

5. Annamalai University

Award of Post-graduate Scholarships
of the value of Rs. 400/- p.m. to
the students admitted during 1975-76
against approved intake in the faculty
of Engineering & Technology including
Pharmacy.

73,000

p.t.o.

Annamalai University contd.

Award of Junior fellowship of the value of Rs. 400/- p.m. to the students admitted during 1974-75.		1,858.05
University Grants Commission Assistance for the research project entitled "Studies on the Marine Antagonistic Streptomycetes" of Dr. D. Chandramohan Centre of Advanced study in Marine Biology, Annamalai University, Porto Novo - Fifth Five Year Plan period Release of the 2nd instalment of grant.		8,000
-do-		10,000
Junior Research Fellowship in Sciences Allocation of funds for implementation of scheme during 1976-77.	Ist	84,000
-do-		4,206.45
-do-	Ist	56,000
Centre of Advanced Study in Linguistics Scholarships/Fellowships.		65,000
Centre of Advanced Study in Marine Biology - Annamalai University - Release of grants for 1976-77 in respect of Senior/Junior Research Fellowships and Teacher Fellowships and National Scholarships.		40,000
Recurring grant for staff and maintenance for the P.G. Courses in Engineering & Technology.		50,000
Construction of building for additional facilities for under-graduate course and for the post-graduate course in Electrical Engineering.	9th	5,000
Utilisation of services of outstanding retired teachers payment of grant in respect of Dr. Thiru A. Bawaswami.		1,250
Development schemes under 5th plan period - Basic grant for the purchase of Library books and journals for Humanities and Science.		74,850

Affiliated colleges contd.

Arts Degree College, Samaria, Rewa.	Grants to colleges Libraries for Loan of Books to students (Book - Banks).	Ist	4,500
Chhatarsal Mahraja Degree College Maharainpur (MF.)	-do-	Ist	4,500
Total :-			2,50,175

7.

Avadh University

Affiliated Colleges

Sewa Ashram Degree College, Dhindhui, Pratapgarh	Grant towards the loan of books to students - setting up of Books Bank.	Ist	4,500
M.L.K. Post-graduate College, Balrampur (Gonda).	Financial assistance to teachers in the Universities and colleges for undertaking research or learned or work in sciences - payment of 1st instalment of grant (Code No.6026)	Ist	1,500
Kamala Mahru Instt. of Science & Technology Sultanpur.	Grant towards the loan of Books to students setting up Book Bank.	Ist	8437
K.N. Instt. of Sc. and Technology, Sultanpur.	Financial assistance to teachers in the university and colleges for undertaking research work in Sciences Payment of first instalment of grant (Code No. 6541).	Ist	1,250
Women's college, varanasi.	-do- (Code No. 6442)	Ist	1,250
-do-	-do- (code No. 6443)	Ist	1,250
M.S.C. P.G. College, Faizabad.	-do- (Code No. 6413)	Ist	1,000
P.S.Saket, P. College, Faizabad.	-do- (code No. 6325)	Ist	500

Affiliated Colleges Contd.

K.S. Saket PG College, Faizabad (UP).	Financial Assistance to teachers in the universities and colleges for undertaking research work in sciences Payment of first instal- ment of grant (Code No. 6326).	Ist	500
M.L.K. College, Balrampur.	-do- (Code No. 6327)	Ist	500
-do-	-do- (code No. 6328)	Ist	500
-do-	-do- (code No. 6330)	Ist	750
-do-	-do- (code No. 6329)	Ist	750
<u>Total</u>			<u>22,687</u>

8. Bangalore University

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences Payment of first instalment of grant (code No. 6445).	Ist	1,250
-do- (code No. 6027)	Ist	2,500
-do- (code No. 6444)	Ist	1,750/-
-do- (code No. 6508)	Ist	1,500
Utilisation of services of outstand- ing retired teachers payment of grant in respect of Dr. S.B. Kaushik.		4,677.09
VI All India Conference of the Associ- ation of Preventure and Social Medicine.		3,000
Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	Ist	66,000

Bangalore University Contd.

Junior Research Fellowship in Humanities and Social Sciences Allocation of funds for implementation of scheme during 1976-77.	Ist	44,000
University Grants Commission Assistance for the research project entitled "Studies on some aspects of the behaviour correlative to information on storage in grass hopper-poecilocera Picta of Dr. A.R. Kasturi Bai.		4,900
Workshop on Modernization of Commerce Courses.		1,538
Utilisation of services of outstanding retired teachers payment of grant in respect of Shri Ramakrishna Iyer.		1,441.67
Award of Teacher Fellowship to Sri Chand Bhasha N.I. Lecturer in Commerce at Jawahar Bharati School of Post-graduate studies Kavali.		2,290.32
Award of Post-graduate Scholarship in Sanskrit to Km. G.R. Gayathri 1975-76.		1,800

Affiliated Colleges

MES College of Arts, Commerce and Science, PO Mallaeswaram, Bangalore.	Students Aid fund to colleges for the year 1975-76.		2,250
Mount Carmel College, Bangalore.	Improvement of undergraduate education facilities Fifth Five Year Plan.		50,000
S. Nijalingappa College, Bangalore.	Construction of Teaching Accommodation during 4th Plan period.	2nd	75,000
Govt. Ramarayan College of Commerce, Bangalore.	Students Aid Fund to Colleges for the year 1975-76.		1,379
Govt. College, Kalar (Karnatak State)	-do-		2,193

Affiliated Colleges contd.

B.M.S. College for Women, Norty Anjaney Temple St. Bangalore.	Students Aid Fund to colleges for the year 1975-76.		1,000
The National College, Jayanagar, Bangalore.	-do-		434
Sri Satya Sai Arts & Science College, Briadavan, Kadugedi, PO Whitefield.	Grants towards the loan of books to students setting up of book banks.	Ist	4,500
Sri S. Mijalingappa College, IInd Block Rajajinagar, Bangalore.	-do-	Ist,	5,625
The National college, Jayanagar, Bangalore.	-do-	Ist.	5,625.
Jyoti Nivas College, Fraser Town, Bangalore.	-do-	Ist	4,500
Smt. V.H.D. Central Institute of High Science, Bangalore.	-do-	Ist	5,625
St. Joseph's college, Bangalore.	Financial Assistance to teachers in the universities and colleges for undertaking research work in Sciences payment of first instalment of grant (code No. 6331).	Ist	760
-do-	-do- (Code No. 6579)	Ist	1,000
Regional College, Bangalore.	-do- (code No. 6334)	Ist	1,000
National college, Bangalore.	-do- (code No. 6335)	Ist	1,000
-do-	-do- (code No. 6333)	Ist	1,000
-do-	-do- (code No. 6332)	Ist	2,000

Total . 3,01,528.08

9.

Banaras Hindu University:

Institute of Medical Sciences Providing & lying of External services water main & Road fancing etc.	2nd	50,000
Utilisation of services of outstanding retired teachers payment of grant in respect of Dr. Pran Nath.		1,000
Award of Post-graduate Scholarships of the value of Rs. 400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.		6,65,000
Purchase of Furniture for the Agri- culture Faculty Hostel under students Amenities programme.		10,000
BHU - Boring of a tubewell and provid- ing VT or sub-main pumping set at Chiragaon Rural Health Centre, Deptt. of Preventive & Social Medicines of the Institute of Medical Sciences.	2nd	20,000
Utilisation of services of outstanding retired teachers payment of grant in respect of Dr. R.C. Chaudhury.		1,250
Organisation of Annual Conference on 20th Indian Public Health Association from 26th to 28th March, 1976.		5,000
Research Fellowships in Engineering & Technology - payment of fellowship and contingency grant.		2,506.45
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment of first instalemnt.	Ist	2,375
-do-	Ist	1,900
-do-	Ist	2,425
-do-	Ist	750
-do-	Ist	1,000

p.t.o.

Banaras Hindu University Contd.

Banaras Hindu University - construction of Women's Hostel for 51 Medical students.	IVth	15,292.16
-do-	3rd	40,000
Programme of Special Assistance to selected Departments - Department of Zoology - Release of 'on account' grant - regarding.		40,000
Adhoc grant for purchase of equipment during fifth five year plan period.		3,00,000
-do-		34,204.02
-do-		2,00,000
Banaras Hindu University - construction of 550 bedded Hospital attached to Institute of Medical Sciences (Phase IV) comprising of Casualty, Research and Convalescent beds, Mortuary, Kitchen and additional lifts.	Ist	2,00,000
Award of P.G. Scholarship in Sanskrit during 1975-76.		1,800
B.H.U. Acquisition of land for construction of staff quarters at Rural Health Centre at Chiragaon.	Ist	1,29,499.18
Repairing of Boundary - Wells - Banaras Hindu University.	3rd	3,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	Ist	1,44,000
-do-	Ist	2,17,000
Award of Scholarships for postgraduate studies in Science/Humanities including Social Sciences to the students belonging to the Hill Areas of North Eastern Region and Ladakh 1975-76.		2,000

Banaras Hindu University Contd.

Banaras Hindu University - Basic Grant for the purchase of Books and Journals for the Institute of Medical Sciences during Fifth Plan period.		1,00,000
Extension to the Deptt. of Metallurgical Engineering, Banaras Hindu University.	2nd	80,000
University Grants Commission Assistance for the research project entitled "Physiological and Bio-chemical studies on the perennation of Blue-Green Algae" Dr. E.R.S. Talpassyi.		30,900
Programme of Special Assistance to Selected Departments - Department of Metallurgy - Release of 'on account' grant - regarding.		1,50,000
Guha Research Conference		5,000
Construction of an extension of the Geology 5th Department Building under fourth plan development scheme.		1,128.64
Banaras Hindu University - Construction of 3 Wardens quarters at Rural Health Centre of Institute of Medical Sciences at Chiragaon.	3rd	10,000
Adhoc grant for purchase of books & journals for Study Centres at Kamachha & Chetganj, Banaras Hindu University during fifth plan period.		20,000
Grant-in-aid for Educational Tour in respect of the students of Technology - Banaras Hindu University 1973-74.		5,928.80
Utilisation of Services of outstanding retired teachers payment of grant in respect of Dr. B.S. Singh.		5,000
Visit of Dr. D.M. Pestonji, Reader in Psychology, to U.K. under the Programme of Exchange of visits by Younger Scientists between India and U.K. during 1975-76.		9,343

Banaras Hindu University Contd.

Senior/Junior Research Fellowships in Sciences/Humanities including Social Sciences/Research Fellowships in Engineering & Technology - payment of contingency grant.		1,500
-do-		1,489.26
University Grants Commission Assistance for the research project entitled "Studies on the Causes and Prevention of aging of mammalian tissues" by Prof. M.S. Kanungo, Deptt. of Zoology.		15,000
-do-		3,000
Visit of Dr. S.K. Srivastava, Reader, Department of Electronics to U.K. under the programme of Exchange of visits by Younger Scientists between India and U.K. during 1973-74.		7,737.50
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences payment of first instalment of grant (code No. 6422).	Ist	2,500
-do- (code No. 6423)	Ist	3,500
-do- (code No. 6558)	Ist	500
-do- (code No. 6534)	Ist	1,500
-do- (code No. 6533)	Ist	2,000
Total :-		<u>25,56,027.01</u>

10.

Berhampur University

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences payment of first instalment of grant (code No. 6290).	Ist	1,750
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p.t.o.

Berhampur University Contd.

Junior Research Fellowship in Science Allocation of funds for implement- ation of scheme during 1976-77.	Ist	74,000
-do-	Ist	12,000
Development of play fields a purchase of accessories for games and sports.	2nd	1,250
Basic grant for the purchase of Scientific equipment during the Fifth Year Plan.		1,00,000
Purchase of Library Books and Journals for the Humanities and Science Depart- ment and Central Library - Vth Plan Departmental Grants as per 5th Plan Visiting Committee report.		1,47,000

Affiliated Colleges

Ballikote College, Berhampur, Orissa.	Students Welfare Programmes		6,000
Govt. Science College, Orissa.	Grant to colleges for Laboratory equipment	2nd	5,000
-do-	-do-	2nd	20,000
C.M.Sc. College Ballikote, Orissa.	Financial Assistance to teachers for research work in Sciences - Payment of 2nd instalment of grant (Code No. 5699)	2nd	1,500
Gram Deb College Bypore.	Students Aid Fund in the Colleges		842
Govt. Women's College, Berhampur	-do-		489
Govt. Sc. College, Sulbani.	-do-		500
UG College, Wala Khemundi	-do-		891
Ballikote College Berhampur.	Financial assistance to teachers in the universities and colleges for under- taking research work in Sciences - payment of first Instalment of grant (code No. 6502).	Ist	1,675

Affiliated colleges contd.

Science College, Ganjam.	Financial Assistance to teachers in the universities and colleges for undertaking research work in Sciences payment of first instalment of grant (code No. 6336)	Ist	750
RCM Sc. College, Khallikote Ganjam	-do- (Code No. 6580)	Ist	1,250
Kallikote College, Berhampur.	-do- (Code No. 6337)	Ist	1,000
Total :-			3,75,897

11.

Bhagalpur University

Grant-in-aid for the purchase of equipment for post-graduate Science Departments - Basic grant - 5th Plan.			1,00,000
Grant in aid for the purchase of Books & Journals Basic Library grant for 5th Plan.			80,000
University Grants Commission Assistance for the research project entitled " Chemical and Biological Screening of Medicinal Plants or Bhagalpur for Anti- fertility and Abortifacient Properties (Research Scheme).			12,400
-do-			13,150
Junior Research Fellowships in Science - Allocation of funds for implementation of scheme during 1976-77.	Ist		33,000
-do-		Ist	22,000
Grant-in-aid towards the construction of hostel for 100 PG Men students.		Ist	1,50,000
Orientation Course in Teaching of Political Science.			3,733
Financial assistance to teachers in the universities and colleges for under- taking research work in Sciences - Payment of first instalment of grant (code No. 6291).	Ist		1,750

p.t.o.

Bhagalpur University Contd.

	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences- Payment of first instalment of grant (Code No. 6559).	Ist	375
	<u>Affiliated colleges</u> -do- (Code No. 6292)	Ist	1,750
I.N.B. College, Bhagalpur.	College Science Improvement Programme Selected Colleges Project Grant-in-aid		50,000
Balmiki Rajniti Mahila Mahavidyalaya Monghyr.	Grants to college libraries for loan of books to Students (Book-Bank) during Fifth Plan.	Ist	4,500
Sahibganj College, Sahibganj.	-do-	Ist	8,000
Warwari College, Bhagalpur.	Financial assistance during V Plan for Development schemes - purchase of calculating machines for Statistics Deptt.	Ist	8,000
J.P. College, Harayanpur.	Construction of Physics & Zoology Block - Release of grant for.	3rd	30,000
Teacher's Training College, Jeoghar.	Students' Aid Fund in the colleges - sanction of grant for the year 1975-76 regarding.		314
I.N.B. College, Bhagalpur.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant (code No. 6544).	Ist	2,500

Total

5,21,472

p.t.o.

> Bhopal University

Workshop on Engineering Curriculum and Appropriate Technology at Maulana Azad College of Technology, Bhopal	Ist	8,590.50
Establishment of Study Centre- Sanction of grant for books & journals		10,000.00
JRF in Science- allocation of funds for implementation of scheme during 1976-77	Ist	32,000.00
JRF in Humanities and social sciences- Allocation of funds for implementation of scheme during 1976-77	Ist	8,000.00
Utilisation of Services of Outstanding Retired Teachers- payment of grant in respect of Dr.K.C. Srivastava	Ist & final	4,250/-

Affiliated Colleges

Bhopal School of Social Sciences, T.T.Nagar, Bhopal	Grants to college Libraries for loan of books to students (book banks)	Ist	4,500.00
Maulana Azad College of Technology, Bhopal(MP)	UGC Assistance for the research project entitled "Studies on Electrode solution interfaces".		10,400.00
Saifia College, Bhopal	FAT in the universities and colleges for undertaking research work in Sciences-	Ist	1,250 .00
Govt. Hamidia Arts & Commerce, College, Bhopal	Travel grant to Dr.P.L. Srivastava for attending Law Conference at Washington.	Ist & final	3,656.00
Gandhi Medical College, Bhopal	Travel grant to Dr.S.E. Islam for attending the international conference at Paris	Ist & final	5,399.00
Regional College of Education, Bhopal	UGC Assistance for the research project "Biochemical Aspects of Fish Productivity & their Application in Madhya Pradesh" of Dr. G.K. Johri.		3,200.00
Lal Bahadur Shastri Mahavidyalaya, Janj(MP)	SAF in the Colleges- grant for 1975-76	First & final	1,000.00
Gandhi Medical College, Bhopal	SAF grant for 1974-75 sanction for	-	625.00

Total :-

5,21,472

13 Bihar University

FAT in the universities and colleges for undertaking research work in Sciences	Ist	5,000.00
Grant in-aid towards the construction of Teachers Quarters	3rd	1,00,000.00
Construction of 4 Professors & Readers and 15 lecturers quarters	th	4,000.00
Grant-in-aid for the purchase of Library Books & Journals- Vth Plan Basic grant.	Final	50,000.00
Estt. of student's Health Centre	Final	24,815.00
Unassigned grant for 1975-76	2nd	10,000.00
Grant-in-aid towards purchase of equipment for humanities Deptt. 5th Plan	Ist	35,000.00
JRF in Humanities & Social Sciences 1976-77	Ist	34,000.00
JRF in Sciences for 1976-77	Ist	51,000.00

Affiliated Colleges

Jagdam College, Chapra	FAT in Humanities including Social Sciences	Ist	1,000.00
Munshi Singh College, Motihar (Bihar)	Grants to college libraries for loan of books to students (Book-Bank) during Fifth Plan.	Ist	8,000.00
Prabunath College, Parsa (Saran) Bihar	Grants to colleges libraries for loan of books to students (Book-Bank) during Fifth Plan.	Ist	4,500.00
Ram Dayalu Singh College, Muzaffarpur (Bihar)	-do-	Ist	8,000.00
M.S. College, Motihari	FAT in the universities and colleges for undertaking research work in Sciences-	Ist	1,575.00
L.N. Tirhut Mah. Muzaffarpur	-do-	Ist	1,500.00
Rajendra College, Chapra	-do-	Ist	1,900.00
L.S. College, Muzaffarpur	-do-	Ist	500.00
Chapra Mah. Chapra (Bihar)	-do-	Ist	2,000.00
J.S. College, Motipur P.O. Muzaffarpur	-do-	Ist	1,000.00
-do-	-do-	Ist	1,500.00
-do-	-do-	Ist	1,500.00

Total:-

92,870.50

Bombay University

Basic grant for the purchase of library books & Journals during 5th Plan period- Science Departments		2,750.00
-do-		87,250.00
Starting of short term course at J.B. Institute of Management studies under Adult Education Programme sanction of grant for.		4,993.77
Grant-in-aid for the development of Scientific Education & Research- Establishment of Computer Centre	2nd	13,00,000.00
Award of PG Scholarships of the value of Rs. 400/-p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.		2,20,000.00
JRF in Sciences- Allocation of funds for implementation of scheme during 1976-77	Ist	1,50,000.00
-do-	Ist	1,50,000.00
Writing of university level books/monographs		243.08
-do-		1,000.00
-do-		1,900.86
Basic grant for the purchase of Scientific Equipment during the 5th Five Year Plan Period		1,74,053.60
Grant-in-aid for the development of Scientific Education and Research -Estt. of Computer Centre.	Ist	11,00,000.00
FAT in Humanities including Social Sciences/S Science - Payment of Centre of Advanced Study in Mathematics- University of Bombay- Release of recurring grants for the year 1975-76	Ist	1,200/-
		9,000.00
Award of SRF @ Rs.500/- p.m. to the students admitted during the year 1975-76 for the Ph.D.(Tech) doctoring degree in Chemical Engineering & Chemical Technology		16,000.00
Centre of Advanced Study in Mathematics- University of Bombay- 1976-77		60,000.00
Centre of Advanced Study in Applied Chemistry- University of Bombay-1976-77		50,000.00
Support for advanced research in the Humanities & Social Sciences-	Ist	8,000.00
-do-	Ist	5,000.00
JRF in Humanities including Social Sciences		1,381.59
UGC (Rec.) grant for the Centre of Advanced Study in Economics-Award of Junior/Senior Research Fellowships, National Scholarships and Teacher's Fellowships.		90,000.00
Programme of special assistance to selected departments- Department of Sociology,		13,523.45

Bombay University(Contd.)

UGC grant for establishment of research unit in Economics of education- deptt. of Education 10,000.00
SRF in Science Dr.(Smt)Veena Sharma 3,600.00

Affiliated colleges

K Talreja college of Arts, Science & Commerce, Chasnagar-3.	SAF in the colleges- Grant for 1975-76		3,250.00
Vidharth College of Arts & Science Bombay	SAF in the colleges- Grant for 1974-75		1,750.00
U.D College of Commerce, Mile Parle, Bombay-57.	-do-		250.00
St. Sophia College for Women, Bombay	-do-		2,250.00
Kishinchand Chellaram College, Bombay	-do-		2,750.00
St. Sophia College, Bombay	College Science Improvement Programme- Grant-in-aid Fellowship activities	Ist	1,00,000.00
St. Xavier's College, Bombay	-do-	Ist	80,000.00
St. Sai Hindi College, Bombay	-do-	Ist	14,879.00
Wilson College, Bombay	-do-	Ist	40,000.00
Bannarain College, Bombay	-do-	2nd	5,000.00
-do-	College Humanities and Social Sciences Development Programme	2nd	5,000.00
Wilson College, Bombay	-do-	2nd	5,000.00
St. Xavier's College Bombay	Utilisation of Services of outstanding Retired Teachers - Prof. B.S. GAI		5,000.00
Elphinstone College, Bombay	-do- Sh.J.F. Desouza		1,250.00
Bannarain Ruia College, Bombay	-do- Prof.R.D. Gupta		1,250.00
Institute of Science, Bombay	UGC Assistantce. for the research project entitled "Effects of Industrial Air Pollutants on Plants" of Dr.S.B. Chaphekar, Deptt. of Botany		18,000.00

Bombay University (Colleges Contd.)

Ram Narain Ruia College, Bombay	Basic grant for the development of PG studies in Humanities and Social Sciences- purchase of library books and journals for PG deptts during the Vth Five Year Plan	Ist	30,000.00
-do-	FAT in the universities & colleges for undertaking research work in Sciences.	Ist	1,250/-
Sai Hind College, Bombay	-do-		1,000.00
Suparel College, Bombay	-do-		1,000.00
-do-	-do-		1,000.00
Jyotibai Phule Medical College, Bombay	-do-		750.00
Total:-			<u>38,80,525.35</u>

Bundelkhand University

Affiliated Colleges

Upin Behari College, Jhansi	Grants towards the loan of books to Students- Book Bank	Ist	8,437/-
Shri Mahavidyalaya, Alitpur-Jhansi	S&F in the colleges- 1975-76		750.00
Bundelkhand College, Jhansi(UP)	-do-		5,000.00
PG College, Jhansi(Bundelkhand)	FAT in science(Dr.G.S. Niranjana)	Ist	1,000.00
Total:-			<u>15,187</u>

Urdwan University

Un-assigned grant-1975-76	2nd	10,000.00
Est. of Study Centres 5th Plan Scheme		10,000.00
FAT for research work in Sciences (Prof. B.L. Dutta)	Ist	2,500.00
JRF in Sciences 1976-77	Ist	1,00,000.00
-do-	Ist	66,000.00
Grant-in-aid towards the construction of staff quarters	VI& Final	848.40
Grant-in-aid for the purchase of Scientific equipment - Basic grant for Vth Plan period.	VIth	1,40,000/-
USRT Dr. N.L. Ghosh		2,500.00
USRT Dr. S.R. Chatterjee		1,250.00
SRF in Sciences Dr.(Mrs.)Bitalika Choudhury		3,800.00
Grant-in-aid purchase of Library books & Journals- Vth Plan grants		3,00,000.00

Burdwan University(Contd.)

Affiliated colleges.

Surividyasagar College, Birbhum(West Bengal)	Grants to college libraries for loan of books to students (Book Bank)	Ist	16,000.00
Burdwan Raj College, Burdwan(West Bengal)	-do-	Ist	16,000.00
Durgapur Govt. College, Burdwan (West Bengal)	-do-	Ist	11,000.00
Vivekananda Mahavidyalaya, Burdwan	SAF in the colleges- Sanction of grant for the year 1975-76		3,250.00
Vivekananda Mahavidyalaya, Dist.Hooghly.	-do-		2,750.00
Raja Rammohan Roy Memorial Mahavidyalaya, Distt. Hooghly, (West Bengal)	-do-		892.00
Trivenidevi Bhalotia College, Dt. Burdwan (W. Bengal)	-do;		5,000.00
Ramananda College, Dt. Bankura (W. Bengal)	-do-		3,750.00
Sponsored Teachers' Training College, Purulia (W. Bengal)	-do-		750.00
Sri Sri Krishna Sarada Mandir, Hooghly	Grants to Teachers Colleges during the Fourth Plan period Special grants		2,783.56
Buskara Mah. Dist. Burdwan (W. Bengal)	Estt. of Book Bank	2nd & final	4,000.00
Suri Vidyasagar College, Birbhum (West Bengal)	Book grant to affiliated colleges for the year 1970-71.	2nd & final	1,625.00
Raja Rammohan Roy Mahavidyalaya Hooghly	-do-	-do-	1,375.00
Chandernagore college (West Bengal)	USRT. Sh. KC Kormocar		3,572.60
TBB College Raniganj	EAT for research work in Sciences-	st	750.00
Durgapur Govt. College, Durgapur	-do-	st	2,500.00
Durgapur Govt. College, Durgapur	-do-	st	1,200.00
TBB College, Raniganj	-do-	Ist	1,000.00
Burdwan Raj College, Burdwan	-do-	Ist	1,250.00

Total:-

7,36,316.56

17- Calcutta University

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
-do-	1st	Rs.	2,500
-do-	1st	Rs.	1,500
-do-	1st	Rs.	1,500
-do-	1st	Rs.	1,000
-do-	1st	Rs.	1,500
-do-	1st	Rs.	1,500
-do-	1st	Rs.	500
-do-	1st	Rs.	1,000
-do-	1st	Rs.	1,000
-do-	1st	Rs.	1,000
-do-	1st	Rs.	2,000
-do-	1st	Rs.	1,500
-do-	1st	Rs.	1,000
Junior Research Fellowship in Science- Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	2,17,000
University Grants Commission Assistance for the research project entitled "Studies on Atmospheric Elements - during tropical thunderstorm and rain in relation to the Physics of Clouds.		Rs.	29,000
-do-		Rs.	2,400
-do-		Rs.	4,800
Award of Post-graduate Scholarship of the value of Rs.400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.		Rs.	2,93,000
Grant-in-aid for publication of learned/research work including doctoral thesis-publication of works of late Prof. Manmohan Ghosh.		Rs.	25,000
Grant-in-aid for the purchase of Scientific final equipment-Basic grant-Vth Plan period.		Rs.	1,00,000
University Grants Commission Assistance for the research project entitled "Biophysical Studies on the Structure of DNA Replication Complex" of Prof. N.N. Dasg the Department of Pure Physics, Programme of Special Assistance to Selected Departments - Department of Pura-Chemistry.		Rs.	12,800
-do-		Rs.	65,000
-do-		Rs.	80,000
University Grants Commission Assistance for the research project entitled "Comparative studies of erosion and sedimentation in Humid and semi Arid Environments.		Rs.	7,000

Calcutta University Contd.

University Grants Commission Assistance for the research project entitled "Volcanic history and ore mineralogy of the Deccan Trap Flows and Intrusions in the Satpura Region.		Rs.	4,000
-do-		Rs.	2,400
Utilisation of Services of outstanding retired teachers - payment of grant.		Rs.	1,274.19
Centre of Advance study in Radio Physics & Electronics - Calcutta University- Release of recurring grant-awards of Senior/Junior Research Fellowships and National Scholarships during 1976-77.		Rs.	50,000
Department of Applied Mathematics - University of Calcutta - Release of recurring grants for the year 1975-76.		Rs.	304.82
Grant-in-aid for construction of two additional floors in Institute of Basic Medical Sciences.	5th	Rs.	4,00,000
Senior Research Fellowship in Science payment of fellowship and contingency grant.		Rs.	3,393.55
Junior Research Fellowships in Sciences payment of fellowship and contingency grant.		Rs.	670.97
Senior Research Fellowship in Humanities including Social Sciences-payment of contingency grant.		Rs.	2,000
-do-		Rs.	2,000
University Grants Commission Assistance for the research project entitled "Utilisation of Optical Techniques for Studies on Head Transfer".	2nd	Rs.	6,000
Financial assistance to Teachers for research/learned work in Sciences-Payment of.		Rs.	3,000
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences-Payment of.	1st	Rs.	1,000
-do-	1st	Rs.	2,000
-do-	1st	Rs.	1,200
National Associateship Scheme		Rs.	132.67
University Grants Commission Assistance for the research project entitled "Investigation on the Coordination Chemistry of biologically active transition elements with Vitamins and related compounds".		Rs.	2,400
-do-		Rs.	18,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	1,44,000

Calcutta University Contd.

Development of the Computer Centre - II phase Rs. 3,00,000

AFFILIATED COLLEGES

Jhargram Raj College P.O. Jhargram Disst: Midnapore.	Support for advanced research in the Humanities and Social Sciences	1st	Rs.	5,000
Raj Krishna Mahavidyalaya Kailashahr, Tripura.	Financial Assistance to teachers for research/learned work in Humanities and Social Sciences-Payment of.	2nd	Rs.	750
Rishi Bankim Chandra College Kantaipur, Naihati.	Financial assistance to teachers for research learned work in Sciences-Payment of	final	Rs.	2,000
Maharani Kusiwari College Calcutta	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences-Payment of.	1st	Rs.	1,750
Gurudas College Calcutta.	-do-	1st	Rs.	200
Nabagram Hiralal Paul College P.O. Nabagram Hooghly.	-do-	1st	Rs.	500
Basirhat College P.O. Basirhat 24 Parganas West Bengal	Students Welfare Programme	2nd	Rs.	6,000
-do-	Establishment of Book Bank in colleges during 4th plan.	2nd	Rs.	2,384.50
Sri Krishna College Bagola Nadia West Bengal.	Establishment of Book Bank	2nd	Rs.	1,075.42
-do-	Grants to college libraries for loan of books to students (Book-Bank) during Fifth Plan.	1st	Rs.	8,000
Bingabondu Mahavidyalaya P.O. Bongson 24 Parganas.	-do-	1st	Rs.	14,000

Calcutta University Conts.

Presidence College Calcutta	Grants to College Libraries for loan of books to students (Book-Bank during fifth plan.	1st	Rs.	11,000
Nabagram Hiralal Paul College P.O. Nabagram Disst Hooghly West Bengal	-do-	1st	Rs.	8,000
Panskura Banamali College P.O. Panskura R.S. Mistt. Midnapore West Bengal	-do-	1st	Rs.	14,000
Vyasanagar College At. P.O. Jajpur Road (Cuttack Orissa.	Students' Aid Fund in the colleges-sanction of grant for the year 1975-76 regarding		Rs.	750
Panshuka Banapali College P.O. Pansukhura Midanpore) West Bengal	-do-		Rs.	1,430
Sivanath Sastri College Calcutta.	-do-		Rs.	2,300
Sidhan Chandra College Hooghly	-do-		Rs.	590
Tripath Singh College Murshidabad.	-do-		Rs.	2,750
Talda College Calcutta.	-do-		Rs.	1,000
Merambachandra College Calcutta.	-do-		Rs.	2,810
Mesachandra College Calcutta.	-do-		Rs.	5,000
Managhat College Badia	-do-		Rs.	3,500
Devakananda Batabashiki Mahavidyalaya P.O. Manikpara Mistt. Midnapore.	-do-		Rs.	94

P.T.O.

Calcutta University Contd.

Girls' College	Students' Aid Fund in the Colleges- Sanction	Rs.	4,659	
Howrah.	of grant for the year 1975-76 regarding,	Rs.	750	
Munghberia	-do-			
Gangadhar				
Mahavidyalaya				
P.O. ungberia				
Distt. Midnapore.		Rs.	750	
Budge Budge	-do-			
College				
24 Parganas				
West Bengal.		Rs.	2,250	
Berhampore Girls	-do-			
College				
Berhampore.		Rs.	5,000	
Midnapore College	-do-			
Midnapore.		Rs.	3,026	
Surendranath Evening	-do-			
College				
Calcutta.		Rs.	3,026	
S -do-	-do-	Rs.	120	
Gurudas College	-do-			
Calcutta		Rs.	1,835.50	
Vidyasagar College	-do-			
for Women				
Calcutta		Rs.	933	
Bagan College	-do-			
Dist. Howrah		Rs.	1,000	
Ramakrishan Mission	-do-			
P.O. Narendragau.		Rs.	3,310	
City College	-do-			
of Commerce & Business				
Administration				
Calcutta.		Rs.	1,050	
Mahishadal Raj	-do-			
College				
Dist. Midnapore.		Rs.	1,743	
Sarojini Naidu	-do-			
College for Women				
Calcutta		Rs.	3,454	
Women's College	-do-			
Agartala.				
Karimpur Panadevi	Grants to affiliated colleges for the	3rd	Rs.	2,000
College	construction of Non-resident student			
P.O. Karimpur	centre.			
Andrews College	Financial assistance to teachers in the	1st	Rs.	1,000
Gariz.	universities and colleges for undertaking			
	research work in Sciences-payment of first			
	instalment.			

P.T.O.

Calcutta University Contd.

R. B. G. College Raihati	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences. Payment of first instalment.	1st	Rs.	1,000
Gurdas College Calcutta.	-do-	1st	Rs.	1,000
Bengal Engineering College Howrah	-do-	1st	Rs.	2,000
Presidence College Calcutta.	-do-	1st	Rs.	
Asutech College Bhowanipur	-do-			
Bengal Engineering College Howrah	-do-			
Presidence College Calcutta.	-do-			
-do-	-do-			
-do-	-do-	1st		
F. C. College Diamond Harbour	-do-	1st		
Sampore College Sampore.	-do-	1st	Rs.	
R. B. C. College Raihati.	-do-	1st	Rs.	
-do-	-do-	1st	Rs.	1,000
-do-	-do-	1st	Rs.	750
Vivekananda College Thakurpura. Calcutta.	-do-	1st	Rs.	1,000
Booghly Mohain College Calcutta.	-do-	1st	Rs.	1,000
Presidence College Calcutta.	-do-	1st	Rs.	2,000
M. B. B. College Agartala	-do-	1st	Rs.	750
R. B. C. College Raihati.	-do-	1st	Rs.	1,750
Vidyasagar College Calcutta.	-do-	1st	Rs.	1,250
S. C. College Habra.	-do-	1st	Rs.	1,250

P. T. O.

Calcutta University Contd.

R. B. C. College Naihati	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment.	1st	Rs.	1,750
Charu Chandra College, Calcutta.	-do-	1st	Rs.	2,000
Total				19,62,176.62

Calicut University

	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
	Grant in aid for the purchase of Books and journals for Science Faculty - Vth plan period.		Rs.	2,04,000
	University Grants Commission Assistance for the Research Project entitled "Liquid Ion-Exchangers for the Separation of various Constituent Elements of Beach Sands of Kerala.		Rs.	6,000
	Utilisation of services of outstanding retired teachers - payment of grant.		Rs.	1,250
	Basic grant for the purchase of library books & journals during the 5th five year plan period.		Rs.	60,000
	Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	12,000
	-do-	1st	Rs.	18,000
	-do-	1st	Rs.	12,000
	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences-Payment of first instalment of grant.	1st	Rs.	2,500
	Unassigned grant for the year 1975-76 Release of.	1st	Rs.	10,000

Calicut University Contd.

AFFILIATED COLLEGES

M. E. S. Mampad College	Grant for purchase of Library Books and Equipment Vth Plan period-Improvement of under graduate - educational facilities.		Rs.	80,000
Mampad. Vimala College	Recurring expenditure - Health Centre		Rs.	2,407
Trichur. Saree Naryanan College	Basic Grant for purchase of Library Books and Equipment (Sciences)Vth Plan period.		Rs.	10,000
Cannanore-7. Sree Kerala Vemba College	Development of Postgraduate Studies in		Rs.	218.80
Trichur. Farook College	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Spcoa; Sciences/Payment of first instalment.	1st	Rs.	720
Farook P.O. Calicut.				
Govt. Arts & Science College Calicut.		-do-	1st	Rs. 1,000
Regional Engineering College Calicut.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment.		1st	Rs. 3,250
Medical College Calicut.		-do-	1st	Rs. 1,750
St. Thomas College Trichur.		-do-	1st	Rs. 500
St. Joseph's College Calicut.		-do-	1st	Rs. 1,500
Sree Naryana College Cannanore.	Development of play field & purchase of		2nd	Rs. 1,395
Govt. College Madapur allygferniz.	Students' Aid Fund in the Colleges Grant for 1975-76.		Rs.	1,520
P, B. S. S. S. College Nattamur.		-do.	Rs.	1,000

Total

4,32,010.80

18- Cochin University

Scheme of assistance for the publication of Learned work/Research work including Doctoral theses during Vth Plan Period-Grant for the period 1975-76. regarding.		Rs.	5,000
Grant-in-aid for the purchase of books and Journals (Humanities) Vth Plan period.		Rs.	73,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	8,000
Grant-in-aid for the purchase of Scientific equipment - Vth plan period.	1st	Rs.	1,50,000
-dc-			
Basic grant-Equipment. Vth plan period	1st final	Rs.	2,00,000
		Rs.	70,000

Total	5,06,000
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19. Delhi University

Third All-India Management Convention on "Management and Socio-economic Change"		Rs.	5,000
Purchase of Air conditioner and Refrigerator		Rs.	1,479.50
Centre of Advanced Study in Chemistry		Rs.	50,000
Centre of Advanced Study in Zoology		Rs.	55,000
University Grants Commission Assistance for the research project entitled "Cytogenetical Studies on Rodents from the Indian Sub-continent".		Rs.	4,000
Basic grant for purchase of Scientific equipment during Vth Five Year Plan	5th	Rs.	1,00,000
Payment of maintenance grant @ Rs.400/-		Rs.	400
Purchase of Equipment	1st	Rs.	5,00,000
Purchase of books and journals	1st	Rs.	2,00,000
Centre of Advanced Study in Botany		Rs.	3,500
Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	2,17,000
Senior/Junior Research Fellowships in Sciences/Humanities including Social Sciences/Research Fellowships in Engineering & Technology.		Rs.	3,446.67

Delhi University Contd.

Junior Research Fellowship in Sciences Humanities including Social Sciences/Research Fellowships in Engineering & Technology.		Rs.	3,623.23
-do-		Rs.	3,800
-do-		Rs.	3,800
-do-		Rs.	2,454.84
-do-		Rs.	2,803.23
-do-		Rs.	3,153.33
Centre of Advanced Study in Botany		Rs.	50,000
Senior/Junior Research Fellowships in Sciences Humanities/Engineering & Technology/ Engineering and Technology.		Rs.	1,070.97
Release of grant for purchase of books & Journals.	1st	Rs.	3,44,644
Purchase of land for the Campus.		Rs.	45,30,240
University Grants Commission Assistance for the research project entitled "The mammalian salivary gland as a model for the study of regulation of cell division and differentiation.		Rs.	25,000
-do-		Rs.	60,000
Utilisation of services of outstanding retired teachers payment of grant.	Rs.	Rs.	1,446.67
Centre of Advanced Study in Physics		Rs.	60,000
Centre of Advanced Study in Zoology		Rs.	7,000
Senior/Junior Research Fellowships in Science/Humanities/Engineering Technology- Extension in Fellowship tenure-payment of Fellowship.		Rs.	1,083.87
Students Legal Service Clinic, Faculty of Law 2nd		Rs.	5,000
University Grants Commission Assistance for the research project entitled "Coordination Chemistry of Trace Elements in Human Body".		Rs.	3,000
-do-		Rs.	2,400
Junior Research in fellowship in Humanities and Social Sciences - Allocation of the funds.	1st	Rs.	1,44,000
Financial assistance to teachers in the universities and colleges for the undertaking research work in Science-payment of first instalment of grant.	1st	Rs.	750
-do-	1st	Rs.	750
-do-	1st	Rs.	500
-do-	1st	Rs.	800
-do-	1st	Rs.	1,250

AFFILIATED COLLEGES

Hindu College Delhi.	-do-	1st	Rs.	1,750
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Affiliated Colleges

SGTB Khalsa College, Delhi.	FAT in the universities and colleges for undertaking research work in Sciences	Ist	1,250
Ranjas College Delhi.	-do-	Ist	1,250
Delhi College, Ajmeri Gate, Delhi.	-do-	Ist	1,500
Gargi College, New Delhi.	-do-	Ist	1,250
Delhi College, Delhi.	-do-	Ist	1,000
Shivaji College, Karampura, New Delhi.	-do-	Ist	1,500
College of Pharmacy, Pusa, New Delhi	-do-	Ist	1,000
Hans Raj College, Delhi.	-do-	Ist	1,000
-do-	-do-	Ist	1,500
Hindu College, Delhi	-do-	Ist	1,250
Hans Raj College, Delhi.	-do-	Ist	1,500
Daulat Ram College, Delhi.	-do-	Ist	1,500
Sri Venkateswar College New Delhi.	-do-	Ist	1,750
St. Stephen's College, Delhi	-do-	Ist	1,500
-do-	-do-	Ist	1,500
Hans Raj College, Delhi	-do-	Ist	2,500/
Hindu College, Delhi	-do-	Ist	1,500
Hastinapur College, Moti Bagh, New Delhi	-do-	Ist	1,000
RSD College, New Delhi	-do-	Ist	1,750
Hans Raj College, Delhi	-do-	Ist	2,000
-do-	-do-	Ist	1,250
Sri Venkateswara College, New Delhi	-do-	Ist	500
-do-	-do-	Ist	750

Delhi University (Contd.)

Miranda House, Delhi.	FAT in the universities and colleges for undertaking research work in Sciences-	Ist	1,000
Lady Irwin College, New Delhi	-do-	Ist	1,750
Sri Venkateswara College, Dhaura Khuan, New Delhi	-do-	Ist	1,000
PG D.V. College, New Delhi	-do-	Ist	750
Mahis Raj College, Delhi.	-do-	Ist	750
Swami Shradhanand College, Alipur, Delhi.	-do-	Ist	2,000
Kalindi College, New Delhi	-do-	Ist	1,500
Sri Venkateswara College, Dhaura Kuar, New Delhi.	-do-	Ist	1,000
-do-	-do-	Ist	750
Satyawati Co-educational College (Evening Classes) Timarpur, Delhi.	Purchase of Library books for the courses introduced wef 1973-74		13,000
Miranda House Delhi	Support for advanced research in the Humanities and Social Sciences-	Ist	2,000
Shyama Prasad Mukherji College for Woman, Tagore Garden, New Delhi.	Purchase of Library books for the B.A. (Hons.) course in Sanskrit and B.A. (Pass) course in Philosophy introduction wef 1974-75		3,000
-do-	Purchase of Library books and musical instruments wef 1973-74		1,000
Vallabhbhai Patel Chest Institute, University of Delhi, Delhi.	UGC Assistance for the research project entitled "Investigation on the existence and physiological role of Acetylcholine in Plants" of Prof. A.S. Paintal, V.P. Chest Institute & Prof. S.C. Maheshwari- Fifth Five Year Plan period.		10,000
Gargi College, Lajpat Nagar, New Delhi.	Construction of College Building		2,00,000
Rajdhani College, Kirti Nagar, New Delhi	-do-		1,50,000
PGD.V. College, Nehru Nagar, New Delhi.	FAT for research/learned work in Humanities and Social Sciences- Payment of	2nd	1,500
College of Vocational Studies, 7, Doctor's Lane, Connaught Place, New Delhi.	Purchase of Library books for Punjabi and Bengali courses-		875
Kamla Nehru College, Panchshila Park Marg, New Delhi.	FAT for research/learned work in Humanities and Social Sciences-	2nd & final	2,500

Delhi University (Contd.)

V.P. Patel Chest Institute, University of Delhi, Delhi.	UGC Assistance for the research work entitled "Metabolic studies on Drug resistant and sensitive myco-hacteria" by Dr. T.V. Subramanian,		18,000
-do-	-do-		18,000
Miranda House, Patel Chest Marg, Delhi.	Construction of Library Building		30,000
Dyal Singh College (Day classes) Lodi Road, New Delhi.	Grants to affiliated colleges of Delhi University for loan of books to students-setting up book bank		14,063
Bhagat Singh College, (Day classes) Govindpuri, Kalkaji, New Delhi.	-do-		14,063
Kalindi College, New Delhi.	Estt. of S.F		1,377
SP Mukherji College for Women, Tagore Garden, New Delhi.	Estt. of S.F		2,655.50
Lady Shri Ram College for Women, New Delhi.	Estt. of S.F		3,750
SGTB Khalsa College (Evening Classes) Karol Bagh, New Delhi	-do-		2,250
Rajdhani College, New Delhi-15	FAT for research in Humanities & Social Sciences	Ist	2,000
Satyavati Co-educational College, Delhi-7.	-do-	Ist	2,400
Shivaji College, Karampura, New Delhi-15.	-do-	Ist	500
Shri Ram College of Commerce, Delhi.	-do-	Ist	1,950
-do-	-do-	Ist	1,750
Hans Raj College, Delhi.	-do-	2nd & final	500
SGTB Khalsa College (Day Classes) Delhi-10007	Colleges affiliated to Delhi University- Estt. of S.F		3,611.3
Lady Shri Ram College for Women, New Delhi.	Seminar on New Courses of Political Science- Deptt. in the college		1,800
Delhi School of Social Work, Delhi.	Implementation of National Service Scheme- Payment of grant for 1975-76		10,000

Total:-

69,54,661.

Estt. of Computer Centre-TDC-312-5th- Plan period	Ist	2,00,000.00
JRF in Humanities & Social Sciences Grant-in-aid for the purchase of Scientific equipment during the 5th Plan period	Ist	34,000.00 ,50,000.00
Visit of Dr.S.B. Basumallick, Head of Applied Geology Deptt. to UK under the Programme of Exchange of visits by Younger Scientists betwen India & UK during 1975-76.		12,266.00
Estt. of Study Centre -5th Plan Scheme Grant-in-aid for the purchase of books & journals during the Fifth Plan FAT for research work in Sciences	Ist	10,000.00 3,00,000.00 750.00

Affiliated colleges

Dib Sibsagar College, Sibsagar(Assam)	FAT for research work in Science	Ist	750.00
Lakimpur College, Lakhimpur(Assam)	-do-	Ist	1,250/-
Sibsagar College, Sibsagar PO Joysagar.	-do-	Ist	1,250.00
Sibsagar College, Sibsagar,PO Joysagar.	-do-	Ist	1,500.00
Dibrugarh College, Dibrugarh(Assam)	Construction of Library Building	IIst	25,000.00
S.B. College, Dorhat	FAT for research work in Humanities including Social Sciences	Ist	1,750.00
Dorhat College, Dorhat(Assam)	SWP		671.47
Madanath Saikia College, Titabar, Assam	S.F. - sanction of grant for the year 1975-76 regarding		750.00
Sibsagar College, PO Joysagar, Sibsagar(Assam)	-do-		1,658.00
Digboi College, Digboi(Assam)	Grants to college libraries for loan of books to students(Book Bank)	Ist	8,000.00
ISK College, Dibrugarh(Assam)	-do-	Ist	8,000.00

Total:-

6,57,695.47

21. Garhwal University

AFFILIATED COLLEGES

Govt. College Kotdwar.	Students Aid Fund in the Colleges - grant for 1975-76.		Rs.	629
D. B. S. College Dehra Dun	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No. 6464.	1st	Rs.	1,500
-do-	-do- No. 6548	1st	Rs.	1,000
S. G. R. R. College Dehradun	-do- No. 6530	1st	Rs.	1,500
Govt. S. R. T. Degree College Tehri (Garhwal)	-do- No. 6216	1st	Rs.	1,500
Birla Govt. P. G. College Srinagar.	-do- No. 6604	1st	Rs.	2,500
D. A. V. College Dehradun	-do- No. 6360	1st	Rs.	1,250
D. H. S. College Dehradun	-do- No. 6359	1st	Rs.	1,500

Total				12,879
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22. Gauhati University

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No. 6298	1st	Rs.	1,250
-do- No. 6635	1st	Rs.	2,000
-do- No. 6425	1st	Rs.	1,500
Basic grant for the purchase of scientific equipment during the 5th plan period.	2nd	Rs.	2,00,000
University Grants Commission Assistance for the research project entitled "studies on the Ionosphere at Gauhati" by Dr. A.K. Barbara, Reader, Department of Physics, Gauhati University		Rs.	20,000
Junior Research Fellowship in science - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	66,000

Gauhati University Contd..

Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	44,000
Basic grant for the purchase of library books & Journals 5th Plan period.	3rd	Rs.	1,00,000
Grant-in-aid for the purchase of equipment for Humanities Departments during the 5th plan period.		Rs.	45,000
Establishment of Computer Centre - T.E.D. 316-5th plan scheme.	1st	Rs.	8,00,000
-do-	2nd	Rs.	15,00,000

AFFILIATED COLLEGES

Kamrup College P.O. Chamata	Students' Aid Fund in the Colleges - Sanction of grant for the year 1975-76 regarding.		Rs.	Rs.	415
Nowgong College Nowgon.	-do-		Rs.		2,250
Nalbari College Nalbari	-do-		Rs.		1,337
Jamagar College P.O. Sorbhog Dist. Kamrup.	-do-		Rs.		700
Eragjyotish Collegee Gazhati	-do-		Rs.		1,352
Bongai gaon College P.O. Bongai gaon	-do-		Rs.		655
Janata College Kalanganj Cachar.	-do-		Rs.		308
Cachar College Silchar P.O. Silchar Dist. Cachar.	-do-		Rs.		1,750
Rabindrasadan Girls' College P.O. Karimganj Distt. Cachar	-do-		Rs.		395
Rabindra Sadan (Girls' College) P.O. Karimganj Distt. Cachar.	Grants to college libraries for loan of books to Students (Book-Bank) during fifth Plan	1st	Rs.		4,500
Jawahar Lal Nehru College Pasighat Arunachal Pradesh	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment of first instalment of grant.	1st	Rs.		1,000
Moirang College Manipur.	-do-	1st	Rs.		2,500

Gauhati University Contd. (Colleges)

A. D. P. College Nowgong	Financial Assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment of first instalment of grant.	1st	Rs.	500
M. C. College Berpeta	-do-	1st	Rs.	760
Arya Vidyapeeth College Gauhati.	-do-	1st	Rs.	1,124
Arya Vidyapeeth College Gauhati	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant Code No. 6526	1st	Rs.	2,000
Cotton College Gauhati.	-do- No. 6547	1st	Rs.	750

Total Rs. 27,97,046

23.

G. B. Pant University of Agriculture & Technology

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Sciences - payment of first instalment of grant Code No. 6125.	1st	Rs.	1,500
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Total Rs. 1,500

4. Gorakhpur University

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No. 6299	1st	Rs.	1,000
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Gorakhpur University Contd.

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No.6536	1st	Rs.	2,000
Purchase of library books & Journals (Science) during 5th plan period - sanction of grant for.		Rs.	50,000
Purchase of scientific equipment during IVth plan period - sanction of grant for.		Rs.	1,00,000
University Grants Commission Assistance for the research project entitled "Now thesis of gravitation & their cosmological validation".		Rs.	5,400
Junior Research Fellowships in Sciences Humanities including Social Sciences - payment of contingency grant to Shri Jai Prakash Mishra.		Rs.	1,500
University Grants Commission Assistance for the research project entitled "Studies on Endocrine Glands Related to Plasma Calcium Regulation in certain vertebrates" of Dr. K. Swarup, Department of Zoology, Gorakhpur University, Gorakhpur, Fifth Five Year Plan period.		Rs.	7,400
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	34,000
-do-	1st	Rs.	51,000
University Grants Commission Assistance for the research project entitled "Thermodynamics of Dissipative Structure and other Related Far From Equilibrium Phenomena" of Prof. R.P. Rastogi, Department of Chemistry, University of Gorakhpur, Gorakhpur, during fifth five year period - payment of the 3d instalment.	3rd	Rs.	10,000
College Science Improvement Programme	1st	Rs.	1,50,000
University Leadership Project in Biological Sciences : Grant-in-aid.			

AFFILIATED COLLEGES

Sakhari Degree College Mihrawan, Jaunpur.	Grant towards the loan of books to student Setting up of Book-Bank.	1st	Rs.	4,500
Baldev Degree College Baragaon Varanasi.	-do-	1st	Rs.	5,625

Gorakhpur University Contd..

Udit Narain Degree College Padrauna Deoria.	Grant towards the loan of books to students - setting up of Book-Bank	1st	Rs.	8,437
Swami Sahejnanad Sarswati Vidyapeeth Degree College Ghazipur.	-do-	1st	Rs.	5,625
Budha Vidyapeeth Degree College Nowgarh, Basti	-do-	1st	Rs.	8,437
Sant Vinoba Degree College Deoria	Students Aid Fund in the Colleges		Rs.	4,250
Pratap Bahadur Degree College Pratapgarh City	-do-		Rs.	1,000
National Degree College Berhalganj Gorakhpur.	-do-		Rs.	2,250
Degree College Ghazipur.	-do-		Rs.	3,008
Shri Gandhi Degree College Maltari Azamgarh	-do-		Rs.	822
St. Andrew's College Gorakhpur.	-do-		Rs.	4,250
St. Andrew's College Gorakhpur.	College Science Improvement Programme - Selected Colleges Project : Grant-in-aid	5th	Rs.	40,000
-do-	-do- Followup activities	1st	Rs.	80,000
Udal Pratap College Varanasi.	Writing of University level books/ monographs.		Rs.	2,000
B. R. D. Post- Graduate College Deoria	Construction of Gymnasium	3rd	Rs.	15,000
Dhree Lal Bahadur Shastri Degree College Gonda	Development of play fields of purchase of accessories for games & sports.	2nd	Rs.	1,422
D.P.E. Degree College Deoria.	Construction of Residential Flats for Lecturers.	2nd	Rs.	23,000
D. A. V. College Azamgarh.	Construction of Teachers' Hostel	2nd	Rs.	37,000

Gorakhpur University Contd..

G. College Azipur.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No.6362	1st	Rs.	1,000
D. College umpur.	-do- No.6361	1st	Rs.	500
M. Govt. College ampur	-do- No.6365	1st	Rs.	1,000
ranasi D.P.G. College ampur.	-do- No.6364	1st	Rs.	1,000
G. College Azipur.	-do- No.6363	1st	Rs.	1,000
A.V. (P.G.) College angarh.	-do- No.6587	1st	Rs.	1,000
G.D. College orakhpur.	-do- No.6217	1st	Rs.	1,000
D. College ampur.	-do- No.6467	1st	Rs.	1,000
M.M.(P.G.) College llia	-do- No.6466	1st	Rs.	1,250
N. Govt. College yampur amasi	-do- No.6465	Asst	Rs.	1,500
C.S.K. Degree College Nath Ehanjan (Azangarh)	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - Payment of first instalment of grant.	1st	Rs.	300
G. College llia.	-do-	1st	Rs.	2,500
egree College hazipur.	-do-	1st	Rs.	1,500
t. Andrew's College orakhpur.	-do-	1st	Rs.	1,750
atan Sen Degree College ensi (Distt).	-do-	1st	Rs.	500

Total

Rs. 6,79,726

P.T.O.

25. Gujarat University

Construction of building for P.G. Centre in Space Science		Rs.	50,000
Utilisation of Services of outstanding retired teachers - payment of grant.		Rs.	2,008.64
All India Summer Institute in Advanced Cytology for college teachers during 1974 - sanction of 1st instalment of grant for.	2nd	Rs.	10,691.66
Financial assistance to Universities for Publication of Research Work including Doctoral Thesis.		Rs.	8,970
Proposal of the Gujarat University for starting a P.G. Course in Space Science Sanction of grant for.		Rs.	5,000
University Grants Commission Assistance for the research project entitled "Regulation of puffing and Gene activity in the polyterests of Drosophila".		Rs.	25,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	44,000
Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	66,000
Senior Research Fellowship in Humanities including Social Sciences & payment of fellowship and contingency grant.		Rs.	3,780.64
Release of grant for the purchase of scientific equipment during the fifty five year plan period.		Rs.	1,89,000
Writing of University Level/Books Monographs.		Rs.	2,731.34
Schemes for development of Computer Centre - Fourth Plan Scheme.		Rs.	40,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No. 6300.	1st	Rs.	2,500
Construction of Gymnasium.	3rd	Rs.	50,000

AFFILIATED COLLEGES

Sh. H.K. Arts College Ahmedabad.	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - Payment of first instalment of grant.	1st	Rs.	500
S.S. College of Education Godhra.	-do-	1st	Rs.	500
B.D. College Ahmedabad.	-do-	1st	Rs.	1,000

Gujarat University Contd.

St. Xavier's College Ahmedabad.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant Code No.6366	1st	Rs.	500
Bhavan's B.A. College of Science Ahmedabad.	-do- No.6218	1st	Rs.	1,500
St. Xavier's College Ahmedabad.	-do- No.6468	1st	Rs.	1,000
Sheth L.H. Science College MANSA (Distt. Mehsana).	Students' Aid Fund in the Colleges - grant for 1975-76.		Rs.	650
C.N. Arts & B.D. Commerce College KADI-382715.	-do-		Rs.	1,000
Sheth T.C. Kapadia Arts College BODELI.	-do-		Rs.	642
R.B. Sagar College of Education Paldi. Ahmedabad.	-do-		Rs.	650
Uni Trust S. Mahila Arts College Post Box No.51 Nadiad (Gujarat)	-do-		Rs.	672
Wavgujarat Commerce College Shram Road Ahmedabad.	-do-		Rs.	3,250
M.G. Science Institute Navrangpura Ahmedabad.	-do-		Rs.	2,750
Sheth R.A. College of Science Khanpur Ahmedabad.	-do-		Rs.	2,250
College of Education Patan Gujarat.	-do-		Rs.	750
J.V. Patel College of Commerce Nadiad Distt. Kaira.	-do-		Rs.	1,678

Gujarat University Contd.

I.M. Nanavati Law College Lal Darwaja Ahmedabad.	Students' Aid Fund in the Colleges- grant for 1975-76.	Rs.	1,982
Kapadia N.M.M. S., Arts College Sankuda Dist. Paroda W. Rly.	-do-	Rs.	322
Manklal Nanavati Law College Lal Darwaja Ahmedabad.	-do-	Rs.	3,144
Y.S. Arts & S.K.S.S. Commerce College Post-Box No.5 Davgadhbaria-389380	-do-	Rs.	1,472
Shri C.N. Patel Martikulwala Arts College and D.N. Science College Dhabeli-381110	-do-	Rs.	990
Secondary Teachers Training College Barkhaj Road Ahmedabad.	-do-	Rs.	418
M. D. Shah Commerce and B. D. Patel Arts College Mahudha Dist. Karia	-do-	Rs.	1,000
Sheth Shree C.N. Commerce College Visnagar N. Gujarat.	-do-	Rs.	868
Sheth Sheerji Vallabhadad Arts & Commerce College Wandri (Kutch- Gujarat)	-do-	Rs.	872
Navinjarat Arts College Ashram Road Ahmedabad.	-do-	Rs.	3,250
Shri Sahajanand Arts and Commerce College Ahmedabad.	-do-	Rs.	3,200

Gujarat University Contd.

Shri C.N. Patel Artikuiwala Arts College and D.N. Science College Vadodra-391110	Basic Grant for the development of Postgraduate Studies in Humanities and Social Sciences - Purchase of library books and Journals - Scientific Equipment for Post-Graduate departments during the Vth Five Year Plan.	1st	Rs.	15,000
Shri P.T. Science College Vadodra (Gujarat) Gujarat College Vadodra. S.G. Science Institute, Vadodra.	-do-	1st	Rs.	15,000
	Utilisation of services of outstanding retired teachers - payment of grant.		Rs.	1,250
	Purchase of Laboratory Equipment		Rs.	2,500
Total				Rs. 6,00,252.23

Punjab University

Establishment of Study Centre at Amritsar - 1975-76.			Rs.	10,000
Establishment of Students Aid Fund in Universities - 1975-76.			Rs.	2,000
Establishment of Study Centre at Jullundur Non-Recurring expenditure - Commission's assistance for (1975-76)			Rs.	10,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.		8,000
-do-	1st	Rs.		12,000
Support for advanced research in the Humanities and Social Sciences.	1st	Rs.		10,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant Code No.6562.	1st	Rs.		750
-do- No.6158	1st	Rs.		2,500
-do- No.6159	1st	Rs.		1,500
-do- No.6160	1st	Rs.		2,000
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment of first instalment of grant.	1st	Rs.		1,400

Guru Nanak University Contd.

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Scines/Sciences - Payment of first instalment of grant. 1st Rs. 1,000

AFFILIATED COLLEGES

The Govt. Guru Teg Bahadur College Santhiala Amritsar.	Grant towards the loan of books to students - Setting up of Book-Bank.	1st	Rs.	4,500
Govt. College for Women Amritsar	-do-	1st	Rs.	8,437
Govt. College Gurdaspur Daba College Jullunder	-do-	1st	Rs.	11,250
	Basic grant for the development of post-graduate studies in Humanities and Social Science-purchase of Library Books and Journals for post-graduate departments during the V Five Year Plan period.		Rs.	10,000
Govt. College for Women Amritsar.	Grants to college Libraries for loan of books to students - Book Bank.	2nd	Rs.	3,000
D. A. V College Jullunder	Financial assistance to teachers in the universities and colleges for undertaking research work in Science-payment of first instalment of grant.	1st	Rs.	1,750
Guru Nanak Khalsa College Daroli Kalan Jullunder.	Students Aid Fund in the Colleges-grant for 1975-76.		Rs.	750
Total			Rs.	1,00,837

27. Haryana Agriculture University

Junior Research Fellowships in Humanities including Social Sciences/Research Fellowships in Engineering & Technology-payment of fellowship and contingency grant. Rs. 3,380
Writing of University Level Books/Monographs. Rs. 2,000

Haryana Agricultural University Contd..

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-payment of first instalment of grant.	1st	Rs.	2,000
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Total		Rs.	7,380
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Himachal Pradesh University

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences-payment of first instalment of grant.	1st	Rs.	2,500
-do-	1st	Rs.	2,500
Construction of Mens' Hostel for 160 students.		Rs.	52,50,000
Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	12,000
-do-	1st	Rs.	8,000
Basic grant for purchase of Scientific Equipment during fifth plan period.		Rs.	1,00,000
Construction of Science Block Physics & Chemistry, Biosciences, Mathematics, etc. Phase II.		Rs.	6,00,000
Junior Research Fellowships in Sciences - payment of fellowship and contingency grant.		Rs.	3,538.71
-do-		Rs.	3,564.52
Establishment of Study Centre		Rs.	10,000
Purchase of Books & Journals for Humanities & Science Department during Vth Five Year Plan.		Rs.	2,50,000

AFFILIATED COLLEGES

Students Aid Fund in the Colleges - Grant for 1975-76.		Rs.	1,000
Grant towards the loan of books to students Setting up of Book-Bank.	1st	Rs.	11,250

P.T.O.

Himachal Pradesh University Contd.

Govt. College Mandi.	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment for first instalment of grant.	1st	Rs.	2,500
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Total	Rs.	12,56,853.23
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29. Hyderabad University

Hyderabad University-Purchase of books & journals.	3rd	Rs.	10,00,000
Institution of M.Phil Fellowship Release of funds - regarding.		Rs.	1,50,000
Purchase of Library Stocks and Furniture.		Rs.	2,00,000

Total	Rs.	13,50,000
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30. Indore University

Basic grant for the purchase of library books & journals during the 5th Five Year Plan period.		Rs.	1,20,000
Junior Research Fellowship in Science - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	51,000
-do-	1st	Rs.	34,000
Release of grant for the purchase of scientific equipment during fifty five year plan period.		Rs.	50,000
Indo-USSR Cultural Exchange Programme placement of Russian Language Teacher - Reimbursement of salary of.		Rs.	3,380.7

Indore University Contd.

Salaries for the additional staff approved during V Plan Period.	Rs.	50,000
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AFFILIATED COLLEGES

Indore School of Social Work 3-14, Old Sehore Indore.	BSS Programme - Sanction of grant for the	Rs.	25,000
G.M. Medical College Indore.	Financial assistance to teachers in the universities and colleges for undertaking research work in Science - Payment of first instalment of grant.	1st Rs.	1,500
olkar Science College Indore.	-do-	1st Rs.	1,000
G. S. Institute of Technology & Science Indore.	-do-	1st Rs.	1,000
Govt. Arts Commerce College Indore.	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Science/Science - payment of first instalment of grant.	1st Rs.	500
olkar Science College Indore.	Students' Aid Fund in the Colleges - grant for 1975-76.	Rs.	2,250

Total	Rs.	3,39,630
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31. Indira Kala Sangeet Vishwavidyalaya

Basic grant for books & journals.	1st	Rs.	20,000
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Total	Rs.	20,000
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32. Jabalpur University

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant.	1st	Rs.	750
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	44,000
Basic grant for the purchase of library books & journals during the 5th Five Year Plan Period.		Rs.	1,52,000
Release of grant for the purchase of Scientific Equipment during the fifth five year p plan period.		Rs.	33,000
Allocation of unassigned grant during 1975-76 - Release of grant for.		Rs.	20,000

AFFILIATED COLLEGES

Govt. College of Education Jabalpur.	Utilisation of services of outstanding retired teachers - payment of grant.		Rs.	11,000
College of Vet. Sc. & Animal Husbandary Jabalpur.	Financial assistance to teachers in the universities and colleges for undertaking research work in Science - Payment of first instalment of grant.	1st	Rs.	2,500
Govt. Science College Jabalpur.	-do-	1st	Rs.	1,500
Agriculture College Jabalpur.	-do-	1st	Rs.	750
Govt. Science College Jabalpur.	-do-	1st	Rs.	1,000
Govt. Science College Jabalpur.	-do-	1st	Rs.	750

Total Rs. 2,67,250

Jadavpur University

Senior & Junior Research Fellowships in Sciences Humanities including Social Sciences/Research Fellowships in Engineering & Technology - Payment of fellowship and contingency grant.	Rs.	4,090.32
Research Fellowships in Engineering & Technology - payment of contingency grant.	Rs.	1,434.13
University Grants Commission Assistance for the research project entitled "A Molecular Orbital Study of the Bonding of some Simple Organometallic Compounds" of Dr. R.K. Datta, Department of Chemistry.	Rs.	5,400
Grant-in-aid for the purchase of Scientific equipment during 5th plan - Basic grant.	2nd %.	1,00,000
-do-	3rd	Rs. 1,00,000
Seminar on English for Special purpose Programme of Special Assistance to Selected Departments-Department of Geology.	Rs.	4,197.50
University Grants Commission Assistance for the research project entitled "Spectroscopic Investigations of perturbed molecules", Writing of University Level Book on "Chemistry and Geo-Chemistry of Mercury" under the supervision of Dr. Sachinath Mitra.	Rs.	50,000
Junior Research Fellowship in Humanities and social sciences - Allocation of funds for implementation of scheme during 1976-77.	Rs. Rs.	3,000
Release of grant for purchase of furniture for Post-graduate Courses in Civil Engineering.	Rs.	4,859.68
University Grants Commission Assistance for the research project entitled "Stratigraphy of the sedimentary sequence around Neyveli with special reference to Neyveli Lignite" by Dr. S.K. Baksi, Lecturer.	1st Rs.	44,000
-do-	6th Rs.	8,000
Visit of Dr. A.K. Ghosh - Lecturer in Mathematics, to U.K. under the Programme of Exchange of Visits by Younger Scientists between India and U.K. during 1975-76.	Rs. Rs.	2,500
Research Fellowships in Engineering and Technology-Extension in Fellowship tenure-payment of fellowship.	Rs.	13,000
University Grants Commission Assistance for the research project entitled "Metamorphism and deformation of sulphide ore deposits etc." under Dr. A. D. Mukherjee.	Rs.	9,500
-do-	Rs.	467.67
	Rs.	4,400
	Rs.	4,800
Total	Rs.	3,59,649.30

33.

Jammu University

	Purchase of Books & Journals during 5th plan period.		Rs.	3,26,060
	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
	Establishment of Study Centre.		Rs.	10,000
	Unassigned grant for 1975-76.	2nd	Rs.	5,000
	Purchase of Equipment during 5th plan period.		Rs.	4,75,000
	University Grants Commission Assistance for the research project entitled "Studies on the productivity on Shudra-Sar Lake, Jammu.		Rs.	12,500
	Development of Computer Facilities during 5th plan period.		Rs.	8,00,000
	Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	22,000
	Junior Research Fellowship in Sciences - payment of fellowship and contingency grant.		Rs.	3,538.71
	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Science/Science - Payment of first instalment of grant.		Rs.	1,500
<u>Affiliated Colleges</u>	-do-	1st	Rs.	2,500
Govt. C.M. Science College Jammu.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,250
Govt. S.M. Sc. College Jammu.	-do-	1st	Rs.	1,500
Govt. College for Women Gandhinagar. Jammu.	Students Aid Fund in the colleges Grant for 1975-76.		Rs.	1,000
Total			Rs.	16,62,848.71

34.

Jawahar Lal Nehru University

Construction of Health Centre in Jawaharlal Nehru University.	2nd	Rs.	1,00,000
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P.T.O.

Jawahar Lal Nehru University Contd.

Construction of School Building in Jawaharlal Nehru University Campus.	Rs.	7,00,000
Purchase of a Jeep in the Engineering department of Jawaharlal Nehru University	2nd Rs.	671.49
Construction of 3 Hostel Blocks for 800 Students & 12 warden in Sec. I of the Jawaharlal Nehru University Campus.	11th Rs.	8,00,000
Purchase of teaching aid equipment for the the School of Social Sciences (During Vth Plan).	Rs.	1,50,000
Setting up of School of Environmental Sciences of the University - Purchase of Equipment.	4th Rs.	1,00,000
Provision of steel grills in doors & windows in faculty staff quarters in Sector 1 & 4 of the Jawaharlal Nehru University Campus.	1st Rs.	1,00,000
Construction of 72 quarters for faculty staff in Section I of the Jawaharlal Nehru University Campus.	15th Rs.	4,00,000
Development of Horticulture in Jawaharlal Nehru University Campus.	1st Rs.	1,25,000
Purchase of furniture for various schools of Jawaharlal Nehru University - Vth Five Year Plan Scheme.	2nd Rs.	1,00,000
Setting up centralised facilities in the Jawaharlal Nehru University - Vth Five Year Plan Schemes - Centralised Workshop.	1st Rs.	1,00,000
Grant-in-aid for the purchase of scientific equipment for University P.G. Centre at Imphal - Vth Five Year Plan period.	4th Rs.	2,00,000
-do-	4th Rs.	5,00,000
Construction of compound wall for 72 residences for faculty staff in sector I of Jawaharlal Nehru University Campus.	1st Rs.	1,00,000
Grant-in-aid towards purchase of library books & journals etc. in the Jawaharlal Nehru University.	6th Rs.	5,00,000
Construction of School Building in the Jawaharlal Nehru University Campus - S. S.	1st Rs.	2,00,000
Provision of Laboratory furniture.		
Setting up of the Library at Jawaharlal Nehru University P.G.C. Centre at Imphal - Purchase of Library Books & Journals.	6th Rs.	1,00,000
Junior Research Fellowships in Humanities including Social Sciences - payment of fellowship and contingency grant.	Rs.	2,493.55
Senior Research Fellowship in Humanities including Social Sciences - payment of contingency grant.	Rs.	1,471.45

Jawaharlal Nehru University Contd.

Junior Research Fellowship in Sciences/ Humanities including Social Science/Research Fellowships in Engineering & Technology - payment of contingency grant.	Rs.	1,323.95
-do-	Rs.	3,460
-do-	Rs.	2,493.55
-do-	Rs.	3,100
-do-	Rs.	3,722.58
-do-	Rs.	2,400
University Grants Commission Assistance for the research project entitled "Effect of Light and Hronones on the control of Enzyme synthesis in higher plants".		
Utilisation of Services of outstanding retired teachers - payment of grant.	Rs.	3,698
Research Fellowship in Humanities including Social Sciences - payment of fellowship.	Rs.	1,597.10
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment of first instalment of grant.	1st Rs.	1,500
Senior/Junior Research Fellowship in Sciences Humanities including Social Sciences/Research Fellowships in Engineering & Technology - payment of fellowship and contingency.	Rs.	2,454.84
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - payment of first instalment of grant.	1st Rs.	2,400

Total Rs. 43,07,776.51

Jawaharlal Nehru Technological University

Affiliated Colleges

Regional Engineering College Warangal.	University Grants Commission Assistance for the research project entitled "Synthetic studies in Non-Steroidal Antifertility Agents".	Rs.	2,400
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Basic grant for the purchase of library books & journals during the 5th Five Year Plan-Period (Humanities Departments).	Rs.	12,500
-do- (Science Departments).	Rs.	70,000
University Grants Commission Assistance for the research project entitled "Reactions of Coordinated Legands" - Dr. S.N. Mishra.	Rs.	2,400
Award of Post-graduate Scholarships of the value of Rs.400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.	Rs.	56,000
Grant-in-aid for the development of Scientific education and research - Construction of Zoological Field Station - 4th plan development schemes.	Rs.	1,522
Conference on Regional Development and Planning in India.	Rs.	2,000
Basic grant for the purchase of Scientific Equipment during 5th Five Year Plan period.	Rs.	70,000
University Grants Commission Assistance for the research project entitled "Electro-Acoustic effects in Plasma (Ionised Gas).	Rs.	12,400
University Grants Commission Assistance for the research project entitled "Volatile metal complexes of Transition and Inner-transition Elements (Lanthanides and Actinides)".	Rs.	7,400
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st Rs.	34,000
University Grants Commission Assistance for the research project entitled "Physical Properties and Industrial Applications of Transition Metal Soaps" of Dr. K.N. Mehrotra, Department of Chemistry, University of Jodhpur.	Rs.	2,400
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st Rs.	1,000
-do-	1st Rs.	1,250
-do-	1st Rs.	1,000

Total Rs. 5,84,186

38. Kalyani University

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - Payment of first instalment of grant.	1st	Rs.	500
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	34,000
Senior Research Fellowship in Sciences payment of fellowship and contingency grant.		Rs.	3,838.71
Purchase of Equipment & Machines for Central Workshop.	1st	Rs.	25,000
University Grants Commission Assistance for the research project entitled "Chemical and Biological Investigations on Fungal Metabolites".		Rs.	12,000
Grant-in-aid for the purchase of Library Books & Journals for Humanities Departments 5th Plan.	1st	Rs.	90,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,750
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Total			Rs. 1,67,088.71
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39. Kanpur University

XVth Annual Conference of the Indian Association of Medical Education at G.S.V.M. Medical College, Kanpur.		Rs.	5,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	34,000
Orientation Programme in Physics of Degree and Post-graduate Level for Kanpur University Teachers.		Rs.	2,000

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Kanpur University Contd...

Senior/Junior Research Fellowship in Humanities including Social Sciences/Research Fellowships in - payment of fellowship and contingency grant.	Rs.	2,648.39
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AFFILIATED COLLEGES

D. A. V. College Kanpur.	Students Aid Fund in the College Grant for 1975-76.		Rs.	5,000
K. A. Degree Allahabad.	-do-		Rs.	2,250
Kalpi College Kalpi	-do-		Rs.	665
N. A. K. P. Degree College Farrukhabad.	-do-		Rs.	750
Durga Narayan Degree College Fatehgarh.	-do-		Rs.	1,301.54
Govt. P. G. College Almora.	Financial Assistance to Teachers for research/learned work in Sciences- payment of intalment of grant.	1st	Rs.	1,250
D. A. V. College Kanpur.	University Grants Commission Assistance for the research project entitled "Fabrication and operation of a ELF receiver".		Rs.	5,000
A.N.D.M. Mahilla Mahavidyalaya. Harshnagar, Kanpur.	College Humanities and Social Sciences Development Programme - Payment of grant.	2nd	Rs.	10,000
-do-	-do-		Rs.	823.89
Ehagwan Din Arya Kanya Pathshala Degree College Kakhimpur.	Grant towards the loan of books to Students-Setting up of Book-Bank.	1st	Rs.	4,500
Christ Church College Kanpur.	College Humanities & Social Sciences Development Programme - Payment of grant.	1st	Rs.	21,000
D. A. V. College Kanpur.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first intalment of grant.	1st	Rs.	750
D. B. S P. G. College Kanpur.	-do-	1st	Rs.	1,000

Kanpur University Contd.

Feroze Gandhi College Raj Bareilly.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
-do-	-do-	1st	Rs.	1,000
H.B. Technological Institute Kanpur.	-do-	1st	Rs.	1,250
V.S.S.D. College Kanpur.	-do-	1st	Rs.	1,000
D.V.(PG) College Grai.(U.P.)	-do-	1st	Rs.	1,250
H.B. Technological Institute Kanpur.	-do-	1st	Rs.	2,000
P.P.M. College Kanpur.	-do-	1st	Rs.	750
Atarra Post-Graduate College Atarra.	Students Aid Fund in the Colleges-		Rs.	3,250
			<u>Total</u>	<u>Rs. 1,49,438.8</u>

40. Karnatak University

Development Schemes under 5th Plan period purchase of Equipment for P.G. Centre, Gulbarga.	Rs.	2,00,000
Development Schemes under 5 plan period	Rs.	4,00,000
Development Schemes under 5th Plan period Purvhase of Library Books for P.G. Centre.	Rs.	1,00,000
5th Plan Development Schemes - Purchase of Library Books.	Rs.	1,99,949.06
Senior Research Fellowships in Sciences - payment of fellowship and contingency grant.	Rs.	4,187.10
University Grants Commission Assistance for the research project entitled "Cytochemical analysis of plant tissues in the vegetative and reproductive structures".	Rs.	5,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first intalment of grant.	1st Rs.	1,500

Karnatak University Contd.

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,250
-do-			
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	240
Junior/Senior Research Fellowship in Science Humanities including Social Sciences/Research Fellowships in Engineering & Technology-Payment of contingency grant.	1st	Rs.	80,000
Support for advanced research in the Humanities and Social Sciences.		Rs.	1,498.47
Renewal of the Post-graduate Scholarships in Sanskrit to Km. S.M.Bhagwat.	2nd	Rs.	4,000
Printing of University level books/monographs.		Rs.	1,800
		Rs.	1,500

AFFILIATED COLLEGES

S. B. Commerce College Gulbarga	Establishment of Book Bank.	2nd	Rs.	2,750
Veerasaiva College Bellary	College Science Improvement Programme Selected Colleges Project Grant-in-aid.	5th	Rs.	20,000
N. E. Society's S. S. M. College of Arts and Science Shahabad	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences-payment of first instalment.	1st	Rs.	500
-do-		1st	Rs.	500
R. L. Science Institute Belgaum.	Grants towards the loan of books to students-setting up of books bank.	1st	Rs.	5,625
Smt. A. S. M. College for Women Bellary.	Students Aid Fund to colleges for the year 1975-76.		Rs.	450
Basaveshwari Arts College Bagalkot	-do-		Rs.	1,380
Shri V. M. Society's Arts & Science College, Ikal.	-do-		Rs.	750

Kashmir University Contd.

Payment of grant for the Museum and Acquiria - Zoology Department. 3rd Rs. 7,956

AFFILIATED COLLEGES

Islamia College of Sc. & Commerce Srinagar.	Financial assistance to teachers for research/learned work in Sciences- Payment of Second instalment of grant.	2nd	Rs.	1,500
Islamia Science & Commerce College Srinagar.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant.	1st	Rs.	750
Govt. College for Women Maulana Azad Road Srinagar.	Grant towards the loan of books to Students.-Setting up of Book-Bank.	1st		14,062
The Islamia College of Science & Commerce Srinagar.	-do-	1st	Rs.	8,437

Total Rs. 2,84,705

42. Kashi Vidyapeeth

Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	37,000
Award of Scholarships for P.G. Studies to the students belonging to Hill Areas of North Eastern Region of India-1975-76.		Rs.	2,000

Total Rs. 39,000

Kameswara Singh Darbhanga Sanskrit University

Basic grant for the purchase of Library Books & Journals during the Fifth Plan period.	2nd	Rs.	25,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	20,000

Total Rs. 45,000

44. Kerala University

Writing of University level books/monographs		Rs.	2,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,250
-do-	1st	Rs.	1,500
-do-	1st	Rs.	1,500
-do-	1st	Rs.	500
Junior Research Fellowship in Humanities and Social Sciences-Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	80,000
Basic Grant for the purchase of Scientific equipment during the 5th Five year plan period.	3rd	Rs.	4,50,000
Purchase of books and journals for Central Library - Vth plan period Development Scheme.	2nd	Rs.	2,00,000
Writing of university level books/monographs		Rs.	2,000
Grant-in-aid for purchase of books and Journals (Science/Humanities) Vth Plan period.	1st	Rs.	4,04,000
-do-	1st	Rs.	5,63,000

P.T.O.

Kerala University Contd.

AFFILIATED COLLEGES

Mar Ivanios College Trivandrum	Basic Grant for purchase of books and journals during the fifth five year plan Humanities deptt.	1st	Rs.	5,000
St. Teresa's College Ernakulam	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences - payment of first instalment of grant.	1st	Rs.	2,100
St. Teresa's College Ernakulam.	-do-	1st	Rs.	2,000
Maharaja's College Ernakulam	-do-	1st	Rs.	500
St. Berchman's College Changanacherry.	Utilisation of services of outstanding retired teachers - payment of grant...		Rs.	5,000
Union Christian College Alwaye.	-do-		Rs.	1,258.33
St. Xavier's College for Women Alwaye	-do-		Rs.	5,000
C.M. S. College Kottayam.	College Science Improvement Programme Selected Colleges Project : Grant-in-aid.	5th	Rs.	50,000
Union Christian College Alwaye.	-do-	3rd	Rs.	50,000
Baselins College Kottayam	Construction of Lecture Theatre and Class-Rooms.	2nd	Rs.	1,00,000
Sacred Heart College Thevara Cochin.	National Service Scheme	K	Rs.	5,000
N.S.S. Training College Changanacherry.	21st world Assembly of Teachers Educators at Singapore-Participation of Dr. N. Sumathy, Kutty Anna.		Rs.	1,915
Sree Naryana College for Women Quilon-I.	Students Aid Fund in the Colleges Grant for 1975-76.		Rs.	3,250
St. Xaviers' College for Women Alwaye-	do-		Rs.	1,195

Kerala University Contd.

Allica College Kalyan	Students' Aid Fund in the Colleges-Grant for 1975-76.		Rs.	1,890
Peters' College Ancherry Kulam	-do-		Rs.	1,195
St. Kerala College Kalam	-do-		Rs.	2,240
NSS College Vachampuram Kandrum Kott. Kerala.	-do-		Rs.	1,614
St. Marys College Kalyan	Grant towards the loan of books to	1st	Rs.	8,000
University College Kandrum	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,240
St. Marys College Kandrum	-do-	1st	Rs.	1,250
St. Marys College Kandrum	-do-	1st	Rs.	2,000

Total Rs. 19,57,397.33

Konkan Krishi Vidyapeeth

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
-do-	1st	Rs.	1,500

Total Rs. 2,500

AFFILIATED COLLEGES

D.S.B. College Nainital	Students Aid Fund in the college - Grant for 1975-76.		Rs.	3,750
M.B. Post- Graduate College Haldwani	-do-		Rs.	1,750
Motiram Baburam Degree College Haldwani	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities Social Sciences/Sciences-Payment of first instalment of grant.	1st	Rs.	2,500
D.S.B. College Nainital	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
Govt. P.G. College Nainital.	-do-	1st	Rs.	1,250
Govt. P.G. College Pithoragarh.	-do-	1st	Rs.	1,000
-do-	do-	1st	Rs.	1,000
D.S.B. Govt. College Nainital.	do-	1st	Rs.	1,000
M.B. Degree College Haldwani	-do-	1st	Rs.	1,000
D.S.B. Govt. College Nainital.	-do-	1st	Rs.	1,000
			Total	Rs. 15,250

47. Kurukshetra University

Basic grant for the purchase of Scientific Equipment during fifth plan period.		Rs.	21,454.50
Additional grant of Rs. 1.75 lakh for retaining TDG-12 - Computer.	1st	Rs.	1,00,000
Visit of Dr. S.N. Dubey, Lecturer-in- Chemistry, to U.K. under the Programme of Exchange of Visits by Younger Scientists between India and U.K. during 1975-76.		Rs.	9,685

P.T.O.

AFFILIATED COLLEGES

Hindu College Sonapat.	Construction of Teachers Hostel	2nd	Rs.	55,000
Chhetu Ram College of Education Rohtak.	Construction of Women's Hostel	Final	Rs.	36,831
-do-	Financial Assistance to Teachers for research/learned work in Humanities and social Sciences - Payment of 2nd instalment.	2nd	Rs.	2,000
N. R. S. Govt. College Rohtak	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences-payment of first instalment of grant.	1st	Rs.	1,500
Hindu College of Education Sonapat.	Non-Resident Students Centre	Final	Rs.	5,000
Govt. College Hissar.	Establishment of Book Bank	-do-	Rs.	3,000
D. A. V. College Ambala City.	Constructions of Teachers Hostel	-do-	Rs.	41,078
D.N. C. Govt. College Bhiwari.	Financial Assistance to Teachers for research/learned work in Humanities and Social Sciences- Payment of.	2nd	Rs.	1,000
C. R. Memorial Jat College Hissar.	Setting up of Book Banks.	2nd	Rs.	3,250
Govt. College Jind	Students Aid Fund in the Colleges Grant for 1975-76.		Rs.	2,250
Regional Engineering College Kurukshetra.	-do-		Rs.	2,750
Satish Public College of Education Rewari.	-do-		Rs.	750
S. D. College Panipat.	-do-		Rs.	2,250
Arya Girls College Ambala Cantt.	-do-		Rs.	1,000
Vaish College Rohtak.	-do-		Rs.	2,250
Rao Birendra Singh College of Education Rewari	-do-		Rs.	1,000

Kurukshetra University

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Grant for the purchase of library books and journals for the Postgraduate Regional Centre, Rohtak during 5th plan period - Release of grant.	1st	Rs.	1,00,000
Senior Research Fellowships in Humanities including Social Sciences-payment of contingency grant.		Rs.	603.47
2 day convention of Heads of Physics Departments of affiliated colleges.		Rs.	2,000
Grant for purchase of library books & journals during fifth five year plan period.		Rs.	2,00,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-payment of first instalment of grant.	1st	Rs.	1,000
Basic grant for the purchase of Library Books & Journals for the Postgraduate Regional Centre, Rohtak during 5th plan - Release of grant.	3rd	Rs.	10,000
University Grants Commission Assistance for the research project entitled "Statistical Thermodynamics of Binary Mixtures of Non-Electrolytes" under Dr. Nigam, Department of Chemistry, Kurukshetra University.		Rs. Rs.	4,800
Basic grant for purchase of scientific equipment for the Kurukshetra University Regional Centre for postgraduate studies, Rohtak during fifth plan period.	1st	Rs.	1,00,000
Junior Research fellowship in Humanities and Social Sciences-Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	34,000
University Grants Commission Assistance for the research project entitled "Calculation of the Regional Travel Times for the Indian Region" by Dr. M.L. Gogna, Reader, Department of Mathematics-Kurukshetra University.		Rs.	3,600
Grant for purchase of Equipment during fifth five year plan period.	1st	Rs.	3,00,000
University Grants Commission Assistance for the Research Project entitled "X-Ray Diffraction and Three-dimensional Crystal Structure Determination of Substances of Chemical, Biochemical and Solid State Interest" of Dr. P.C. Jain, Department of Chemistry, Kurukshetra University.		Rs.	6,000
Basic Grant for the purchase of Scientific Equipment during Vth Plan period.		Rs.	1,20,000

Kurukshetra University

Hindu College of Education Songpat.	Students Aid Fund in the Colleges-Grant		Rs.	750
Adarsh Mahila Mahavidyalaya Bhiwari.	-do-		Rs.	807
Daya and College for Women Faridabad.	Grant towards the loan of books to students - setting up of book Bank	1st	Rs.	5,625
Arya Kanya Mahavidyalaya Shahabad.	Grant towards the loan of books to students - Setting up of Book Bank.	1st	Rs.	4,500
C.R.M. Jat College Hissar.	Grant towards the loan of books to students-Setting up of Book Bank	1st	Rs.	8,437
Chhotu Ram Arts College Songpat	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment.	1st	Rs.	950
M.L. National College Yamuna Nagar.	-do-	1st	Rs.	1,500
Govt. College Bhiwani.	-do-	1st	Rs.	500
			Total	Rs. 11,97,120.97

48. L.N. Mithla University.

AFFILIATED COLLEGES

Rama Krishna College Mahubani	Establishment of Book Bank.	2nd	Rs.	5,500
Corelal Mehta College Bannaakhi, Durgna.	Construction of Additional Teaching accommodation - Assistance reg.	4th	Rs.	30,000
Saharsa College Saharsa	Students' Aid Fund in the colleges. Sanction of grant for the year 1975-76 regarding.		Rs.	1,000

L.N. Mithila University Contd.

Mohal Lal Jeloka Memorial Mahila College Kaithar.	Grants to colleges libraries for loan of books to Students (Book-Bank) during fifth plan.	1st	Rs.	4,500
C.M. Science College Darbhanga	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences- Payment of first instalment.	1st	Rs.	1,000
R. D. College Dalsingarai.	-do-	1st	Rs.	1,000
C.M. Science College Darbhanga.	-do-	1st	Rs.	1,250
-do-	-do-	1st	Rs.	1,500
<hr/>				
Total				Rs. 45,750
<hr/>				

49. Lucknow University

Junior Research Fellowships in Science including Social Sciences/Research fellowships in Engineering & Technology-payment of fellowship and contingency grant.		Rs.	2,700
Support for advanced research in the Humanities and Social Sciences.	2nd	Rs.	10,000
Purchase of library books & journals (Humanities) during 5th plan period- Sanction of grant for.		Rs.	3,00,000
Purchase of library books & journals (Humanities) during 5th plan period- Sanction of grant for.		Rs.	1,25,000
Purchase of library books & journals (Science) during 5th plan period- sanction of grant for. "		Rs.	2,00,000
Senior/Junior research Fellowship in payment of contingency grant.		Rs.	1,500
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	1st	Rs.	1,00,000
Award of Teachers Fellowship to Smt. Usha Bhargava, Lecturer in Hindi at Tikka Ram Kanya Mahavidyalaya, Aligarh.		Rs.	1,959.66

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant.	1st	Rs.	2,250
-do-	1st	Rs.	1,000
University Grants Commission Assistance for the research project entitled "Studies on Potential Pesticides Insect Hormones & their Derivatives".		Rs.	9,800
Purchase of equipment during Vth Plan period-sanction of grant for.		Rs.	2,00,000
Utilisation of services of outstanding retired teachers payment of grant.		Rs.	3,293.10

AFFILIATED COLLEGES

D. S.N. V. Degree College Lucknow.	Financial assistance to teachers for research/learned work in Humanities and Social Sciences - payment of.	2nd	Rs.	1,000
-do-	Financial Assistance to teachers for research/learned work in Sciences-payment.	2nd	Rs.	2,000
Isabella Thoburn College Lucknow	College Science Improvement Programme Selected Colleges Project Grant-in-aid Follow up activities.	1st	Rs.	80,000
-do-	-do-	Final	Rs.	9,914.54
Navyugh Kanya Vidyalaya, Lucknow.	Students's Aid Fund in the colleges Grant for 1975-76.	K.	Rs.	2,250
B. S.N. V. Degree College Lucknow.	Financial assistance to teachers in the universities and colleges for undertaking research work in Science - Payment of first instalment of grant.	1st	Rs.	750
-do-	-do-	1st	Rs.	1,000
D. A. V. College Lucknow.	-do-	1st	Rs.	2,000
B. S.N.V. Degree College Lucknow.	-do-	1st	Rs.	1,000

Total

Rs. 10,57,417.32

29th Annual Conference of the Indian Radiological Association.		Rs.	3,000
Development Schemes under V plan period purchase of Library Books and Journals.	4th	Rs.	3,00,000
Development Schemes under V Plan period purchase of scientific equipment for post-graduate centre at Coimbatore.	2nd	Rs.	1,00,000
Development Schemes under V Plan period Postgraduate Centre at Coimbatore.	2nd	Rs.	1,00,000
Development Schemes under V Plan period Basic grant for purchase of Scientific equipment.	2nd	Rs.	5,50,000
Development Schemes under IV plan period	5th	Rs.	25,000
Development Schemes under V plan period	2nd	Rs.	5,000
Utilisation of Services of outstanding retired teachers payment of grant.		Rs.	2,000
Award of Post-graduate Scholarships of the value of Rs.400/- /-, - to the students admitted 1975-76. against approved intake in the faculty of Engineering & Technology.		Rs.	1,10,000
Award of Post-graduate Scholarships of the value -do-		Rs.	1,10,000
Centre of Advanced Study in Philosophy, University of Madras - Award of UGC		Rs.	30,000
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
University Grants Commission Assistance for the research project entitled "Ethnobotanical survey of South Indian Economic Plants with special reference to collection and utilisation of primitive cultivars" by Dr. E.K. Ganaki Ammal.		Rs.	16,000
-do-		Rs.	7,000
Junior Research Fellowship in Science- Allocation of funds for implementation of Scheme during 1976-77.	1st	Rs.	17,000
-do-		Rs.	1,44,000
University Grants Commission Assistance for the research project entitled "Mixed ligand complexes of copper with ligands of biological importance by Prof. M. Santappa, Head,		Rs.	13,600
-do-		Rs.	5,000
-do-		Rs.	60,000
-do-		Rs.	21,800
Organisation of Inter-University Science Fair		Rs.	5,000
Grant-aid for the Development of Under graduate course in Engineering & Technology at A.C College of Technology-payment of Recurring grant.	1st	Rs.	59,765

Madras University Contd.

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University Grants Commission Assistance for the research project entitled "Nuclear Techniques applied to solid state physics - (a) Position Physics (b) Mossbauer Effect and (c) Neutron Physics" by Prof. V. Devanathan.	Rs.	1,00,000
-do-	Rs.	5,000
Centre of Advanced Study in Botany- University of Madras- Release of recurring grants- Junior/Senior Research Fellowships and National Scholarships during 1976-77.	Rs.	60,000
Ramanujan Institute for Advanced Study in Mathematics- University of Madras- Release of recurring grants for the year 1976-77.	Rs.	1,00,000
University Grants Commission Assistance for the research project entitled "Org. Photochemistry" by Dr. V.T. Ramakrishnan, Lecturer in Organic Chemistry, University of Madras.	Rs.	15,000
-do-	Rs.	4,800

AFFILIATED COLLEGES

Madras Medical College Madras-3.	Travel grant to Dr. C.R. Sandara Rajan for attending the Sixth International Congree of the International Confederation of Plastic and Reconstructive Surgery in August, 1975 at Peri.	Rs.	5,180
The Women's Christian College Madras.	Utilisation of services of outstanding retired teachers payment of grant.	Rs.	2,500
Madras Christian College Madras.	-do-	Rs.	1,250
Government Arts College Salem-7.	-do-	Rs.	1,250
Voorhees College Vellore.	-do-	Rs.	2,467.74
Lady Deak College Madras.	-do-	Rs.	1,250
Vivekananda College Mysore Madras.	-do-	Rs.	1,250
Nallamutha Gender Mahalingam College Pellachi.	Development of undergraduate Education facilities during 5th plan - purchase of Laboratory Equipment.	1st Rs.	35,000

Madras University Contd.

St. Joseph's College Tiruchirappalli	University Grants Commission Assistance for the research project entitled "Fundamental studies in colour photography and theory of colour vision" by Shri R. Sabastian.		Rs.	18,000
Avinashilingam Home Science College Coimbatore.	Basic grant for purchase of books and journals during the Fifth Five Year Plan.	1st	Rs.	10,000
-do-	Basic grant for the purchase of equipment during the Fifth Five Year Plan period.	1st	Rs.	10,000
Thiruvalluvar Govt. Arts College Rasipuram, Salem Distt.	Grants to affiliated colleges for setting up of Book Bank.	2nd	Rs.	812
Maharaja's College Mysore	Students Aid fund to colleges for the year 1975-76.		Rs.	3,750
P.S.C. Arts College Coimbatore.	Financial assistance to teachers in the	1st	Rs.	250
Govt. Training College Padukkotrai	Assistance to Teachers Training Colleges for development of Educational facilities during 5th five year plan period.	1st	Rs.	16,000
A. Veeriva Vaidayar Memorial Sri Pushopan College Peondi.	Basic grant for purchase of books and journals during the Fifth Five Year Plan	1st	Rs.	10,000
Jamel Mohamed College Tiruchirappalli.		1st	Rs.	10,000
-do-		1st	Rs.	20,000
Periyar E.V.R. Govt. College Tiruchirappalli.	Students Aid Fund to colleges for the		Rs.	2,08
Govt. Thirumagal Nall's College Gudiyatten.		-do-	Rs.	1,000
A.A. Govt. Arts College Karaiikal.		-do-	Rs.	1,000
K.V. Govt. Arts College Tiruvannamalai.		-do-	Rs.	92
Govt. Arts College College Tharampuri		-do-	Rs.	78
Sri Vasavi College Eroda.		-do-	Rs.	93

Madras University Contd.

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Sri Sarada College for Women Salem-4.	Students Aid Fund to colleges for the		Rs.	1,615
Bherethidesan Govt. College for Women Pondicherry.	-do-		Rs.	750
Govt. Arts College Villupuram.	-do-		Rs.	1,174
Sri Sarada Training College for Women Alagapuram, Salem.	-do-		Rs.	750
Kandaswami Kadar's College Vellure.	-do-		Rs.	2,250
Stella Maria College Madras.	Grants towards the loan of Books of students - setting up of book Banks.	final	Rs.	3,750
P. E. V. R. Govt. College Tirachirappalli.	-do-	1st	Rs.	11,250
Dwaraka Doss Goverdhan Doss Vaishnav College Madras.	Grants to colleges Libraries for loan of books to students (Book-Bank) - release of grant for.	2nd	Rs.	3,750
Rajah Serfaji College Thanjavur.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences-Payment of first instalment of grant.	1st	Rs.	1,000
Govt. Arts College Karuru	-do-	1st	Rs.	2,300
Presidency College Madras.	-do-	1st	Rs.	1,250
Madras Christian College Madras.	-do-	1st	Rs.	1,750
-do-	-do-	1st	Rs.	2,500
-do-	-do-	1st	Rs.	1,250
-do-	-do-	1st	Rs.	1,750
Regional Engineering College Tiruchirappalli.	-do-	1st	Rs.	750
J.N. Institute of P.G. Medical Education & Research Pondicherry.	-do-	1st	Rs.	2,000
Total			Rs.	21,65,493.2

51.

Madurai University

Development Schemes under V Plan period.		1,50,000
College Science Improvement Programme University Leadership Project in Biological Sciences : Grants in-aid		1,65,000
Salary regarding Russian Language Teacher.		291.7
Implementation of Examination Reform Programme - Organisation of workshop on Semester system.		15,000
Junior Research Fellowship in Humanities and Social Sciences - Allocation of funds for implementation of scheme during 1976-77.	Ist	44,000
University Grants Commission Assistance for the research project entitled "Transcrip- tional Regulation of Eucaryotic Develop- ment" of Dr. (Mrs) Kunthala Jayaraman Department of Biological Sciences, Madurai University, Madurai - Fifth Five Year Plan period - Release of 2nd Instalment of grant.		3,600
Junior Research Fellowship in Science during 1976-77.	Ist	66,000
Workshop on Photo Chemical aspects of Photobiology with special reference to Photosynthesis.		7,058.
U.G.C. Assistance for the research project.		4,200
-do-		34,800
Development Scheme under V Plan period Purchase of equipment.		1,50,000

Affiliated Colleges

Yadava College, Madurai.	Construction of Library Building during IV Plan.	3rd	20,000
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Affiliated Colleges Contd.

Arulmigu Palaniandavar Arts College, Palini.	U.G.C. assistance for the research project.		15,000
Sri Parasakthi College for Women Tiravelvelil	Basic grant for purchase of books and journals during the 5th Five year plan.		10,000
St. Mary's College, Tuticorin.	Improvement of undergraduate Educational facilities during V plan period - regarding purchase of Equipment.	Ist	25,000
-do-	-do-	Ist	15,000
Viradhunagar Hindu Nadar's Santhikumara Nadra College, Virudmnagar.	Purchase of Library Books and Journals during V plan period.	Ist	27,500
-do-	-do-	Ist	37,500
V.O. Chidamberam College, Tuticorin.	Basic grant for the purchase of equipment.		10,000
-do-	Basic grant for purchase of books and Journals.		10,000
Thiagarajar College, Madurai.	Basic grant for the purchase of equipment.		10,000
-do-	Purchase of Books & Journals		30,000
SSA College, Devakottai,	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/ Sciences - Payment of first instalment.	Ist	500
P.O. Chidambaram College, Tuticorin	Students Aid Fund to colleges for the year 1975-76.		3,750
The Satupati Govt. Arts College, Mananathupuram.	-do-		551
Arigner Anna College Arumboly.	-do-		1,000
American College, Tallakulam.	-do-		2,750

Affiliated colleges contd.

Alagappa Chettiar College of Engg. and Technology, Karaikudi.	Students Aid Fund to Colleges for the year 1975-76.		344
Aral Anandar College Karumathur,	-do-		594
Saraswathi Narayanan College, Madurai.	-do-		1,750
Sri Peranakalyani College Alwarkurichi.	-do-		822
The New College, Madras.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instal- ment of grant (code No. 6477).	Ist.	750
Thiranjani College, Madurai.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instal- ment of grant (code No. 6478)	Ist	2,750
Nadara College, Ma	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences - Payment of first instalment of grant (code No. 6479)	Ist	1,000
The American College, Madurai.	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences payment of first instalment of grant (code No. 6374)	Ist	750

Total

Rs. 8,37,061.45

52.

MAGADH UNIVERSITY

Grant in aid for the purchase of scientific equipment for post-graduate Science Departments		1, 00, 000
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social sciences	Ist	1, 150
Junior Research Fellowship in Humanities and Social Sciences	Ist	22, 000
Junior Research Fellowship in Science	Ist	33, 000

AFFILIATED COLLEGES

Gaya College, Gaya	Financial assistance to teachers in the universities and colleges for undertaking research or learned work	Ist	1, 000
Jagjivan Mahavidyalaya, Gaya	-do-	Ist	1, 000
S.S. College, Jahanabad	Book grant to colleges for 1969-70	Final	1, 250
S.M. Das college, Sripalpur	Establishment of Book-Bank in college during 4th plan	Final	1, 250
S.S. College, Jahanabad	Construction of Teaching accommodation	Final	10, 000
-do-	Construction of Resident students Centre	Final	5, 000
D.K. College, Dumraon	Students Aid Fund in the colleges		7, 500
S.P. Jain College, Sasaram	Students Aid Fund		1, 000
S.V. Patal College, Bhabua	-do-		1, 750
Amgarh Memorial college, Gaya	-do-		1, 750
M.B.R.M.P. Singh College Arrah (Bhojpur) Bihar	-do-		1, 750
S.S. College, Jahanabad	Grants to college libraries for loan of books to students	Final	5, 500
S.N. Sinha College, Jahanabad	-do-	Ist	4, 500
G.J. College, Rambagh	Financial assistance to teachers in the universities and colleges for undertaking research work	Ist	1, 000

Total Rs. 2, 00, 400

53.

MAHATMA PHULE KRISHVIDYAPEETH

National Associateship Scheme

222-50

222-50

54.

MARATHWADA UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences

Ist 1,250

-do-

Ist 750

-do-

Ist 1,250

Junior Research Fellowship in Humanities and Social Sciences

Ist 30,000

-do-

Ist 44,000

Basic grant for the purchase of library books and journals during the 5th five year plan.

90,000

-do-

50,000

Basic grant for the purchase of Scientific equipment

3,90,000

Financial assistance to teachers in the universities and colleges for undertaking research work

Ist 900

Assignment of Russian Language Teachers claiming grants from the university

3,535-11

Junior Research Fellowship in Science Ist

17,000

Assignment of Russian language teachers claiming grants from the University Grants Commission

805-03

AFFILIATED COLLEGES

S.S.College of Arts
Commerce & Science,
Nadiad

Construction of additional
class rooms

28,000

S.S.B.Education
Society's Yashwant
Mahavidyalaya, Manded

Writing of University level/
Books/Monographs

5,146-69

... -do-

-do-

1,000

S.P.K.Mahavidyalaya,
Savantwade

Students Aid Fund

903

Dayanand Arts College,
Latur

-do-

2,022

Agriculture college,
Parbhani

-do-

812

MARATHWADA UNIVERSITY CONTD.

AFFILIATED COLLEGES

Yogeshwari Mahavidyalaya, Ambajogai	Students Aid Fund in the College during 1975-76		990
Parthisthan Mahavidyalaya Paithan	-do-		250
M.S.P Mandal's Shri Shivaji College of Arts Science and Commerce, Parbhani	-do-		2,750
M.S.P. Mandlas Deogiri college, Aurangabad	-do-		1,482
Govt. college of Education, Aurangabad	-do-		580
Science College, Nanded	Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,250
Yashwant Mahavidyalaya, Nanded	-do-	Ist	1,250
Science college, Nanded	-do-	Ist	1,000
Maulana Azad Colloge, Aurangabad	-do-	Ist	1,000
Institute of Science, Aurangabad	-do-	Ist	1,000

Total: 6,79,075.83

MARATHWADA AG. UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,000
-do-	Ist	750
-do-	Ist	500

Total: 2,250

- 1a -

56. M.S. UNIVERSITY OF BARODA

University Grants Commission Assistance for the research project entitled 'Physiological & Biochemical Investigations of Differentiation in Higher Plants' by Dr. A.R. Mehta		4,800
Basic grant for the purchase of equipment during the fifth five year plan	Ist	25,000
Utilisation of Service of Outstanding Retired Teachers		1,250
Studentship of Post M.Sc. Course in Applied Geology.		2,700
Implementation of National Service Scheme in Universities		25,000
Payment of Recurring grant for the Institution of Model Diploma Course in Tech. under indo-USSR Credit Agreement		1,50,000
Introduction of Part-time Degree course for Diploma holderst and M.S.Univ. of Barod		40,976.29
Release of grant for the purchase of Scientific equipment during fifth plan		4,85,000
Basic grant for the purchase of library books and journals during 5th plan		2,15,002
Junior Research Fellowship in Science	Ist	1,20,000
-do-	Ist	60,000
Grant in aid for the post graduate studies in the faculty of Technology	IIIrd	20,000
Part time Course for State Diploma in Engineering	Final	147
Purchase of equipment & Furniture for the postgraduate courses in Engineering and Technology	5th	1,00,000
Introduction of parttime Degree Course for Diploma holders at M.S.Univ.of Baroda	Ist	2,000
Purchase of Equipment & Furniture for the postgraduate course in engineering	8th	40,000
purchase of equipment and furniture for the p.g. course in Textile Engineering	3rd	40,000
Purchase of equipment and furniture for the centre for degree course in Pharmacy	3rd	50,000
Basic grant for the purchase of library books and journals during the fifth year plan for the development of Engineering and Technology		1,00,000
Award of Post-graduate scholarship of the value of Rs.400/-p.m. to the students admitted during 1975-76		1,36,000
Organisation of workshop in Psychology		2,023.64

M.S. UNIVERSITY OF BARODA CONTD.

Financial assistance to teachers
in the universities and colleges
for undertaking research work in
sciences

-do-
-do-

Ist	1,250
Ist	1,750
Ist	1,250

Total: 16,23,148.93

57. MEERUT UNIVERSITY

Establishment of Study Centre at
Shaharanpur and Meerut

1,000

Construction of Correspondences
Building

43,739-12

Purchase of library books and
journals during 5th plan

22,880

-do-
-do-

52,120
1,00,000

Publication of Research work
including doctoral theses

20,000

Establishment of Study Centres
at Meerut & Sharanpur

20,000

Junior Research Fellowship in
Humanities and Social Sciences

Ist	34,000
Ist	51,000

University Grants Commission

Assistance for the research project
entitled 'Impact of Urban Environment
on Brain Chemistry and the Behavioural
Effects of Cortical Lesions in Rhesus
Monkey by Dr. S.D. Singh of the Institute
of Advanced Study

30,000

College Science Improvement Programme

Ist	1,50,000
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Visit of Dr.(Mrs.) R.S.Singhal,
Reader in Mathematics to U.K. under
the programme of Exchange of visits
by Younger Scientists between India
and U.K. during 1974-75

9,674

Establishment of Study Centre at
Saharanpur and Meerut

17,984

Senior Research Fellowship in Science

2,000
600

-do-

MEERUT UNIVERSITY CONTD.

AFFILIATED UNIVERSITY CONTD.

N.R.E.C.College, Khurja	Financial assistance to teachers for research/learned work in Sciences	Final	1,000
J.V.Jain College, Sharanpur	-do-	Ist	2,500
N.R.E.C.College, Khurja	-do-	Ist	2,500
-do-	-do-	Ist	2,500
M.M.H.College, Gaziabad	-do-	Ist	1,000
Ismail National Degree college, Meerut	-do-	Ist	1,650
I.N.Degree College, Meerut	-do-	Ist	1,650
N.M.Degree College, Khokra	-do-	Ist	500
S.S.V.College, Hapur	-do-	Ist	1,200
G.D. Degree College, Gaziabad	Grants to Colleges for laboratories equipment	Final	831.85
College Science Improvement Programme	Collego Science Improvement Programme	Final	50,000
M.M.H.College, Gaziabad	Basic grant for the Development of P.G.Studies in Humanities and Social Sciences	Ist	15,000
N.A.S.College, Meerut	Basic grant for the development of P.G. studies in Humanities	Ist	20,000
S.S.V.College, Hapur	-do-	Ist	20,000
N.R.E.C.College, Khurja	-do-	Ist	15,000
J.V.Jain College, Sharanpur	-do-	Ist	20,000
Multanimal Modi College, Modinagar	-do-	Ist	10,000
M.L. & J.N.K.Girls College, Sharanpur	-do-	Ist	20,000
D.A.V.College, Bulandshahr	-do-	Ist	20,000
D.A.V.College, Muzaffarnagar	-do-	Ist	32,500
J.V.JainCollege, Sharanpur	-do-	Ist	15,000
Raghunath Girls Colleg, Meerut	Renewal of the P.G. Scholarship in Sanskrit to Km. Asha		1,890
Jain Grils Degree college, Muzaffarnagar	Students Aid Fund		375
Vidyavati Mukandlal Girls college, Ghaziabad	-do-		806
A.K.P.Degree College, Hapur	-do-		1,000

MEERUT UNIVERSITY CONTD.

AFFILIATED COLLEGES

S.M.J.N.Degree college, Hardwar	Students Aid Fund		1,000
Multanimal Modi College, Modinagar	-do-		1,690
Devanagari College, Meerut	-do-		1,633
Sanatan Dharam College, Muzaffarnagar	-do-		2,450
A.S.Degree College, Mawana	-do-		139
B.S.M.Degree College, Roorkee	-do-		1,750
Janta Vedic College, Barut	-do-		3,750
D.A.V.College, Muzaffarnagar	Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,000
-do-	-do-	Ist	1,000
-do-	-do-	Ist	1,000
S.S.V.College, Hapur	-do-	Ist	1,400
-do-	-do-	Ist	1,700
N.R.E.C.College, Khurja	-do-	Ist	500
-do-	-do-	Ist	500
D.A.V.College, Muzaffarnagar	-do-	Ist	1,250
Meerut college, Meerut	-do-	Ist	1,000
-do-	-do-	Ist	1,000
-do-	-do-	Ist	1,000
-do-	-do-	Ist	1,000
D.A.V.College, Muzaffarpur	-do-	Ist	1,000
B.J.College, Baruat	-do-	Ist	1,000
Meerut college, Meerut	-do-	Ist	1,250
-do-	-do-	Ist	1,000
N.R.E.C.College, Khurja	-do-	Ist	1,250
I.P.College, Buldshahar	-do-	Ist	1,000
N.M.R.College, Ghaziabad	-do-	Ist	500
J.V.Jaincollege, Sharampur	-do-	Ist	1,000
Meerut college, Meerut	-do-	Ist	1,250
D.A.V.College, Muzaffarpur	-do-	Ist	1,000
Meerut college, Meerut	-do-	Ist	750

MEERUT UNIVERSITY CONTD.

AFFILIATED COLLEGES

Meerut college, Meerut	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	750
I.P.College, Bulandshahr	-do-	Ist	500
Meerut college, Meerut	-do-	Ist	500
-do-	-do-	Ist	1,250
A.S.Degree college, Mawana	-do-	Ist	1,250
Total:			8,51,911.9

58.

MYSORE UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in sciences.	Ist	1,500
-do-	Ist	2,000
-do-	Ist	2,500
Increase in intake to P.G. Courses in Sciences subjects - Construction of an extension to the Geology Block	Final	4,909-
Purchase of equipment for establishment of university centre for P.G. studies at Mangalore during V plan	4th	50,000
Recurring grant under Increase in take scheme for Science subjects		12
College Science Improvement Programme		30,000
University Leadership Project in Physics		
Junior Research Fellowship in Humanities and Social Science	Ist	90,000
-do-	Ist	1,35,000
University Grants Commission Assista ce for the research project entitled 'Nuclear Reaction and Scattering Studies by Dr. N.Lingappe, Reader in Physics, Deptt. of P.G.Centre		50,000

MYSORE UNIVERSITY CONTD.

Financial Assistance to Teachers for research/learned work in Humanities and Social Sciences Development schemes under Iv Plan period Basic grant for the purchase of library books and journals	Final	750
Support for advanced research in the Humanities and Social Sciences	Ist	4,500
Placement of Russian language teachers and the payment of salaries		6,000
Regional Seminar on Teaching and Research in Plant Taxonomy and Floristics		7,308
Purchase of Library books and journals during Vth plan period	3rd	1,00,000
Purchase of books for the University library	Ist	2,00,000
Purchase of library books and journals to the P.G. Centre	Ist	25,000
Annual Conference of the Indian Economics Association during Dec. 1976		5,000
Organisation of Workshop in History		20,000
Purchase of Scientific equipment	2nd	3,03,273
Purchase of equipment for Science Departments		5,000
University Grants Commission Assistance for the research project entitled "Metabolism of Plant fructants" by Shri T.N. Pattabireman, Department of Bio-Chemistry, Osmania University		26,500

Affiliated Colleges

The Rural College, Kanakpura	Establishment of Book-Bank	Final	2,750
St. Agnes college, Mangalore	College Humanities and Social Sciences		5,000
Sri Venkataraman Swamy college, Banaval	Purchase of Furniture for library block	Final	1,203

MYSORE UNIVERSITY CONTD.

AFFILIATED COLLEGES

Canvery College, Gonikapal	Establishment of book Bank	final	1,875
Sri Bhuvanadra college, Kurlal	-do-	final	1,875
St. Ann's college of Education, Mangalore	Development Scheme under V palm period		10,000
Sri Venkataramana Swamy college, Bantval	Construction of composite Building of Class Rooms Girls's Common Room and library Block	Final	29,333
A.K.S.National college, Gauribidanpur	Grants to affiliated colleges for loan of books to students under the Book-Bank Scheme	Final	3,850
Sarada Vilas Teachers college, Mysore	Students Aid Fund		750
A.V.K.College for Women, Nassan	-do-		1,000
I.D.S.G.Govt.College, Chiokmagalur	-do-		1,750
Sri Venkataramana Swamy college, Bantval	-do-		750
Sri Poornaprajana Evening college, Udipi	-do-		256
Govt. college of Education, Mysore	-do-		110
M.G.M.College, Udipi	Financial Assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,250
Shri Bhuvandra college, Karkola	-do-	Ist	875

Total: 11,41,880.15

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NAGPUR UNIVERSITY

Award of post-graduate scholarships to students admitted to the post-graduate course in pharmaceuticals & Pharmaceutical Chemistry in the University Departments of Pharmacy, Junior Research Fellowships in Humanities including Social Sciences		804
Research fellowship in Engineering & Technology		2,287.74
Award of Post-graduate Scholarships of the value of Rs.400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering and technology including pharmacy.		2,435-48
Junior Fellowship in Sciences		1,70,000
Junior Research Fellowship in Science		3,564.52
Allocation of funds for implementation of scheme during 1976-77	Ist	1,00,000
-do-	Ist.	67,000
Basic grant for the purchase of Library books and journals during the 5th Five Year Plan period		43,000
Basoc grant for the purchase of library books & journals during the 5th five year plan period (Humanities and Social Sciences Departments).		26,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences		
Payment of first instalment of grant	Ist	5,000
-do-	Ist	3,000
-do-	Ist	1,000
Basic grant for the purchase of Scientific Equipment during the 5th Five Year Plan Period		1,61,000
University Grants Commission Assistance for the research project entitled "Studies in some mixed ligend complexes of Rare earch metals% of Dr. K.N. Munshi, Department of Chemistry		6,000
Students Aid Fund in the Colleges-grant for 1975-76		65
-do-		585
-do-		1,750

AFFILIATED COLLEGES

C.J.Patel Arts and commerce college Tirora	Students Aid Fund in the colleges grant for 1975-76	284
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NAGPUR UNIVERSITY CONTD.

Nehru Arts & Commerce		
College, Neeparsopant	Students Aid Fund	188
Dr P.H.N. Sinha Arts		
& Commerce College,		
Fatur(Distt.Akola)	-do-	400
G.S.College of Economics		
and commerce, Nagpur	-do-	1,882
Aiwalal Pathi Arts and		
Commerce college, Pulgaon	-do-	335
St.Radhabai Sarda College		
of Arts and Commerce		
Anjangaon-Surji	-do-	383
Smt. Bināsani Mahila		
Mahavidyalaya, Nagpur	-do-	1,356
Shri M.Mehota college		
of Science, Nagpur	-do-	576
Nutan Adarsh Mahavidyalaya		
Umrer	-do-	415
D.V.S.P. Arts and N.B.		
Commerce, College, Digras	-do-	416
Shri Shivaji Science and		
Arts College, Ggikhli	-do-	460
B.A.Arts and M.K.Commerce		
Mahavidyalaya, Washim	-do-	480
Mahila Mahavidyalaya,		
Amaravati	-do-	668
University College of		
Education, Nagpur	-do-	385
Dharmapath Arts Commerce		
& M.R. Deo memorial Science		
college, Nagpur	-do-	1,165
Institute of Science,		
Nagpur	-do-	978
S.B. City college,		
Nagpur	-do-	1,600
S.P.M. Arts and Commerce		
college, Chikhli	-do-	650
Shripad Krishna Kolhatkar		
Mahavidyalaya, Jalgaon	Construction of Library Building	IInd 10,000
G.S.College of Commerce,		
Wardha	Utilisation of Services of	
	Outstanding retired teachers	4,250
Dr.Ambedkar college,	Financial assistance to teachers	
Nagpur	in the universities and colleges	
	for undertaking research or	
	learned work in Humanities	2,500
	including Social Sciences	

College of Engineering Amravati.	Financial assistance to teachers for research/learned work in Sciences	Final	400
N.S. Technological Institute, Nagpur Smt. K.L. Mahavidyalaya, Amravati	-do-	Ist	1,500
Laxminarayan Institute of Technology, Nagpur	Utilisation of Services of Outstanding Retired Teachers University Grants Assistance for the research project entitled 'Interaction of dislocations and depend atoms in deped crystals of K.C. and defects produced by dopant'		4,903.22
Avjibai Hitkarini College, Bramhapuri	Construction of Library Building	Final	10,000
			Rs. 7,06,515.96

NORTH BENGAL UNIVERSITY

Construction of Teachers Hostel	Final	10,000
Writing of university level books/monographs		4,763-47
Grant-in-aid for the purchase of Equipment for the various Science Departments		1,80,000
Construction of Two men Hostels for 144 students each	Final	34,000
Grant-in-aid for the purchase of equipment for the various Humanities Departments		20,000
Assistance for the research project entitled "Investigation on chemistry of Natural Produets & their transformation with particular reference to terpenoids and steroids"		19,700
Assistance for the research project entitled "Study of Liquid Crystal Ordering by X Rays" Dr. Ranjit Paul & Dr(Mrs.) Sukla Paul.		14,000
Grant in aid for the purchase of library books & Journals	Final	50,000
Junior Research Fellowships in Humanities and Social Sciences	Ist	28,000

NORTH BENGAL UNIVERSITY CONTD.

Junior Research Fellowship in science 33,000

AFFILIATED COLLEGES

Kaliyaganj College, Kaliyaganj	Students Aid Fund in the colleges		1,000
Loreto College, Darjeeling	-do-		705
Alipurduar College, Alipurduar	-do-		3,750
Kalimpong college, Kalimpong	Grants to college libraries for loan of books to students (Book-Bank) during the V Plan	Ist	8,000
Darjeeling Govt. College, Darjeeling	-do-	Ist	8,000
-do-	Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	500
-do-	-do-	Ist	500
-do-	-do-	Ist	500
			<hr/> 4,16,598.47 <hr/>

NORTH EASTERN HILL UNIVERSITY

Award of Scholarship for P.G. studies to the students belonging to Hill areas of North Eastern Region & Ladkh.		1,900	
-do-		1,900	
Travel grant in respect of Shri N. Vanlalhlune under the scheme, Scholarship for P.G. Studies to the students belonging to Hill Areas of North Eastern Region of India.		304	
Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,500	
-do-	Ist	1,500	
-do-	Ist	750	
-do-	Final	1,500	
			<hr/> 9,354 <hr/>

62. OSMANIA UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	500
-do-	Ist	1,000
Basic grant for purchase of Scientific Equipment for University Postgraduate Centres at Warangal during V plan period	2nd	1,00,000
Unassigned grant for the year 1975-76.		
Release of 1st instalment of 'on account' grant.	Ist	10,000
Assistance for the research project entitled 'An enquiry into Physiological responses of larvicidal fish to pollution and ground water chemical alterations as a means to thwart public health consequences of fish mortality.		5,000
Financial assistance to Teachers for research/learned work in Sciences	Final	1,250
Short term Institute in Geography		26,630-55
College Science Improvement Programme		
University Leadership Project in Chemistry		1,00,000
Programme of Special Assistance to Selected Departments		1,65,000
Centre of Advance Study in Astronomy		
Release of recurring grants in respect of Senior/Junior Research Fellowships and National Scholarships during 1976-77		40,000
Basic grant for purchase of books and journals for university postgraduate Centre at Warangal	Final	25,000
Un-assigned grant for the year 1974-75		
Release of 2nd instalment of 'on account' grant.	Final	13,506-06
Utilisation of Services of Outstanding Retired Teachers		1,000
College Science Improvement Programme		
University Leadership project in Physics	Ist	1,50,000
Assistance for the research project entitled "Fleristics and foliar demetypes of the angiosperms of Hyderabad District" by Dr. N. Ramayya, Reader, Department of Botany, and Dr. T. Rajagopal, Lecturer, Arts and Science College, Warangal		7,500
Junior Research Fellowship in Sciences		3,380
Assistance for the research project entitled Studies on the Genetic and Somantic effects of Carbon in mice" submitted by Prof. O.S. Reddi.		67,900

OSMANIA UNIVERSITY

Assistance for the research project entitled "Investigations on the correlation between the structure the growth regulating activity of proanthocyanidins or leucoanthocy and their effect on the growth and metabolism of cultured carrot		15,000
Junior Research fellowship in Humanities and Social Sciences	Ist	90,000
-do-		1,35,000
Assistance for the research project entitled "Kinetics and mechanism of photochemical reactions by preparative organic photochemistry		3,000
Award of Post-graduate Scholarships of the value of Rs.400/- p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.		2,33,000
Grant in aid for purchase of Books and Journals (Science/Humanities) during V plan period		3,35,000
-do-	Ist	4,91,500
-do-	Ist	6,86,000
Award of scholarship for P.G. Studies in Persian to Smt. Tahera Khatooh.		1,800
Post-graduate courses in Engg. & Technology Deptt. of Civil Engineering	Final	10,000
-do-		1,800
Utilisation of Services of Outstanding retired teachers		11,000
-do-		1,000
Basic grant for purchase of Books and Journals for the development of Engg. & Technology	IIInd	20,000
Grant in aid for the purchase of Library Books and Journals for the Science and Humanities Department		8,00,000

AFFILIATED COLLEGES

Arts and Science College, Warangal	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences	Ist	900
C.K.Memorial Arts and Sc. College, Warangal	Financial assistance to Teachers for research/learned work in sciences	Final	1,500
College of Arts and Science, Warangal	Construction of Laboratory Building	Final	1,863-

OSMANIA UNIVERSITY CONTD.

AFFILIATED COLLEGES

C.K.Memorial Arts and Science College, Warangal	Students Aid Fund in the Colleges for 1975-76		2,920
S.R. & B.G.N.R. Degree college, Khanmanam	-do-		1,642
St. Ann's College of Education, Secunderabad	-do-		128
Nehru Memorial Arts and Science College, Jogipet	-do-		922
Sri Armantha Padmanbha arts and Science College, Vikarabad	-do-		1,000
Ghanda Kantnaian Memorial Arts and Science College, Warangal	Purchase of Laboratory equipment of grant for the	Final	5,000
-do-	Purchase of Living Room furniture for two Hostels	Final	3,000
Sri Ramachandra Arts and Science College, Khanmanam	Purchase of Laboratory equipment and library books	3rd	15,000
Govt. College, Adilabad	Grant towards the loan of books to students setting up a book banks	Ist	5,000
C.K.S. Arts and Science College, Warangal	Financial Assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	750
Agarwal Evening Science College, Hyderabad	-do-	Ist	750
Arts and Science college, Warangal	-do-		1,000
-do-	-do-		1,000

35,94,142.03

63.

PANJAB UNIVERSITY

Development of P.G. Courses in Engg. & Tech. release of grant for staff and maintenance.	Final	5,000
Assistance to Universities towards field training in Geology during the fifth five year plan		2,000

PANJAB UNIVERSITY

ASSISTANCE to universities towards field training in Geology during the fifth Five Year Plan.		2,000
Seminar on Research with Low Energy Cyclotron		10,764
Scheme for development of higher education & Research during the Fourth Five Year Plan-Deptt. of Business Management.	Ist	8,000
Payment of Post-graduate Scholarship to the students admitted to post-graduate courses in Chemical Engineering & Pharmacy during 1975-76.		1,00,000
V.V.R.I Hoshiapur - Devanagri Transcription of South Indian Script Manuscripts.	Final	231-
Scheme of assistance for Indian working in Universities abroad to be invited by the universities in India during sabbatical leave period		9,400
Award of Post-graduate scholarships of the value of Rs.400/-p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering and Technology including Pharmacy.		82,000
Basic grant for purchase of equipment for Humanities and Science Departments during Vth Five Year Plan		10,00,000
College Science Improvement Programme		1,50,000
University Leadership Project in Physics		70,000
Programme of Special Assistance to selected Departments - Deptt. of Botany		70,000
Support for research programmes during the Fifth Five Year Plan period	Ist	1,50,000
Centre of advanced study in Mathematics		40,000
Senior/junior research fellowships		5,000
Utilisation of Services of Outstanding retired teachers.		1,00,000
Development of the Department of Pharmacy and Chemical Engineering and Technology		1,24,000
Junior Research Fellowship in Humanities and Social Sciences		24,000
Centre of advanced study in Mathematics		1,941-
Utilisation of Services of Outstanding retired teachers		10,000
Basic grant for the purchase of library books during the Fifth Five Year Plan		
Period for development of Engg. & Technology	3rd	10,000

RANJAE UNIVERSITY CONTD.

Summer Institute in Chemistry for college teachers.		118-27
Centre of Advanced Study in Geology,		5,000
Development of Higher Education & Research during IV Plan		58,500
Programme of Special assistance to selected Department		32,000
German Language Teacher under Indo- FRG Cultural Exchange Programme		5,080-65
Organisation of workshop in Law		15,000
Centre of Advanced Study in Geology,		50,000
Scheme of Development of Higher Education & Research during Vth Plan Period		6,25,000
College Science Improvement Programme		
University Leadership project in Chemistry.		1,00,000
Junior Research Fellowships in Engineering and Technology Shri Ramesh Mishra		1,432-26
-do-		1,750

CONSTITUENT COLLEGES

Khalsa college, Garhdiwala	Students Aid Fund	1,000
Govt. College, Chandigarh	-do-	500
D.A.V. College of Education, Abohar	-do-	750
B.A.M. Khalsa college, Garnahankar	-do-	1,000
Khalsa college for Women, Sidhwa Khurd	-do-	1,000
M.C. Mahajan D.A.V. College for Women, Sector-36A Chandigarh.	-do-	2,250
Lala Lajpat Rai Govt. college, Dhundi	Grant towards the loan of books to students - setting up of book bank	Ist. 4,500
Khalsa college for Women, Sidhwan Khurd	Construction of Library Building	Final 9,911

28,09,129.99

64. PUNJABI UNIVERSITY

ADDITIONAL GRANT FOR PURCHASE OF scientific equipment during Vth Five Year Plan		3, 80, 000
Unassigned grant for the year 1974-75		556-22
Junior Research Fellowships in Science Assistance for the Research Project entitled 'Stellar Structure: Evolution and Pulsation' of Dr. H.S. Gurm, Deptt. of Physics, Punjabi University, Patiala		3, 233-33
Basic grant for purchase of scientific equipment during Vth Five Year Plan		3, 600
Junior Research Fellowship in Humanities and Social Sciences		2, 17, 198.65
Proposal for organising workshop in the subject of History for the teaching of correspondence courses in India.		Ist 34, 000
Junior Research Fellowships in Science	Ist	3, 000
Basic & Additional Grant for purchase of books and journals in Science and Humanities.		51, 000
Establishment of study centre at patiala- 1975-76		3, 00, 000
Appointment of additional staff in Humanities & Social Science department		10, 000
University Grants Commission Assistance for the research project entitled 'Human Antigens-Programme'		73, 000
		10, 000

AFFILIATED COLLEGES

S.D. College, Barbala	Students Aid Fund	1,750
Govt. College for Women, Patiala	-do-	1,551
Govt. Ranbir College, Singrup	-do-	2,750
Nehru Memorial College, Mansa	-do-	1,000
Guru Kashi College, Dandama Sahib	-do-	603
Govt. Rajindra College, Bhatinada	Grant towards the loan of books to students setting up of book-bank	Ist 11,250

PUNJABI UNIVERSITY CONTD.

AFFILIATED COLLEGES

Govt. College, Ropar	Construction of cycle Shed	2nd	4,000
Govt. Ranbir College, Sangrur	Construction of Non-Resident Student Centre	2nd	30,000
Total:			<u>11,38,492.20</u>

65. PANJAB AGRICULTURAL UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	2,000
-do-	Ist	750
Total:		<u>2,750</u>

66. PATNA UNIVERSITY

Assessment of the work of Junior Research Fellow so as to become eligible to receive fellowship at Rs.500/- to Shri P.Mishra		900
Grant in aid towards the consturction of 24 Nos (Teachers) Hostel at Saidpur	9th	30,000
Basic grant for the purchase of scientific equipment during the 5th pain	Final	2,25,000
Basic grant for the purchase of books and journals under IVth plan period		
Bihar College of Engineering	Final	20,000
Construction of Microanalytical Laboratory in the Chemistry block	3rd	10,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	2,125
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/	Ist	1,500
-do-	Ist	500
Junior Research Fellowship in Sciences	Ist	1,20,000

PATNA UNIVERSITY CONTD.

ASSESSment of the work of Junior Research fellow as to become eligible to receive fellowship at Rs.500/- p.m. to Shri Ahmed Hussani.		900
Junior Research Fellowship in Humanities and Social Sciences	Ist	80,000
Special assistance to selected departments - Deptt. of History		1,61,000
University Grants Commission assistance for the research project entitled "Cytogenetic & Misystematic studies in forms" by Dr. Baxi M.B. Sinha, Deptt. of Botany, Patna University		5,000
Basic grant for the purchase of scientific equipment during the 5th plan period.	3rd	1,00,000
Grant-in-aid for the purchase of books and journals during the 5th plan		1,00,000
Grant-in-aid towards publication of research works during 5th plan		15,000
Senior/Junior Research fellowships in Sciences/Humanities K.N.Srivastava		1,058

AFFILIATED COLLEGES

B.N. College, Patna	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences	Ist	1,500
-do-	-do-	Ist	1,250
			Total: 8,75,733.0

67. POONA UNIVERSITY

Schemes to assistance for Indian working in the Universities already invited by Universities during the Sabbatical Leave Visit of Prof. S.S. Abhayankar.		9,000
Development of Computer Facilities in the University of Poona		10,00,000

POONA UNIVERSITY CONTD.

Programme of Special Assistance to Selected Departments - Deptt. of Mathematics & Statistics		63,000
Programme of Special Assistance to Selected Departments - Department of Chemistry		65,000
University Grants Commission Assistance for the research project entitled "Reaction of metal complexes and homogeneous catalysis" by Dr. A.J. Mukhedkar, Department of Chemistry, Poona University, Poona		2,400
Junior Research Fellowship in Science	Ist	1,20,000
Basic grant for the purchase of Scientific equipment during the 5th plan.		1,60,000
Support for research programmes during the Fifth Five Year Plan Period - Deptt. of Physics	Ist	1,50,000
Organisation of a Seminar on Continuing education - Sanction of grant for Junior Research Fellowship in Humanities and Social Sciences		15,000
Indo-USSR Cultural Exchange Programme Placement of Russian Language teachers	Ist	80,000
Disbursement of salary to Techno Expert		2,100
Grant for the purchase of books and journals during the 5th Five Year Plan period.		2,00,000
Organisation of Workshop in Philosophy		20,000
College Science Improvement Programme		
University Leadership Project in Chemistry		60,000
Financial Assistance to Teachers for research/learned work in Sciences	2nd	500
Research Fellowships in Engineering and Technology		42,500
Financial Assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	750
Research Fellowship in Engineering and Technology		2,000

Affiliated Colleges

RNC Arts, J.D.B. Commerce N.S.C. Science College, Nasik	Students Aid Fund	2,750
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POONA UNIVERSITY CONTD.AFFILIATED COLLEGES

K.J.Somaiya College of Arts and Commerce, Ko pargaon	Students Aid Fund		500
S.M.Mahavidyalaya, Poona	-do-		800
S.N. Arts, D.J.M. Commerce and B.B.S. Science College, Sangamner	-do-		2,750
Newrosjee Wadia college, Poona	Basic grant for the development of Postgraduate Studies in Humanities and Social Sciences		
	Purchase of Library books and Journals Scientific equipment for postgraduate departments during the Vth Five Year Plan		20,000
MES Abasahab Garware College, Karve Road, Poona	Basic grant for the development of Post-graduate studies in Humanities and Social Sciences		
	Purchase of Library books and journals Scientific equipment for post-graduate departments during the Vth Five Year Plan	Ist	15,000
M.S.G.Arts Science and Commerce College, Malagaon Camp	-do-	Ist	30,000
S.P.College, Poona	Utilisation of Services of Outstanding Retired teachers		1,250
NVPM Arts and Commerce college, Lasalgaon	Grants to college libraries for loan of books to students (Book-Bank)	Ist	4,500
R.B .N. Boravako College, Shrirampur	-do-	Final	3,250
S.S.V.P.S. Arts & Mulla Fidaali M. Abdulal Commerce college, Dhulia	College Humanities and Social Sciences Development Programme - Payment of grant	Ist	12,000
Fergusson college, Poona	College Science Improvement Programme	Ist	80,000
N.N.C Arts J.D.B. Commerce and N.S.C. Science College, Nasik	-do-	Ist	500
Gokhale Instt. of Politics and Economies, Poona	-do-		3,000
S.S.V.P.S.College, Dhulia	-do-	Ist	1,000
	Total:		<u>12,27,092</u>

58.

RABINDRA BHARATI UNIVERSITY

Junior Research Fellowship in Humanities
and Social Sciences

Ist 40,000

40,000

RAJASTHAN UNIVERSITY

Financial assistance to teachers
in the universities and colleges
for undertaking research work in
sciences

Ist 1,750

-do-

Ist 3,500

-do-

Ist 2,000

-do-

Ist 2,000

-do-

Ist 2,500

-do-

Ist 2,500

-do-

Ist 1,000

-do-

Ist 500

-do-

Ist 1,000

-do-

Ist 750

-do-

Ist 6,250

Assessment of the work of Junior
Research Fellow so as to become
eligible to receive fellowship
of Rs.500/-p.m.

800

-do-

822.56

Seminar on Administration and the
Challenges of Change

Final 2,000

Senior/Junior Research Fellowship
in Science/Humanities including
Social Sciences

1,050-04

-do-

2,000

-do-

2,999-84

Financial assistance to teachers in
the universities and colleges for
undertaking research or learned work
in Humanities including Social Sciences

Ist 2,300

Junior Research Fellowship in Science

Ist 1,86,000

-do-

Ist 24,000

II Annual Conference of the Rajasthan
Accounting Association & Accounting Seminar
Writing of University level books/
monographs.

2,000

1,254-05

Utilisation of Services of Outstanding
Retired Teachers

1,000

RAJASTHAN UNIVERSITY CONTD.

Holding of 9th Annual Session of Rajasthan History Congress at Government college, Kota College Science Improvement Programme Selected Colleges Project Grant in aid to Maharaja's College, Jaipur Writing of University level books/monographs	2,000
Organisation of workshop in Philosophy at the University of Rajasthan	50,000
Utilisation of Services of Outstanding Retired Teachers	500
	20,000
	1,250

AFFILIATED COLLEGES

B.J.S.R.Jain College, Bikanar	Students Aid Fund	2,158
M.K.Malviya Engineering College, Jaipur (Rajasthan)	-do-	1,750
Govt. College, Bundi	-do-	1,800
Davanand college, Ajmer	-do-	4,260
G.V.S.Mahavidyalaya, Sangria (Rajasthan)	-do-	75
Sophia Girls college, Ajmer (Rajasthan)	-do-	1,000
M.S.J.College, Bharatpur(Rajasthan)	-do-	5,000
Seth G.B. Podar College, Nawalgarh(Rajasthan)	-do-	1,429
Bhagwandas Todi College, Lachmangarh(Rajasthan)	-do-	588
M.L.V.Govt. College, Bhilwara(Rajasthan)	-do-	1,686
S.M.B.Govt. College, Nathdwara(Rajasthan)	-do-	412
Rajasthan Vidyapeeth Vijay Singh, Pathik Sharamjeevi College, Ajmer(Rajasthan)	-do-	1,000
S.S.Jain Subodh College, Rambagh Circle, Jaipur	-do-	1,821
Govt. College, Sri-Ganganagar	-do-	1,441
Nehru Memorial College, Hanumangarh(Rajasthan)	-do-	1,000

RAJASTHAN UNIVERSITY CONTD.

AFFILIATED COLLEGES CONTD.

S.D.Govt. college, Beawar (Rajasthan)	Assistance for Construction of staff quarters	Final	10,712
-do-	Construction of Library Building	Ist	1,00,000
S.G.N. Khalsa College, Sri-Ganganagar	Construction of Principal's residence and four staff quarters	Final	8,980
HCM State Institute of Public Administration Jaipur (Rajasthan)	Writing of University level books/monographs		5,200
Govt. College, Sri-Ganganagar	Financial Assistance to Teachers for research/ Learned work in Humanities and Social Sciences		1,250
Basic Teachers Training college, Gandhi Vidya Mandir, Sardarshahr	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in humanities including Social Sciences/Sciences	Ist	1,775
Govt. College, Ahmed	-do-	Ist	600
Dayanand College, Ajmer	-do-	Ist	500
Govt. college, Karauli	-do-	Ist	2,390
Malvia Regional Engineering college, Jaipur	Utilisation of Services of Outstanding Retired Teachers		6,750
Banasthali Vidyapith Gyan Vugyan Mahavidyalaya Banasthali Vidyapith	-do-		1,000
Malvidya Regional Engineering college, Jaipur	-do-		948-63
S.S.G.Pareek College, Jaipur	-do-		1,532-26
Banasthali Vidyapith Gyan Vidyan Mahavidyalaya, Banasthali Vidyapith	-do-		1,250
M.S.J. College, Bharatpur (Rajasthan)	Construction of Non-Resident Students Centre	IVth	15,000
Shri Nehru Sharda Peeth, Bikaner (Rajasthan)	Grants to College Libraries for loan of books to Students (Book-Banks)	Ist	4,500
Savitri Girls College, Ajmer (Rajasthan)	-do-	Final	3,250

RAJASTHAN UNIVERSITY CONTD.AFFILIATED COLLEGES

S.B.D. Govt. College, Sardarshanar(Raj)	Grants to College Libraries for loan of books to students (Book Banks)	Ist	6,
Govt. College, Nagaur	Financial Assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	1,
Govt. college, Kota	-do-	Ist	1,
L.B.S. college, Jaipur	-do-	Ist	1,
Govt. college, Didwana	-do-	Ist	1,
Govt. Lohia college, Ghiru	-do-	Ist	1,
Govt. college, Jalore	-do-	Ist	1,
Govt. college, Kota	-do-	Ist	1,
S.B.College, Jaipur	-do-	Ist	1,
S.D.College, Bawar	-do-	Ist	1,
Govt. college, Kota	-do-	Ist	1,
Govt. college, Ajmer	-do-	Ist	1,
Govt. College, Ajmer	-do-	Ist	1,
B.L.S. College, Kaladora	-do-	Ist	1,
Govt. college, Ajmer	-do-	Ist	1,
-do-	-do-	Ist	1,
Maharaja's College, Jaipur	-do-	Ist	1,
Malviya Regional Engg. college, Jaipur	-do-	Ist	1,
H.S. College, Lohardanga	-do-	Ist	3,
Malviya Regional Engineering college, Jaipur	-do-	Ist	1,
Malvidya Regional Engg. college, Jaipur	-do-	Ist	1,
S.K.N. College of Agriculture, Jodhpur	-do-	Ist	1,
			Total 5,46,21

70.

RANCHI UNIVERSITY

Establishment of Computer Centre T.D.C. 316.- 5th plan scheme	Ist	8, 00, 00
Grant in aid for the purchase of Scientific equipment during the 5th plan period		1, 00, 00

RANCHI UNIVERSITY CONTD.

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities including Social Sciences/Sciences	Ist	1,500
Junior Research Fellowship in Humanities and Social Sciences	Ist	30,000
-do-	Ist	44,000
Organization of Workshop to Sociology and Social Anthropology		15,000
Grant in aid for the purchase of books and journals during the 5th plan		1,00,000

AFFILIATED COLLEGES

Ganesh Lal Agarwal College, Daltonganj	Students Aid Fund		1,000
B.S. Mahavidyalaya, Lohardaga	-do-		750
St. Columba's College, Hazaribagh	-do-		2,216
Ram Sahai Mull Moro College, Govindpur	-do-		700
St. Coluba's College, Hazaribagh	Financial assistance to teachers for research/ learned work in Humanities and Social Sciences	Final	1,000
Ranchi College, Ranchi	-do-	Final	500
Simdega College, Simdega	Grants to college libraries for loan of books to students (Book-Bank)	Ist	4,500
Tata College, Chaibasa	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	1,250
Ranchi College, Ranchi	-do-	Ist	1,000
Ranchi College of Vet. and A.H. Kanika	-do-	Ist	1,350
K.B. College, Bermo	-do-	Ist	1,250
Govt. college, Bundi	-do-	Ist	1,000
Ranchi College, Ranchi	-do-	Ist	500
G.L. Agarwal College, Baltonganj	-do-	Ist	750
Ranchi college, Ranchi	-do-	Ist	500
-do-	-do-	Ist	500

11,09,766

71.

RAVI SHANKAR UNIVERSITY

Junior Research Fellowship in Humanities and Social Sciences	Ist	34,00
Basic grant for the purchase of library books and journals		1,00,00
Junior Research Fellowship in Sciences	Ist	51,00

AFFILIATED COLLEGES

Ghahattish-college, Raipur(M.P.)	Grants to college libraries for loan of books to students(Book-Bank)	Ist	6,00
Kslyan Arts and Commerce college, Bhilnagar	-do-	Ist	8,00
Govt. college, Bhatapara	-do-	Ist	6,00
Jawaharlal Nehru Degree college, Sukti	Students Aid Fund		
D.B.D.K.S.Arts and Commerce college, Baloda Bazar	-do-		1,00
R.C.S.Arts and Commerce college, Durg.	-do-		1,00
P.R.D. Post-graduate commerce and Arts college, Raigarh	Basic grant for the development of postgraduate studies in Humanities and Social Sciences- Purchase of library books and Journals	Ist	15,00
-do-	National Associateship Scheme		1,00
Govt. college, Ambikapur	Financial Assistance to teachers in the universities and colleges for undertaking reseazrh work in Sciences	Ist	1,00

72.

ROORKEE UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	1,20
Establishment of Computer Training Centre in the Electronics and communication Engg., Deptt.	8th	1,00,00
Payment of fellowship @ Rs.400/- p.m, to the students of P.G. courses in Engg. & Technology		2,00,00

2,24,82

ROORKEE UNIVERSITY

Students Amenities during IV Plan		
Payment of recurring grant for staff salaries.		30,000
Construction of a Tower for Propagation studies in Electronics & Communication Engineering Department 9th		50,000
Junior Research Fellowship in Science		
Allocation of funds for implementation of scheme during 1976-77	Ist.	45,000
University Grants Commission Assistance for the research project entitled 'Perturbed angular correlation studies of the Padiation from the radioactive decay' by Dr. B.P. Singh, Reader in Physics University of Roorkee.		1,80,000
Basic grant for the purchase of library books & Journals		1,71,000
Award of Research Fellowship in Engineering & Technology		46,974-5
Introduction of M.E. Course in Chemical Engineering		1,00,000
University Grants Commission Assistance for the research project entitled 'Studies on Synthetic Inorganic Ion Exchangers' of Dr. S.N. Tandon	3rd	2,400
Award of Post-graduate Scholarship of the value of Rs.400 p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy.		6,80,000
Basic grant for the purchase of equipment during the Fifth Five year plan period for development of Engineering and Technology		3,00,000
Recurring grant for Water Resources Development Training Centre		1,75,000
Purchase of equipment during 5th plan Ist		6,00,000
Visit of Dr. Swami Saran, Reader in Civil Engineering to U.K. under the programme of Exchange of Visits of Younger Scientists between India and U.K. during 1974-75.		9,287
		<hr/>
Total:		26,90,911.59
		<hr/>

ROHILKHAND UNIVERSITY

AFFILIATED COLLEGES

Bareilly College, Bareilly	Basic grant for the development of P.G. studies in Sciences purchase of Library books and journals Scientific equipment	Ist	27,500
Hindu College, Moradabad	-do-	Ist	10,000
J.S. Hindu College, Amroha(U.P.)	-do-	Ist	10,000
Hindu College, Moradabad	-do-	Ist	10,000
Dayanand Arya Kanya Degree College, Moradabad	Book grant to affiliated colleges for the year 1969-70 Release of balance of admissible grant	Final	750
S.B.D. Mahila Mahavidyalaya, Dhampur	Fifth Five Year Plan Improvement of undergraduate educational facilities.		
Kanya Mahavidyalaya Degree College, Bhoor	Students Aid Fund		141
Hindu College, Moradabad	Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	750
-do-	-do-	Ist	1,250
Bareilly college, Bareilly	-do-	Ist	1,250
		Total:	61,641.

73.

SAMBALPUR UNIVERSITY

Award of Postgraduate scholarships of the value of Rs.400/-p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology including Pharmacy	17,000
Visit of Dr. Bula Behera, Lecturer in Chemistry to U.K. under the programme of exchange of Visits by Younger Scientists between India and U.K. during 1975-76	10,943-5

SAMBALPUR UNIVERSITY CONTD.

University Grants Commission assistance for the research project entitled 'Studies on Heterocyclic compounds of Pharmacological Importance' of Dr. A. Nayak, Department of Chemistry, Sambalpur		2,400
Development of Research Survey work in the Department of Oriya - 5th Plan Scheme	Ist	5,000
University Grants Commission Assistance for the research project entitled 'Studies on Heterocyclic compounds' by Dr. G.B. Bahera & Dr. A. Nayak, Department of Chemistry		2,500
Grant-in-aid for the purchase of equipment for the Department of English & Economics	Ist	15,000
Junior Research Fellowship in Humanities and Social Sciences	Ist	8,000
Amount payable to University College of Engineering, Burla		49,188
Collection of Manuscripts in the department of History		10,000
Organisation of Herbarium for the department of Biological Sciences	Ist	5,000
Junior Research Fellowship in Science	Ist	12,000
Amount payable to University college of Engineering, Bula	2nd	3,645
Amount payable to University college of Engineering Burla for different scheme. Release of Recurring grant for staff and library books for the Under-graduate deptt. of Electronics and Telecommunication.		13,164

AFFILIATED COLLEGES

Govt. College, Sundergarh	Construction of non-resident students centre	Final	5,000
Govt. Training college, Sambalpur	Financial assistance to teachers in the universities and colleges for undertaking research work	Ist	2,500

SAMBALPUR UNIVERSITY CONTD.

AFFILIATED COLLEGES.

University College of Engineering, Burla	Financial Assistance to teachers for research/learned work in Sciences	Final	1,000
G.N.College, Sambalpur	-do-	Ist	1,500
Regional Engineering college, Rourkela	-do-	Ist	1,000
-do-	-do-	Ist	750
College of Engineering Burla	-do-	Ist	2,000
Total:			2,27,590.90

74. SAMPURMANANDA
SANSKRIT VESVIDYALAYA

Junior Research Fellowship in Humanities and Social Sciences	Ist	40,000
Junior Research Fellowship in Humanities		1,255
Purchase of library books & Journals during 5th		20,000
61,255		

75. SARDAR PATEL UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences.	Ist	1,000
-do-	Ist	2,000
-do-	Ist	750
National Associateship Schemo		2,000
Assistance for the research project entitled "Phytosociological studies on the vegetation of Gujarat State"		11,000

SARDAR PATEL UNIVERSITY CONTD.

Establishment of computer Centre		8,892-65
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities	Ist	2,500
-do-	Ist	2,500
Junior Research Fellowship in Humanities and Social Sciences	Ist	44,000
Allocation of unassigned grant during 1975-76	Final	12,500
Junior Research Fellowship in Science	Ist	66,000
College Humanities and Social Sciences Development Programme	2nd	5,000
		<hr/>
	Total:	1,58,142.65
		<hr/>

76. SAUGAR UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	1,250
-do-	Ist	1,000
-do-	Ist	1,000
-do-	Ist	1,000
Assistance for the research project entitled some problems in General Topology of Prof.D.N.Mishra		4,800
Programme of Special assistance to selected departments - Department of Anthropology and Sociology		18,000
Writing of University level books/monographs.		371-81
Assistance for the research project entitled "Search for antifertile Agents from Indian Medicinal plants" by Prof. S.S. Nigam		8,600

SAUGAR UNIVERSITY CONTD.

Junior Research Fellowship in Humanities and Social Sciences	Ist	70,000
-do-	Ist	1,20,000
Assistance to the research project entitled 'Preparation of Alkaline- research Binary Oxides and their Possible Applications in Research & Industry' of Dr. J.G. Ranade, Deptt. of Physics,		3,000
Financial Assistance to teachers for research/learned work in Sciences.	Final	750
Research fellowship in Engineering and Technology		2,645-16
Award of studentships of the value of Rs.150/-p.m. to the students admitted to the P.G. Course in Applied Geology.		13,900

AFFILIATED COLLEGES.

Govt. Postgraduate college, Saugar	Students Welfare Programme	Final	4,817-25
Arts & Commerce College, Baihar	Grants to College Libraries for loan of Books to students (Book-Bank)	Ist	4,500
S.B.T. (NES) College, Baraan	Students Aid Fund		205
M.S. Govt. Girls Degree College, Khandwa	-do-		444
Arts and Commerce college, Baihar	-do-		318
Govt. Degree College, Pipariya	-do-		1,000
Total:			2,57,601.25

77.

SAURASHTRA UNIVERSITY

Junior Research Fellowship in Humanities and Social Sciences	Ist	12,000
Construction of Pro-Vice-Chancellor Bungalow at Bhawanagar		6,000

SAURASHTRA UNIVERSITY CONTD.

Release of grant for the purchase of scientific equipment during the fifth five year plan period		2,15,000
Basic grant for the purchase of library books and journals during 5th five year plan.		1,90,000
Construction of extension to library building and purchase of furniture	iv	30,000
Financial assistance to research workers	Ist	825

AFFILIATED COLLEGES

S.S.P. Jain Arts & Commerce College, Bharngaihra	Students Aid Fund		1,000
H.N.Doshi Arts & R.N. Doshi College of Commerce, Wankaner	-do-		1,000
Sri Somnath College, Verawal	-do-		1,594
M.J.College of Commerce, Bhavnagar	-do-		2,750
Gurukul Mahila Arts college, Porbandar	Grants to college libraries for loan of books to students (Book-Bank)	Ist	5,000
Sir P.P. Instt. of Science, Ehanasar	Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	1,250
-do-	-do-	Ist	750

Total: 4,67,169

78

S.N.D.T. WOMEN'S UNIVERSITY

Grant for the purchase of equipment during 5th plan		1,00,000
Establishment of Women's Politechnic at Bombay	3rd	7,00,000
Junior Research Fellowship in Humanities and Social Sciences	Ist	30,000
Support for advanced research in the Humanities and Social Sciences.	Ist	8,000
Students Aid Fund		2,250
	Total:	<u>8,40,250</u>

79.

SHIVAJI UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,600
Establishment of Main Health Centre IV Plan Scheme		220-
Establishment of Study Centre at Kolhapur and Sholapur		7,080
Junior Research Fellowship in Humanities and Social Sciences	Ist	14,000
Basic grant for the purchase of library books and journals during the Vth Five Year Plan		14,000
-do-		46,000
Junior Research Fellowship in Science	Ist	59,000
Basic grant for the purchase of scientific equipment		2,00,000
Grant in aid towards the construction of Women's Hostel for 50 students.		1,25,000
Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities	Ist	900

SHIVAJI UNIVERSITY CONTD.

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities and Social Sc.	Ist	900
Allocation of unassigned grant during the 5th plan	Final	16,000
Development of P.G. studies in Humanities and Social Sciences during the V plan	Final	1,000

AFFILIATED COLLEGES

A.S.C. College, Ramanandnagar	Financial assistance to teachers for research/learned work in sciences	2nd	500
-do-	-do-	Ist	500
Barsi College, Barsi	Construction of Women's Hostel.	4th	30,000
-do-	Students Aid Fund		1,442
Sholapur college of Education, Sholapur	-do-		312
College of Commerce Kolhapur	-do-		3,250
A.S.C. College Ramanandnagar	-do-		1,000
B.P. Sulakhe Commerce College, Barsi	-do-		273
Vivekanand college, Kolhapur	-do-		1,385
S.S. Mahavidyalaya, Barsi	Grants to college libraries for loan of books to students	Final	3,250
Science college, Karad	-do-	Final	3,250
P.D. College, Pandharpur	-do-	Final	3,250
S.S. Mahavidyalaya, Warangar	Financial assistance to teachers	Ist	1,400
A.S.C. College, Shamnagar	-do-	Ist	1,100

SHIVAJI UNIVERSITY CONTD.

AFFILIATED COLLEGES.

D.B.F.College of Arts and Sc. Kolhapur	Financial assistance to teachers in the universities and colleges	Ist	1,000
A.S.C.College, Shannagar	-do-	Ist	1,000
Total:			5,38,532.87

SOURTH GUJARAT UNIVERSITY CONTD.

Visit of Dr.Ghanshyam Shah Reader in Political Sc. to U.K. under the programme of Exchange of Visits of Younger Scientists .			10,682
Junior Research Fellowship in Humanities and Social Sc.	Ist	8,000	
8 Allocation of Unassigned grant for 1975-76			6,000

AFFILIATED COLLEGES

S.B. Carda College, A.P.K. Patel College	Students Aid Fund		1,650
of Commerce, Navasari in V.S.Patel College of Arts and Science, Billimara	-do-		1,000
J.M.Shah Arts and Commerce College, Jambusar	-do-		1,441
The Patidar Jain Science college, Sadar Bag	-do-		368
S.J.Arts and Sc. college, Baroach	-do-		1,444
M.T.S.College of Science, Surat	-do-		1,345
Sir K.P. College of Commerce, Athva Lines, Surat	-do-		1,779
Total:			33,709

81. SRI VENKATESWARA UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in sciences.	Ist	3,500
-do-	Ist	2,500
Basic grant for the purchase of Scientific-equipment during V plan	Final	1,90,000
-do-	3rd	50,000
-do-	Final	40,000
Award of Post-graduate scholarship of the value of Rs.400/-p.m. to the students admitted during 1975-76 against approved intake in the faculty of Engineering & Technology		69,000
Financial assistance to teachers in the university and colleges for undertaking research work in Humanities	Ist	2,250
-do-	Ist	2,500
University Grants Commission assistance for the research project entitled "Search for new photoalexins and related compounds" of Dr. M.V. Naidu, Department of Botany, S.V.U. College, Tirupati		9,600
Junior Research Fellowship in Humanities and Social Sciences	Ist	69,000
Utilisation of services of Outstanding retired teachers		4,758-06
Establishment of Book Banks in Engineering and Technological Institutes	Final	11,250
University Grants Commission Assistance for the research project entitled "Investigations of Some Important subsidiary elements in cres of Rayalaseema and other part of Andhra Pradesh" submitted by Prof.N.Appala Raju		3,600
Starting of Part-time B.E.Degree course for Diploma Holders at S.V.University		15,013
Award of Post-graduate scholarship of the value of Rs.400/- payment of maintenance grant for Ist M.E. and IInd M.E.	Ist	20,000
Introduction of Correspondence courses		1,90,000
Seminar on Post-graduate Medical Edn.	Final	2,007-04
U.G.C. Assistance for the research project entitled "Semiconducting films; Transport and Optical Studies" of Dr.P.Jayarema Reddy	2nd	15,000
College Humanities and Social Science Development	2nd	5,000
Financial Assistance to Teachers for research/learned work in humanities	Final	1,000

SRI VENKATESWARA UNIVERSITY CONTD.

AFFILIATED COLLEGES

D.K.Govt.college for Women, Nellore	Purchase of laboratory equipment	Final	8,400
V.R.College, Nellore	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities	Ist	1,250
Adoni Arts and Science College, Adoni	-do-	Ist	1,500
Sri Venkateswara Arts college, Tirupati	-do-	Ist	2,400
Jawahar Bharati, Kavali	Utilisation of Services of Outstanding Retired teachers		1,000
Govt. college, Chittoor	Purchase of Micro Analytical equipment-engineering	Final	5,000
S.D.G.S.College, Hindupur	Grant towards the-loan of books to students -book-bank	Ist	5,000
S.V.A.Govt.College, Kalahasti	-do-	Ist	5,000
Sri S.S.Arts Science college for Women, Tirupati	Students Aid Fund		1,000
Govt. college, Chittoor	-do-		2,012
-do-	-do-		1,250
S.V.A.Govt.College, Kalahandi	-do-		1,000
S.K.N.Govt.College, Dudur	Financial assistance to teachers for the universities and colleges for undertaking research work	Ist	1,000
Vishvodaya College, Venkatesgiri Town	-do-	Ist	750
Jawahar Bharati, Kavali	-do-	Ist	1,000

Total: 7.43.540.10

82.

UDAIPUR UNIVERSITY

Financial assistance to teachers in the universities for undertaking research work in Humanities	Ist	2,500
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UDAIPUR UNIVERSITY CONTD.

Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities	Ist	2,400
Junior Research Fellowships in Humanities and Social Sciences	Ist	30,000
Release of grant for the purchase of scientific equipment		3,20,000
Extension of Humanities Block		4,67,000
Basic grant for the purchase of library books and journals	Final	22,000
Financial assistance to teachers in the universities and colleges for undertaking research work in Sciences	Ist	1,250
-do-	Ist	2,000
University Grants Commission Assistance for the research project entitled ' Studies Onluminescence of alkaline earth Phosphore'		10,000
Writing of University level books/ monographs		8,559-60

AFFILIATED COLLEGES

Ajasthan Vidyapeeth	Students Aid Fund		698
Rajasthan Vidyapeeth Udaipur	Establishment of Book-Bank	Final	3,250
Vidya Bhawan Rural Institute, Udaipur	Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	3,000
re			
Lokmanya Tilak Teachers Training College, Dabok	-do-	Ist	1,000
Bhupal Noble's College, Udaipur	-do-		1,479

Total: 8,75,136, .50

83. UNIVERSITY OF AGRICULTURAL SCIENCES

Financial assistance to teachers in the universities and colleges for undertaking research work in sciences	Ist	1,000
		1,000
	Total:	

84. UTKAL UNIVERSITY

Financial assistance to teachers in the universities and colleges for undertaking research work in science.	Ist	1,500
-do-	Ist	1,750
-do-	Ist	2,000
-do-	Ist	1,000
Construction of Workshop in Philosophy		20,000
Collection of Manuscripts for the Department of Oriya	Ist	10,000
Setting up of Employment Information cum-Advisory Bureau in the Univ.		7,262-18
Grant in aid towards the construction of an Extension to the arts block		2,00,000
Construction of 12 lecturers Quarters	Final	4,233
Purchase of equipment in the Central Library (Microfilm reader)		10,000
Construction of additional space for the establishment of Educational Psychology Centre of Regional students and Research	Ist	20,000
Grant in aid towards the construction of Extension to Arts Block		10,000
University Grants Commission Assistance for the research project entitled "Studies on the Pituitary Gland of Reptiles" by Dr. D.R. Naik		2,00,000
Organisation of Workshop in Pharmacy		14,000
Junior Research Fellowship in Humanities	Ist	15,000
-do-	Ist	44,000
Financial Assistance to teachers in the universities and colleges for undertaking research work in Humanities.	Ist	44,000
Construction of Central Workshop		1,000
Purchase of Scientific equipment for the Centralworkshop	Ist	25,000
Botanical Garden Fern House and erbarium for the department of Botary		15,000
		25,000

UTKAL UNIVERSITY COVID.

Purchase of equipment for the
Humanities Department 30,000

AFFILIATED COLLEGES

Ravenshaw college, Cuttack	Utilisation of Services of Outstanding Retired Teachers		5,000
Regional College of Education, Bhubaneswar	-do-		1,250
Ravenshaw college, Cuttack	-do-		3,22-50
Karanjia college, Karanjia	Grants to college libraries for loan of books to students (Book-Bank)	Ist	4,500
S.V.M.College, Jagatsinghpur	Grant for purchase of laboratory equipment	Final	5,000
Pre nanath Mahavidya- laya, Khurda	Students Aid Fund		1,000
Koenjhar college, Keonjhar	-do-		1,000
Govt. Traming college, Angual	-do-		650
Christ college, Cuttack	Grants to college libraries for loan of books to students (Book-Bank)	Ist	8,000
Ravenshaw college, Cuttack	Financial assistance to teachers in the universities and colleges for undertaking research work in sionce.	Ist	1,000
-dp-	-do-	Ist	1,500
B.D.Women's college, Bhabneswar	-do-		750
Ravenshaw college, Cuttack	-do-	Ist	750
			Total: 7,31,467,68

VIKRAM UNIVERSITY

Financial assistance to teachers for undertaking research work in Science	Ist	1,500
-do-	Ist	1,000
-do-	Ist	1,000

VIKRAM UNIVERSITY CONTD.

Basic grant for the purchase of library books & Journals during 5th five year plan		42,000
Allocation of unassigned grant during 1974-75	Final	4,500
Release of grant for the purchase of Scientific equipment	Final	1,20,000
Junior Research Fellowship in Humanities and Social Sciences	Ist	34,000
U.G.C. assistance for the research project entitled 'Acidic Mafic and ultramafic magnation and related mineral deposits in parts of Baster district of-Madhy Pradesh and adjoining regions' by Dr.K.K. Singh.		14,200
University Grants Commission Assistance for the research project entitled ' Developmental genetics of drought resistant and drought sensitive drops% by Dr. K.C.Gupta		6,000
Construction of Gymnasium	Vth	30,000
Allocation of Unassigned grant during 1975-76		12,500

AFFILIATED COLLEGES

Madhav college, Ujjain	Financial assistance to teachers in the universities and colleges for undertaking research or learned work in Humanities	Ist	875
Govt.College, Khagaraud	Grants to college libraries for loan of books to students (Book-Bank)	Ist	4,500
Govt. college, Jhabua	Construction of Teachers Hostel	4th	20,000
S.H.C.Mahavidyalaya, Bhanpara	Students Aid Fund		750
Govt. college, Narsinghgarh	-do-		840
J.N.S.Govt.college, Shujapur	-do-		978
Govt. college, Ratlam	Financial assistance to teachers in the universities and colleges for undertaking research work in Science	Ist	750
M.V.College, Ujjain	-do-	Ist	1,000

VIKRAM UNIVERSITY CONTD.

AFFILIATED COLLEGES

Govt. college,	Financial assistance to teacher in the universities and colleges for undertaking research work in sc.	Ist	500
Khargapur	-do-	Ist	1,000
	-do-	Ist	500
	-do-	Ist	500
Total:			<u>2,98,893</u>

VISVA BHARATI

Grant in aid for construction of 64 staff quarters & class Iv staff	Viii	50,000
Utilisation of services of Outstanding Retired Teachers		2,000
-do-		2,954-68
University Grants Commission Assistance for the research project entitled "Studies on the Ecology of Soil Microfauna and Microflora with special Emphasis of Nematodes and Micro-Arthropods of Santiniketan and control of nematode Implementation of N.S.S. in the Univ. Junior Research Fellowship in Humanities and Social Sciences	Ist	30,000
Financial Assistance to teachers in the universities and colleges for undertaking research or learned in Humanities	Ist	500
Assistance for the Research project entitled " Studies on Synthetic Inorganic Ion Exchangers of Prof A.K. Dey		5,000
Grant in aid for the construction of teaching block for Humanities	2nd	2,50,000
Grant in aid for the construction of Hostel for Kala Sangeet Bhavan	3rd	2,00,000
Grant for the purchase of equipment	2nd	1,00,000
Grant for providing G.I.Chain Link fencing at Santiniketan	5th	10,000
Grant in aid for the water supply scheme	Final	1,43,447-16
Grant for security measures for Uttarayan	4th	10,000
Financial assistance to teachers for research work	Ist	1,500
-do-	Ist	2,000

Total:- 8,23,688.59

UNIVERSITIES DEEMED TO BE UNIVERSITIES

87.

BIRLA INSTITUTE OF TECHNOLOGY & SCIENCE

Post-graduate Course in Pharmacy	iv	60,000
Development of Post-graduate course in Engineering and Technology	Final	1,628,000
Post-graduate Course in Pharmacy		10,000
Award of Post-graduate scholarships of the value of Rs.400/- p.m. to students		1,98,000
-do-		3,000
Establishment of Health Centre	Final	5,000
Basic grant for the purchase of Scientific equipment during Fifth Five Year Plan		2,50,000
Unassigned grant for 1975-76	Ist	15,000

Total 5,42,628.49

88.

CENTRAL INSTITUTE OF ENGLISH AND FOREIGN LANGUAGES

Junior Research Fellowship in Humanities and Social Sciences	Ist	10,000
	Total:	10,000

89.

GURU NANAK KANGRI MAHAVIDYALAYA

Junior Research Fellowship in Humanities and Social Sciences	Ist	18,000
		18,000

90.

GUJARAT VIDYAPEETH

Development of Rural Campus		30,000
Salary of staff for the Basic education Science Institute		5,000
Junior Research Fellowship in Humanities and Social Sciences	Ist	37,000
Removation of Kitchen and Stores	Final	5,000
Basic grant for library books and journals	Final	10,000

Total: 87,000

91. INDIAN INSTITUTE OF SCIENCE

Assistance for the research project entitled "Instrument development of precision on ultrasonic pulse	22,000
-do-	12,000
Award of Research Fellowship in Engineering and Technology	2,000
Programme of Special Assistance to selected Departments	50,000
Research Fellowship in Engg. & Tech.	1,000
-do-	1,000
-do-	1,000
-do-	1,000
-do-	1,000
-do-	1,000
-do-	1,494.51
Programme of Special Assistance to selected Departments Deptt. of Inorganic	1,70,000
Centre of Advanced Study in Bio-Chemistry	1,00,000
Workshop on Immunochemical Technique	17,200
Research Fellowship in Engineering & Tech.	2,709.68
Award of Res. Fellowship in Engg. & Tech.	2,000
Assistance for the research project	20,000

Total: 4,05,404.19

SCHOOL OF MINES

Payment of Recurring grant for staff and maintenance	45,193.10
Allocation of unassigned grant during 1975-76	12,500
Basic grant for the purchase of equipment	50,000

Total: 1,07,693.10

93. INDIAN AGRICULTURAL RESEARCH INSTITUTE

Writing of University level books/ monographs	12,200
	12,200

94. JAMIA MILLIA ISLAMIA

Baise grant for the purchase of scientific equipment during the 5th plan	3rd	75,000
Grant for the purchase of library books		1,00,000
J.R.F. in Humanities and Social Sciences	Ist	18,000
		<hr/>
	Total:	1,92,000

95. TATA INSTITUTE OF SOCIAL SCIENCES

Construction of Teaching Block		30,000
J.R.F. in Humanities and Social Sc.	Ist	30,000
Construction of Staff Quarters	Ist	2,00,000
Scholarship for P.G. Studies		2,000
Financial assistance for research work		1,500
Purchase of library books and Journals		1,00,000
		<hr/>
	Total:-	3,63,500

96. INDIAN INSTITUTE OF TECHNOLOGY

Writing of University level books/Monographs		1,000
		<hr/>
	Total:-	1,000

Total Plan

7,68,70,424.56

NON-PLAN

97. ALIGARH MUSLIM UNIVERSITY

Maintenance grant for 1975-76		1,28,00,000
		<hr/>
		1,28,00,000

98. DELHI UNIVERSITY

Maintenance grant	9th	11,00,000
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99. CONSTITUENT COLLEGES

Rao Tula Ram college, New Delhi	Maintenance grant for 1975-76	7th	34,000
Lakshmi Bai college, Delhi	-do-	7th	1,50,000

DELHI UNIVERSITY COMD.

CONSTITUENT COLLEGES COMD.

Satyawati college, Delhi	Maintenance grant	6th	2,45,000
Hans Raj college, Delhi	for 1975-76		
	-do-	8th	2,25,000
Ramlal anand college, (Day)	-do-	11th	1,22,000
S.L.College, (Even) Delhi	-do-	7th	1,72,000
Instt. of Home Economics, Delhi	-do-	6th	1,00,000
Maitreyi college, N.Delhi	-do-	9th	1,00,000
Jesus and Mary college, N.Delhi	-do-	11th	70,000
Delhi college (Day) Delhi	-do-	8th	3,85,000
Khalsa college (Eve) Delhi	-do-	5th	1,97,000
A.R.S.D.College, N.Delhi	-do-	10th	4,91,000
S.R.College for Woken, N.Delhi	-do-	7th	3,68,000
Dyal Singh college (Day) N.Delhi	-do-	7th	6,00,000
Kirori Mal college, Delhi	7th	7th	4,01,000
Shivaji college, New Delhi	-do-	9th	4,00,000
Miranda House, Delhi	-do-	7th	6,00,000
Instt. of Home Economics, Delhi	-do-	5th	31,000
Vivekanand Mahila College, Delhi	-do-	7th	1,90,000
Satyawati College, Delhi	-do-	8th	27,000
Delhi college (Even) Delhi	-do-	6th	5,17,000
Hans Raj college, Delhi	-do-	7th	4,21,000
Rao Tula Ram college, Delhi	-do-	6th	26,700
P.G.D.A.V.College (Day) N.Delhi	-do-	9th	4,54,000
Kalindi college, New Delhi	-do-	4th	1,36,000
-do-	-do-	6th	2,51,000
Lady Irwin college, N.Delhi	-do-		1,70,000
Delhi S.S. work, Delhi	-do-	7th	1,03,000
Laxmi Bai college, Delhi	-do-	6th	1,31,000
Hastinapur college (Day) N.Delhi	-do-	6th	3,80,000
Hindu college, Delhi	-do-	4th	15,000
Hans Raj college, Delhi	-do-	4th	18,000
Miranda House, Delhi	-do-	4th	25,300
Hastinapur college (Even) N.Delhi	-do-	6th	2,39,000
S.G.T.B.Khalsa college (Day) Delhi	-do-	6th	4,36,000
Kalindi college, N.Delhi	-do-		2,51,000
Jesus and Mary college, N.Delhi	-do-	10th	97,000
Kalindi college, New Delhi	-do-	6th	1,14,000

Total:-

96,93,000

100.

JAWAHARLAL NEHRU UNIVERSITY

Maintenance grant

7th

15,00,000
15,00,000

101.

INDIAN SCHOOL OF MINES

Payment of additional
allowance to the employees

2,98,000

2,98,000

102.

INDIAN INSTITUTE OF SCIENCE

Payment of Block grant for 1974-75

17,13,000

17,13,000

Total Non-plan

3,60,04,000

Grand Total (Plan + Non-plan)

11,28,74,424.

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 22nd March, 1976

Item No. 4 : To receive the statement showing expenditure incurred by the University Grants Commission during the year 1975-76 (upto 29th February, 1976).

<u>SECTION-I-NON PLAN PROJECT</u>	<u>REVISED BUDGET ESTIMATES</u> (in lacs of rupees)	<u>PROVISIONAL EXPENDITURE UPTO 29.2.1976</u>
A. Administration charges	65.00	55.85
B. i) Block grants to Central Univ.	1800.00	1535.00
ii) Block grants to deemed Univ.	176.77	150.30
C. Maintenance grants to constituent/affiliated colleges of Delhi Univ.	800.00	771.82 *2.98
D. Schemes not covered under block grants	237.00	133.22
Health Service Scheme	8.00	-
Total Section-I :	3086.77	2646.19 *2.98

<u>SECTION-II-PLAN PROJECTS</u>	<u>BUDGET ESTIMATES</u>	
A. Grants to Central & State Universities for Humanities	257.25	219.31 *1.99
B. Grants To Central & State Universities for Science	769.51	552.56 *5.15
C. Grants to Central & State Univ. for Engg. & Technology	285.31	267.12 *0.21
D. Grants to Constituent/affiliated Colleges	466.95	237.18 *0.08
E. Grants to Central & State Univ. for Misc. Schemes	1322.01	649.58 *4.10

*By Adjustment

F. Misc. Expenditure	32.05	30.26
Unesco Coupons	-	2.20

Total Section-II	3133.08 @	1948.21 *11.53
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Total Section I & II	6219.85	4594.40 *14.51
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@ Govt. of India has finally allocated an amount of Rs. 30.20 crore under Plan 1975-76

SECTION-III : EXPENDITURE OUT OF GRANTS RECEIVED FROM THE GOVERNMENT OF INDIA AND THE OTHER SOURCES FOR SPECIFIC PURPOSES

I) Evaluation of Books	3,100
II) Grants to University for organising Summer Instt. for School Teachers (out of contribution received from the NCERT).	85,106
III) Fellow for Writing of Books	4,53,245 £ 49,863
IV) <u>National Sports Organisation Programme</u>	
a) Construction of Gymnasium	9,05,380
b) Play fields	74,631
V) Dr. Zakir Hussain Memorial Lectures	--
VI) Aurobindo Memorial Lectures	--
VII) Gandhi Sanarek Nidhi	--
VIII) National Award of Prizes	14,084
IX) National Service Scheme	2,14,577
X) National Survey on Higher Education	851,492
XI) Hari Om Ashram Trust/Science	30,000
b) Life Science	15,000
XIII) Ram Charit Manas	28,800

Total Sec. III : 19,25,278

Total Section : I, II & III : 4613.65 (Rs. in lacs)
* 14.51

*By Adjustment
£ Adm. Charges.

p.t.o.

SECTION - IV : DEPOSITS & ADVANCES

i)	Convoynance Advance	40,300
ii)	Festival Advance	14,480
iii)	House Building Advance	2,04,104
iv)	Fan Advance	200
v)	UGC Deptt. Canteen	--

Total Section-IV	<u>2,59,084</u>
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Expenditure during 1974-75 (upto 29.2.75 was as under:..

Section-I Non Plan Project	19,86,32,896
Section-II Plan Project	20,70,15,367

Total Section I & II	<u>40,56,48,263</u>
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CONFIDENTIAL

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UNIVERSITY GRANTS COMMISSION

Meeting :
Dated : March 22, 1976

Item No.5 : To receive a statement indicating the progress of issue of Utilisation Certificates during the period ending 29th February, 1976.

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The Commission desired (Resolution No.5) dated the 12th May, 1975 that it should be kept informed of the progress of clearance of Utilisation Certificates after two months bringing the statement upto date i.e. upto 1973-74. The statement showing clearance of Plan & Non-Plan items for the period ending 29th February, 1976 is given in Annexure.

Finance Officer

PT.0

(2)

P L A N

Annexure to Item No.5

OUTSTANDING UTILISATION CERTIFICATES

Amount in lakhs of Rupees

Year to which pertains	<u>Outstanding as on 1.1.76</u>		<u>Outstanding as on 1.3.76.</u>	
	No. of Items	Amount	No. of Items	Amount
1958-59	125	8.53	123	7.95
1959-60	271	16.65	259	11.54
1960-61	506	97.57	494	93.70
1961-62	663	158.96	644	153.35
1962-63	966	19.69	941	12.30
1963-64	1171	145.82	1156	142.58
1964-65	2370	334.30	2346	330.49
1965-66	2432	153.30	2400	149.66
1966-67	2242	137.68	2229	137.08
1967-68	2371	133.84	2347	130.62
1968-69	3696	375.02	3674	372.08
1969-70	4303	765.05	4274	757.75
1970-71	6144	1015.12	6047	997.01
1971-72	7769	1263.15	7652	1227.18
1972-73	6257	1529.38	6123	1495.43
1973-74	5673	1479.34	5469	1418.65
Total :	46959	7633.40	46178	7437.27

Item Cleared = 781

Amount Cleared = Rs. 196.13 lakhs.

N O N - P L A N

Amount in lakhs of Rupees

Year to which pertains	<u>Outstanding as on 1.1.76</u>		<u>Outstanding as on 1.3.76</u>	
	No. of Items	Amount	No. of items	Amount
1968-69	1	4.00	1	4.00
1969-70	12	255.71	11	218.64
1970-71	4	519.27	3	435.18
1971-72	65	738.60	65	738.60
1972-73	49	720.73	43	706.99
1973-74	296	1291.84	77	887.10
Total	427	3530.15	200	2990.51

Item Cleared = 227

Amount Cleared = Rs. 539.64 lakhs

Confidential

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University Grants Commission

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Meeting :

Dated : March 22, 1976.

Item No. 6 To consider the recommendations of the Advisory Committee for the Centres of Advanced Study in the Humanities & Social Sciences on the report of the Committee set up by the Commission to evaluate the working of the Centre of Advanced Study in Education at U.S. University of Baroda.

....

The Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on the 9th May, 1975 considered the report of the Assessment Committee (copy enclosed Annexure I) which evaluated the working of the Centre of Advanced Study in Education, U.S. University of Baroda and the additional comments made by some members of the Committee. It was felt that as the conclusion drawn by the Committee did not seem to flow directly from the observations made in the body of the report and as there was some divergence of opinion among the members of the Committee, it may be useful to have a meeting of the Assessment Committee to reconsider the whole matter. The Advisory Committee desired that the final report of the Assessment Committee may be placed before its next meeting.

The Assessment Committee met twice, first on June 20, and then on September 3, 1975 to consider the observations of the Advisory Committee of the Centres of Advanced Study in the Humanities and Social Sciences on the report of the Committee. A copy of the second report of the Assessment Committee is attached (Annexure-II).

The matter was placed before the Advisory Committee for Centres of Advanced Study in Humanities and Social Sciences at its meeting held on December 20, 1975 for consideration. The Advisory Committee made the following recommendation :-

"The Advisory Committee considered the supplementary report of the Assessment Committee. Neither of the reports of the Assessment Committee inspired confidence in the ability of the Centre of Advanced Study in Education, Baroda University to provide leadership in this important area. The Committee came to the conclusion that no useful purpose would be served by continuing the recognition of the Education Department of the Baroda University as a Centre of Advanced Study'.

The matter is placed before the Commission for consideration.

AS(HR)/JS(I)

University Grants Commission

REPORT OF THE ASSESSMENT COMMITTEE WHICH VISITED CENTRE OF ADVANCED STUDY IN EDUCATION, BARODA UNIVERSITY ON 15th AND 16TH JANUARY, 1975.

The University Grants Commission constituted in November, 1973, a Committee consisting of Dr. S.A. Mitra, Joint Director, National Council of Educational Research and Training, Dr. S. Shukla, Professor of Education, Jamia Millia and Dr. J.N. Naul, Joint Secretary, University Grants Commission to evaluate the work done at the Centre of Advanced Study in Education, Baroda University during the past ten years and to consider its requirements during the Fifth Plan period. The terms and reference of the Committee are given in Appendix-I.

The Committee visited the Centre on 5th December, 1973. Owing to dislocation in air service and unsatisfactory train arrangements the Committee could work only for a few hours at Baroda. The members therefore felt that a second visit to the Centre would be necessary to complete the work assigned to the Committee.

The membership of the Committee was enlarged and Dr. S.B. Adaval, Professor of Education, Allahabad University, Dr. V. Manual, Professor of Education, Kerala University and Dr. H.S. Asthana, Professor of Psychology, Saugar University were requested to join the Committee. The Committee visited the Centre on 15th and 16th January, 1975. All the members joined the Committee. Shri A.B. Gupta, Education Officer, University Grants Commission accompanied the Committee. The report of the Committee follows:

Brief History of the Centre:

The Department of Education in the Faculty of Education and Psychology at the M.S. University of Baroda was recognised as a Centre of Advanced Study in Education by the UGC in November, 1963. The UGC provided non-recurring grants to the tune of Rs.2.50 lakhs for building Rs.6000/- for equipment and Rs.1.00 lakh for books and journals. The recurring grants included expenditure on the appointment of one professor, two Readers, three senior Research Fellows, five Junior Research Fellows and adequate grants for inviting visiting fellows and for incurring the expenditure on the appointment of necessary technical staff, administrative staff, travel, publication and contingencies. For the Third Plan period, the total grant was for Rs.4,62,500/-. Although, the sanction of the UGC was given in November, 1963, the Centre did not get started until July, 1964. The Syndicate of the University in June, 1964, gave to the Centre of Advanced Study in Education, the status of a Department in the Faculty of Education and Psychology with the proviso that the senior most professor would function as is Head and the Dean of the Faculty would be the ex-officio Director of the Centre. The Centre was to work in close co-operation

with the other Departments of the Faculty and also the Research Units in Examination Reform and Student Counselling which had earlier been sanctioned by the UGC. These points were noted by the first assessment Committee of the UGC.

Dr. S.N. Mukherjee soon left the case after it was established. Thereafter, the two successive heads of the Centre Dr. M.S. Patel and Dr. A.S. Patel developed the work. It was only towards the latter half of the 1969 that Dr. M.B. Buch joined as the head and has continued since then. This fact was noted by the assessment Committee. Although the Committee was asked to look at the work of the CSE since its inception, in effect it means really looking at and evaluating the work done during the last five years under the leadership of Dr. M.B. Buch. The first assessment Committee under the chairmanship of Prof. K.R. Wadia in their report had indicated that there were four distinct units in the Centre on Psychometrics, Curriculum, Language Learning and Guidance and Counselling. While this was found by the First Assessment Committee in January, 1966, considerable change in the structure and function of the Centre had taken place since the recommendations of the First Assessment Committee were available to the University and particularly from 1969 when Dr. Buch took charge.

The objectives of the Centre as mentioned in the Centre's report 1970-71 are:-

- a. To undertake and carry out intensive and extensive studies and researches with a view to improving the present techniques and tools of instruction and evaluation in schools.
- b. To undertake studies in educational innovations and change.
- c. To undertake studies in the area of teacher education with a view to suggesting measures for improving teacher preparation at the preservice and inservice levels.
- d. To disseminate findings of educational research through appropriate publications.
- e. To train research workers in methods of education.
- f. To provide services to individual research workers and institutional engaged in research and to develop co-operative research projects.

Second Assessment Committee:

As mentioned above, the UGC appointed a second Committee for assessment of the CSE in 1973 and later expanded the membership of this Committee whose composition is given above. This Committee visited the Centre at Baroda on 15th and 16th January, 1975. The programme of work of the assessment Committee on these two days were as follows:

15.1.1975.

11.00 A.M. - 11.30 A.M.: The members of the Assessment Committee met to chalk out their plan of work and procedure.

11.30 A.M. - 12.30 P.M.: The Committee met with the Dean of the Faculty of Education and Psychology and with the Head, C.S.E. where they discussed the organisation and administration of C.S.E., the kinds of courses offered, the degree of integration of C.S.E. with the Department of Education, the amount of autonomy enjoyed by C.S.E., etc.

12.30 P.M. - 1.30 P.M.: The Committee met all the members of the teaching staff and research staff as well as teacher fellows and research fellows and discussed the important programmes of work, their significant contributions etc.

3.00 P.M. - 5.00 P.M.: The Members of the Committee went round individually and/or in pairs and discussed with individual members of the staff and/or in groups the kind of work which they were doing. They also saw the library and the lay out of building.

5.00 P.M. - 6.00 P.M.: The Committee met the members of only the teaching staff in a group and discussed particularly their contribution to the teacher training programme in the Department of Education.

16.1.1975.

9.00 A.M. - 9.30 A.M.: The Committee called on the Vice-Chancellor.

10.15 A.M. - 11.15 A.M.: The Committee met with Dr. M.S. Patel, a Member of the Advisory Committee and the previous Director of the Centre and discussed particularly the role of Advisory Committee and its function as well as the facilities and funds for research and for teacher fellows.

11.15 A.M. - 12.00 noon: The Committee met with the Heads of the Departments of Home Science and Child Development and discussed with them the kinds of inter-departmental collaboration that existed and expectation on both sides.

12.00 - 1.00 P.M.: The Committee met a group of B.Ed. and M.Ed. students and discussed with them the training programme and the kinds of improvements they would like to see in it.

2.30 P.M. - 4.00 P.M.: The Members of the Assessment Committee met to discuss the outline of the report of the Committee and the main points of the report and their recommendations.

Research and Training Programme of C.S.E.

(a) Research - The research done by C.S.E. are in the following areas:-

1. Teaching and Teacher behaviour;

39

- 4 -

2. Achievement motivation;
3. Educational technology including programmed learning; and
4. Innovations and educational change.

1. Teaching and teacher behaviour - In teaching and teacher behaviour, a conceptual framework has been developed. Within this conceptual framework, a number of research projects have been carried out concerning the effect of teacher behaviour on pupil modification, class-room organisation and climate, aspects of pupil growth, attitudes and anxieties of pupil and pupil achievement. Similarly, studies have been made on the modification of teacher behaviour through feedback. As the Survey of Educational Research published by the C.S.E. shows, this is an area of work where not much work has been done in India: The studies are well-designed and competently executed.

The Committee was pleased to note the C.S.E. had taken initiative in organising the work in this areas and has emerged as a Centre in India for educational research workers for developing models and particularly for the experimental design and statistical analysis of research in this area.

2. Achievement motivation - In achievement motivation, studies have been conducted in the development of this motive in urban schools. Relationship of this motive with hope of success and fear of failure, adjustment, anxiety, etc. has been studied.

3. Educational technology including programmed learning - It was noted that 16 programmes for use in school and on various school subjects have been developed. Some comparative studies between programmed learning method and other methods of teaching and learning have been made. The relationship of some personality factors and programmed learning have been studied. Studies have been conducted on micro-teaching as a technique for developing indirect class-room behaviour in student-teachers for changing the verbal behaviour of the teacher and on the feasibility of using micro teaching technique for training teachers. A study was made to compare the relative effectiveness of micro teaching and conventional practice teaching. The effectiveness micro-teaching techniques for developing specific teaching techniques have also been studied.

The Committee noted particularly the fact that on the basis of the research done, the Centre not only found that microteaching and programme learning techniques were better than the conventional ones, but also introduced these techniques in their own training programme. The Committee was informed of the development of a programme on evaluation and measurement which has been found to be so effective that in the next semester instead of taking classes on this subject, the programmed learning material will be available to the trainees and only a seminar once every month will be held on this subject, thereby making the time available for other work in training. The Committee was also informed that a research methodology programme was being developed for the M.Ed. level. These programmes will be made available soon for use in other Teachers' Colleges.

4. Innovations and educational change - In this area, a model has been developed to fit the Indian situation. Some studies have been undertaken into the conditions which promote innovations in Indian schools, factors which influence the diffusion of innovations, the profile innovative schools the factors in resistance to innovations.

Apart from these four major areas, in which CSE has been able to develop some organised work, some work is also being done on organisational climate, leadership and morale of teachers.

The Committee noted with satisfaction that the CSE has come out with a comprehensive survey of educational research in India. A monograph on the model of teacher behaviour, a book incorporating the important studies done at the Centre on teacher behaviour and class-room teaching, book on the work done in programmed learning and some other publications. A list of works published during the past five years by the Centre is attached (appendix-II).

It was also noted with satisfaction that the University has allowed the Centre to develop a fund out of the sale of these publications which could be used by the Centre for its own research and development work. The research fellows as well as the teacher fellows and members of the staff at the Centre were drawn from all over India to give it an all-India character which is a very commendable feature of the Centre. The Committee found a congenial climate of work and facilities of consultation and of library with which the scholars were highly satisfied.

(B) Training

1. Ph.D. Level Programme - There is no Ph.D. level programme although the Centre is providing a consultative service of research methods and statistical analysis. It has not offered advance courses on important aspects of educational research and methodology. Teacher fellows were found enrolling themselves for the Ph.D. The Centre may like to consider whether such enrolment is desirable in view of the fact that they stay at the Centre for a short period of time. Related to this is the question whether residence requirement for Ph.D. should not be compulsory.

2. M.Ed. and B.Ed. Level Courses - The Centre has been functioning as an all India Centre. It has been attracting students from outside the State and even from foreign countries. About 20% of the students in B.Ed. and about 35% of the students in M.Ed. belong to the other States or foreign countries : A statement giving year-wise enrolment in B.Ed. and M.Ed. since 1964-65 is attached (appendix-III).

It was found that the courses are prepared exclusively by the teachers concerned. While this gives flexibility and allows continuous revision and upgrading of the courses, it raised the question whether such courses are at par with those offered in other universities. It may perhaps be desirable to associate some external teachers from other universities in drawing up the syllabus and courses. Something is applicable in the case of internal assessment. The students were

also not happy with it. In order to be sure that internal assessment is not leading towards gradual decline in standards, it is perhaps desirable to have some system whereby teachers and other universities would also have a look at the scripts and the markings.

It was found that in practice teaching, two innovations have been introduced which are worthy of note. One is the introduction of micro-teaching for specific teaching skills. The other is the introduction of practical workshops to teach the trainees specific aspects of teacher behaviour. The Committee was pleased to note the use of educational technology in B.Ed. and M.Ed. teaching about which mention has been made in the previous section. The Committee, however, found that whereas these innovations have been made in the training programme of teachers, the new ideas of training, as embodied in the Kothari Commission's report, are not much in evidence.

The admission of students was found to be based on the usual method and students of average quality were being admitted and no attempt was being made to use research evidence in improving the selection, such as the use of tests of teaching aptitude, etc.

In the matter of development of new courses, not much has been achieved. A course of educational change and innovation is the only new thing which was brought to the notice of the Committee.

In the matter of modernisation of syllabi etc., the Committee noted the use of educational technology (programmed learning and micro-teaching) in teacher training.

Physical Facilities

The Committee noted that the C.S.E. has a fine building and no further addition is indicated or is in demand.

Library, it was found, has a stock of about 11,000 books and subscribes to 40 journals. In addition, it gets a number of journals free. It is used by 50 scholars per day on the average and is open only from 10.30 A.M. to 5 P.M. with only one Librarian and no other assistance. The Committee felt that the library should have longer hours and one assistant may be provided to the library so that longer hours could be possible.

The Committee noted lack of equipments like video-tape, teaching lab., xerox facilities, calculators, etc. The Committee was informed, however, that the C.S.E. was trying to get some video-tape equipment. The Committee would like to recommend that these equipments should be available for further development of the Centre.

Organisation and Administration

The Wadia Committee had noted the lack of integration of the Centre with the Department of Education. This Committee was pleased to note that the integration has been achieved since 1971 (vide the Resolution adopted by the University Syndicate given in Appendix-IV). The Committee

was also pleased to note that the University has full confidence in the Dean of the Faculty and the Head of C.S.E. so that there is no difficulty on the part of C.S.E. in carrying through its programme of work. It has full support from the University financially as well as administratively and it enjoys considerable autonomy so that the usual restrictions which are usually imposed on other Departments have been waived in the case of this Centre.

The present composition of the Advisory Committee is given in Appendix-V. It was noted that the Advisory Committee does not meet more than once in a year. It is desirable that the Advisory Committee should meet more frequently in order to give effective guidance to the Centre and its development. It should be considered whether other cognate disciplines from the University should not be brought into the Advisory Committee to make it more broad based. Similarly, the question should also be examined whether other faculty members and some research fellows should not also be members of the Advisory Committee. One of the things which the Committee noted was a lack of development of comparative education, history of education, sociology of education and such other areas in the C.S.E. Inter-disciplinary research in education could perhaps be developed better if there are some faculty members from disciplines other than education and also if faculty members from other disciplines become members of Advisory Committee. In this context, the Committee noted with satisfaction, the recent Resolution of the University (Appendix-VI) whereby the University has now allowed any student with a Master's degree in any subject to register for Ph.D. in education. Inter-disciplinary research the Committee realises, is not very easy and it noted that efforts are being made by C.S.E. to develop joint work with the Departments of Child Development, Home Science, Mathematics, etc. One would like to see a closer association and collaboration with the Department of Statistics, Sociology and Psychology.

The Committee noted that the C.S.E. has turned out, in these few years, a number of Ph.Ds. in Education. A statement giving year-wise number of students registered for Ph.D. and number of students who completed the Ph.D. have left or are still continuing their college work is attached (Appendix-VII).

Five-Year Plan

The Five-Year Plan (1974-79) which has been submitted by the Centre is a logical out-growth of the research results already obtained in the four major areas in which C.S.E. has specialised. It is good to note that now that the C.S.E. has acquired a confidence and has built up the morale of its staff and developed necessary facilities, it is opening out in the direction of other areas of research like higher education, sociology of education, organisational climate and teacher morale, etc. The Committee generally approved the programme of work for the five years (1974-79).

The Head of the Centre has very modest demand of Rs.15,000/- (per annum) additional amount of money for strengthening the library and Rs.15,000/- (per annum) more for visits of fellows. The only demand for additional staff is for two junior research fellows (per

annum) to strengthen the research work. The Committee recommends all this.

It was noted that the State Government of Gujarat appreciates, as much as this Committee did, the good work that has been done during the last five years only in this Centre. Five years is not a too long a period for any University Department to have a sizeable impact. It is, therefore, commendable to note that the C.S.E. has already made an impact on the Indian scene and the State Government, in due recognition of that, has expressed its willingness to take the full responsibility of bearing the expenditure of the Centre.

Recommendations

1. The Committee appreciates the research that has been developed by C.S.E. in the areas in which it has specialised and recommends that it should continue as an advanced centre in those areas of work.
2. The Committee recommends that two more Junior Research Fellowships (per annum) may be given to the Centre to strengthen its Ph.D. programme.
3. Better housing facilities should be provided to its teacher fellows.
4. External experts should be associated in evaluation as well as in the framing of courses in order to maintain standards at par with other universities.
5. The Committee recommends that the C.S.E. may gradually develop new courses and inter-disciplinary work in its training programme.
6. The Committee recommends a grant of Rs.15,000/- (per annum) for the library and Rs.15,000/- (per annum) for visits of fellows.
7. The Committee recommends that for equipment, a block grant of Rs.50,000/- may be made available to the Centre.

At the end, the Committee will like to record its deep appreciation for the hospitality and facilities provided by the University to the members to carry on their work of assessment during their visit to the University and the C.S.E. on 15th and 16th January 1975.

APPENDIX - I

UNIVERSITY GRANTS COMMISSION

General terms of reference for the Assessment Committees for evaluation of the work of the Centres of Advanced Study in Indian Universities.

.....

The Assessment Committee will visit the Centre 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 Centre consequent upon the Department being recognised as a Centre of Advanced Study by the U.G.C.

The Committee would look into the organisational and administrative aspects of the Centres particularly regarding identification of the Centre of Advanced Study as an integral part of the Department concerned. It would also examine the aspects relating to measure of autonomy enjoyed by the Centres in implementing various programmes undertaken by them, within the existing university framework.

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 other disciplines within the Department.

The Committee would also examine the question relating to the advisory committees appointed for each Centres of Advanced Study with regard to their composition, role and effectiveness in furthering the activities of the Centre, such as (a) functioning of the Centre of Advanced Study as an all India Centre with regard to recruitment of staff, students intake, and interaction with other departments in the subject concerned and possible influence, in raising of standard of teaching and research 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-programmes and (c) steps taken by the Centres to function as focal points of growth, development and modernisation of the academic system.

The Committee would also look into the future programmes of work in the next five years and the financial requirements of the Centres in this regard. The continuing assistance from the U.G.C. to the Centres of Advanced Study, after 1973-74 would be subject to evaluation made by the Committee and its recommendations to be considered by the Commission. The assistance would be continued only where the Centres have earned the recognition and have made sustained and continued effort for attaining the highest standards possible in the academic training and research activities.

Any other aspect with regard to the functioning of the Centres as may be considered essential by the Assessment Committee.

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Appendix - II

CASE Publications (1970-1974)

In the course of last 5 years, the CASE has published the following publications:

1. Communication in the Classroom (ed) Buch, M.B. and Santhanam, M.R.
2. Psychology of Teaching - National Lectures - S.K.Mitra
3. Review of Research in Theory of Teaching - S.P.Bhattacharya
4. Research in Teaching - Report of the Third National Seminar
5. Studies in Teaching and Teacher Behaviour (Ed.) Buch, M.B.
6. Microteaching in Teacher Education Passi, B.K. and Shah, M.M.
7. Technology Knocks at the Door of Education by Shah, G.B.
8. Handbook of Programmed Learning by Shah, G.B.
9. Studies in Programmed Learning by Shah, G.B.
10. Some Aspects of Muslim Education in India by Juraishi, M.A .
11. A Survey of Research in Education (Ed.) Buch, M.B.

Appendix - III

Yearwise distribution of students for B.Ed./M.Ed. course

B.Ed.

Year	Universities outside Gujarat	Universities of Gujarat excluding MSU	MSU	Foreign Univer- sities	Total
1964-65	19	38	58	6	121
1965-66	8	52	57	7	124
1966-67	17	61	86	12	176
1967-68	12	61	67	5	145
1968-69	20	79	48	10	157
1969-70	23	88	78	6	195
1970-71	15	64	79	3	161
1971-72	12	70	83	3	168
1972-73	21	58	110	4	193
1973-74	23	62	115	3	203

M.Ed.

Year	Universities outside Gujarat	Universities in Gujarat excluding M.S. University	M.S.U.	Foreign Unive- rsities	Total
1964-65	3	7	11	-	21
1965-66	3	8	15	-	26
1966-67	5	9	12	2	28
1967-68	2	12	12	-	26
1968-69	6	8	27	1	42
1969-70	14	19	23	7	63
1970-71	3	8	24	4	39
1971-72	2	4	24	8	38
1972-73	1	6	21	8	36
1973-74	3	5	12	13	43
1974-75	3	5	26	21	55

Appendix - IV

The Maharaja Sayajirao University of Baroda

SR (GCU)66-III-48

Baroda, 5th April, 1966

Subject: Naming the Centres of Advanced Study

.....

Reference: Letter No. F.5-1(65)/CAS dated 28th February, 1966
from Shri K.L. Joshi, Secretary, University Grants
Commission.

.....

Under Syndicate Resolution No. 48 dated the 28th March, 1966
it is resolved that as recommended by the University Grants
Commission, the following be approved:

1. The present Department of Education be upgraded as the 'Centre of Advanced Study in Education' and the establishment of the Department and the Centre be merged together.
2. The Head, Department of Education be the Head of the Centre.
3. In modification of Syndicate Resolution No. 77 dated 27th June, 1964, the designation of "Co-ordinator" and the "Director" of the Professor of Educational Psychology and of the Dean, Faculty of Education and Psychology respectively be dropped.

G.C. Unit is requested to take further action in the
matter.

Sd/- B. K. Zutshi
Registrar.

APPENDIX - V.

Members of Advisory Committee of the Centre of Advanced Study in Education, Faculty of Education & Psychology, Baroda University during 1974-75

.....

1. Professor P.J.Madan,
Vice-Chancellor,
M.S.University of Baroda,
Baroda. Chairman
2. Prof. M.S.Patel,
Ex-Dean,
Faculty of Education & Psychology,
8, Alkapuri,
Baroda.
3. Dr.N.V.Thirtha,
Professor and Head of the
Department of Education,
Bangalore University.
4. Prof. D.M.Desai,
Dean,
Faculty of Education & Psychology,
M.S.University of Baroda
5. Dr.M.B.Buch,
Professor and Head,
Centre of Advanced Study in Education,
M.S.University of Baroda,
Baroda.
6. Representative of the
University Grants Commission,
New Delhi.
7. Prof. P.K.Roy,
National Council of Educational Research
& Training,
Sri Aurobindo Marg,
New Delhi-16
8. Prof. Udai Pareek,
Indian Institute of Management,
Vastrapur, Navrangpura,
Ahmedabad-380015
9. Prof. V.S.Vyas,
Indian Institute of Management,
Vastrapur, Navrangpura,
Ahmedabad-380015
10. Director of Education,
Gujarat State,
New Mental Hospital, Annex,
Ahmedabad.

Appendix - VI

The University ordinance for Ph.D. used to be as under:

No candidate shall be permitted to appear for the Ph.D. degree in a subject different from the one in which he has obtained his Master's degree. Provided, however, that the recognised teacher may recommend to the Council of Post-graduate studies and Research admission of a student to the Ph.D. degree in a related subject.

As a result of the representation by the Head, Class and the Dean, Faculty of Education and Psychology, the university has amended the above resolution and the amended resolution is :

No candidate shall be permitted to appear for the Ph.D. degree in a subject different from the one in which he has obtained his Master's Degree. Provided, however, that recognised teacher may recommend to the Council of Post-graduate studies and Research admission of a student to the Ph.D. degree in a related subject.

The scholar holding Master's degree in any discipline shall be considered eligible for registration for Ph.D. degree in Education under the Faculty of Education and Psychology of this University, provided they are otherwise eligible for registration for Ph.D. degree in Education.

Yearwise distribution of the Ph.D. candidates in the Department of Education

Registered	Completed			Continuing			Left		
	Baroda	Gujarat	outside	Baroda	Gujarat	outside	Baroda	Gujarat	outside
1950	4	1	-	-	-	-	2	1	-
1951	2	-	-	-	-	-	1	1	-
1952	6	-	-	-	-	-	5	1	-
1953	-	-	-	-	-	-	-	-	-
1954	2	1	-	-	-	-	-	1	-
1955	5	1	1	-	-	-	-	2	1
1956	5	2	-	-	-	-	1	-	-
1957	4	1	-	-	-	-	-	2	-
1958	2	-	2	-	-	-	-	-	-
1959	4	2	-	-	-	-	2	-	-
1960	2	-	1	-	-	-	1	-	-
1961	7	2	1	-	-	-	-	-	-
1962	2	-	-	-	-	-	-	-	-
1963	3	-	1	-	-	-	-	-	-
1964	2	-	1	-	-	-	1	1	-
1965	3	-	1	-	-	-	1	-	-
1966	12	4	2	-	-	-	-	2	3
1967	6	3	-	-	-	-	1	-	1
1968	7	1	2	1	-	-	1	-	-
1969	27	5	2	9	7	-	2	1	1
1970	9	1	1	3	2	-	2	-	-
1971	12	1	-	2	6	1	2	-	-
1972	38	-	-	-	17	11	10	-	-
1973	22	-	-	-	11	3	8	-	-
1974	19	-	-	-	8	4	7	-	-
205	*25	15	28	*52	19	31	*17	11	7

Note: (i) The table is based on the registration dates of the candidates considering academic year from 15th June to 14th June.

(ii) Number in Col.2,3,4 show the No. of candidates out of those registered in the year.

Baroda includes scholars of M.S. University and also scholars who come from other universities but reside at Baroda for research purposes.

Appendix VIII to

Comments of Professor S. Shukla on the report of the assessment committee which evaluated the working of the Centre of Advanced Study in Education, M.S. University of Baroda.

.....

I am generally in agreement with the report. However, as pointed out in the report itself of the Centre started functioning effectively only from 1969. The present assessment therefore, pertains to a 5-years period as contrasted with the 10 years life of most advanced centres. I feel, therefore, that the Commission may consider sending a fresh assessment committee by about 1978-79 to confirm that the present development has been sustained and strengthened sufficiently.

My further comments on the report as follows :

1. Page 5:
We met the Head of the Department of Mathematics also who is undertaking some work in modern mathematics education. From my report with the Fifth Plan Visiting Committee which visited Baroda on January 27-28, 1975 this was considered to be a very weak department.
2. Page 6, para 2, line 3:
I should add the survey as far as a good bench mark for future. However, it is to be noted that this is essential documentation work which the NCERT or some similar agency should have done. Also this survey is based on summaries prepared by fellows of the Centre, in some cases with no specialised competence in the areas concerned. Future editions of the survey would require to rectify this.
3. Page 8(1) Ph.D. Level Programme:
There is no course work as part of this. The Centre also enrolls for Ph.D. without any residence requirements. The desirability of this may be examined by the Centre and by the U.G.C. Further the whole schemes of teacher fellows may be reviewed by the U.G.C. The intention of the scheme was that teacher fellows would improve their general understanding of the discipline and improve the quality of work in the colleges and universities from which they come on return.
(2) M.Ed. Course
The number of students from other parts of India is not very high. Steps may be taken to increase this number.
4. Page 11:
We should add a paragraph to say that there is need for rationalisation of the areas of academic specialisation between the different departments in the faculty. The Department of Education which is the Centre of Advanced Study in Education specialises in areas already mentioned while other aspects of education namely History of Education and Comparative Education are dealt with by the Department of Educational Administration. This leads to a lack of ~~co-ordination~~ co-ordination in the work of the Centre.

Besides there has also occasionally been inadequate specialisation for Ph.D. supervision,

5. Pages 11-12:

It is to be noticed, that there is serious danger of low quality contributions from other discipline where inter-disciplinary research is organised. Such appears to be the fear in the case of mathematics education here. The centre should take particular care to interest departments of the universities which have a high academic standing in inter-disciplinary research in Education. It is to be noticed also in the case of Home Science candidates who could not have registered in that faculty for Ph.D. were enabled to do so in the Centre because there are no residence requirements here. Special care requires to be taken that the quality of research grows rather than declines through interdisciplinary co-operation or through the recent modification of Ph.D. regulations permitting holders of Master's degrees other than Education to enrol for Ph.D. with the Centre.

6. Page 13:

At the end of the first recommendation we might add "namely teaching in its various aspects."

Recommendation 3: The very low provision for contingency namely Rs.100/- per annum needs to be looked into. The question of Teacher Fellows registering for Ph.D. may be re-examined.

Recommendation 4: We must continue to maintain the essentiality internal character of assessment while ensuring that the level and contents of courses remain at a high level.

Recommendation 8: A fresh assessment committee should be sent in 1978-79 or 1979-80. Meanwhile the Centre may be encouraged to further strengthen its all India character.

.....

Appendix IX

Comments of Dr. H.S. Asthana Professor and Head,
Department of Psychology, University of Saugar,
Sagar.

.....

I have looked into the draft report circulated by you. I feel that it is very well drafted and covers all the points we made. However, I would like to make a suggestion.

We noted that while the case was seeking collaboration with Departments of Child Development, Home Science and Mathematics, the more cognature disciplines which have shown for greater impact on education in recent times remain unassociated. This point has been raised in the draft at the end of p.11 and at the beginning of p. 12. It should, in my opinion, be a major recommendation (to be put between points 5 and 6 on page 13 of the draft) that - cognature disciplines: Statistics, Sociology and Psychology be represented not only on the Advisory Committee but that in research and teaching these departments should be more actively associated with the case.

It was surprising to see that the Faculty of Education and Psychology in which case is located does not associate the Department of Psychology which has three senior staff (one professor and two readers) besides other staff. Nor did we meet any from sociology and statistics. It hardly needs emphasising that modern developments in the Sociology of education, experimental designs and analysis in Statistics besides the developments in Psychology have greatly influenced the development of educational theory, research and instruction.

Views of Dr. V. Manuel with comments made by Dr. S. Shukla on the report of the Committee which assessed the work of the CAS in Education at Baroda University.

.....

(a) Reactions to the further comments of Prof. S. Shukla

1. On the weakness of the Mathematics Department

This remark just cites an observation from Dr. Shukla's committee on the Department of Mathematics. The implication for the present report is worked out only in point 5. Hence my comments are also given there.

2. On the Survey of Education

I agree that NCERT or some similar agency (I presume that this includes UGC also) should have done this work long ago. But this work has been left undone all these years. CASE has done it and has not even asked for any special support for the purpose to be considered by the Committee. Under the circumstance I consider that the remark that some other agency should have done it is unnecessary. It is another matter however if the CASE effort has prevented any other relevant agency from working at this task. But such a case has not been put before us. I would quite welcome the proposal that NCERT or U.G.C. itself should take up such work (not 'should have done' such work). But such proposals can be discussed at that stage by the appropriate agency and need not be anticipated by our committee. The relevant question for us is whether it is appropriate that the centre of Advanced Study should step in to fill a documentary gap neglected by all other agencies, and enable research (both within and outside to the country) to 'advance' from where the previous workers have left it..... My answer is 'Yes'.

The need to use fellows without specialised competence for preparing abstracts also appears to me to be a general sin of the academic community in India. The procedure appears to be that the CASE requests each university to send abstracts of Ph.D. Theses, followed by reminder letters and telegrams. When all these have failed a fellow is asked to go to the spot and do the needful. The tasks of the fellow include: dealing with University Professors who have not responded, libraries and Administrators. Sometimes theses have to be dug out. The specialised skills involved in this situation are at least as much administrative as academic. Besides I do not think it is practicable to send specialists to every University for every area falling under this last stage mopping up observations unless huge amounts are set up for the purpose. I must also note in this connection that with reference to one subject I did discuss with Dr. Buch some cases of abstracts which seemed to contain no worthwhile contributions and specifically asked him whether the abstracts are fair to the thesis. He said that in most of the cases the abstracts were sent by the authors themselves or by the Department of the concerned University. Under the circumstance

I would hesitate to indicate the fellows for want of specialised competence.

I do agree that further editions of the survey should require to rectify the weakness revealed from the first venture and build up on the strength. (I presume that this is already being done).

3. Ph.D. Programme.

I have no objection to a full-scale review of the teacher-fellowship scheme and the question of residence requirements for Ph.D. The latter should be done on an all-India level. Personally I think that full residence requirements for Ph.D. in Education is an advantage only in certain types of studies. Where the emphasis is on field work in the local context, partial residence requirements may be even better than full residence.

4. Weaknesses in certain specialisations.

It is true that some areas are relatively weak and that there has occasionally been inadequate specialisation for Ph.D. supervision. But I should thank that it is inevitable in our present state of development in Education where even a centre for Advanced Study of Education cannot afford to fortify every sub-area. Comparison of staff strength in an American School of Education would make the position clear. But I must also add that in education some compensatory advantage is gained (and this is particularly relevant in Indian conditions) by the generalist approach also.

5. Possibility of low-quality contributions from other disciplines (to be read with I)

Here Dr. Shukla is drawing a retrospective reference from his Report based on a visit on January 27-28, 1975 in which the Department of Mathematics was found to be very weak. Reverting back to our own committee meeting, if I remember right, three members from the Mathematics Department were present. Most of the questions on inter-disciplinary collaboration in Mathematics education were put by me, and the dialogue was mainly with one member at the other end, who impressed me as one who can contribute to mathematics education. My experience has been that inter-disciplinary dialogue does not commence with full Departments as such but with individual members who can cut across another pattern of thinking, and use it to enrich their discipline. I know of every strong, pure scientists and mathematicians who can be absolutely disinterested in or useless for educational dialogues. I have also come across relatively 'weak' mathematicians whose step by step thinking and concrete illustrations can be very useful in developing universal numeracy. In this case I do not know what is the exact nature of weakness in the Mathematics Department found by Dr. Shukla. It is of an administrative nature or of the nature of number of papers not presented in conferences of abstract mathematics, they may be neutral to our purpose, or even be an advantage. A Ramanujam who jumps seven steps at a time may not be the best person for an educational dialogue. I am not insisting that educationists can collaborate only with mediocre mathematicians and scientists. (Persons like and Einstein and Raman could make excellent members in such teams). But

unless the weakness referred to is in the nature of absolute want of logic in every member of the Department, I think the mathematics Department would have resources to make a contribution to mathematics education in school.

As regards Home Science, the attraction to do Ph.D. in education through relaxation of residential requirements can result in lowering of standards as Dr. Shukla suggests. But this relaxation can also result in more relevant and varied topics being studied. Much more than that, it can bring back to 'home science' persons who are actually running a home. Strict residential requirements for Ph.D. in home science tend to encourage women to postpone full participant home management or to neglect the home. It would be worth-while if the U.G.C. makes or helps to support a *à posteriori* study of effect of relaxation of residential requirements on standards of Ph.D. Theses and a survey of the actual position prevailing in various universities.

6. I agree fully with first three points and the second half of the last point. I have no objection to the view that a fresh assessment committee should be sent in 1978-79, or 1979-80, if such a provision is administratively required. But among institutions which have not functioned uniformly well during the 10 years period, there is a difference for the committee between one which is showing a curve of increasing return and one which is showing a curve of decline.

.....

Copy of letter from Dr. N. Vedamai Manuel,
Prof. & Head of the Deptt. of Education,
addressed to Dr. J.N. Kaul, Joint Secretary,
U.G.C., New Delhi.

....

I am herewith enclosing my reactions to the further remarks of Prof. S.C. Shukla. I agree only with the notes of incorporation included under this point 6. The point made out by Dr. Asthana is already there in the Report (p.11 bottom and p.12 top). If at all it is modified, I would prefer that it is in the direction of toning down rather than increasing the directivity in a reference to inter-disciplinarily. I believe in inter-disciplinarity, but I also think that it can only be encouraged, but not imposed, or subjected to a priori criticism. Recommendation No. 5 (p.13), I think, is ideally worded for this purpose. Many of the points raised by Prof. Shukla may indicate areas which University Grants Commission may study carefully as issues in themselves on an all-India Plane rather than get them centred round one institution which our committee has happened to visit - particularly because this institution has probably done its best with a specific deficiency which has been widely pervasive.

I do not have many criticism of my own. There are some typographical errors which I presume, will be checked again. Two minor suggestions are given below :

(1) In page 5, para 2, after Child Development 'and of Mathematics' may be added. We did meet the mathematics representatives.

(2) Recommendation 4 regarding external experts in evaluation is better worded in a more flexible and non-directive manner as in p.9 (para 1). Our recommendation should have the effect of retaining the benefits which have accrued from the internal assessment and add the benefits in terms of comparison of standards.

....

Annexure II to Item No. 6

Proceedings of the Committee appointed to evaluate the working of the Centre of Advanced Study in Education at U.S. University of Baroda.

The Assessment committee appointed to evaluate the working of the Centre of Advanced Study in Education at U.S. University of Baroda met twice, first on June 20, and then on September 3, 1975 to consider the observations of Advisory Committee of the Centre of Advanced Study in the Humanities and Social Sciences on the report submitted by the Evaluation Committee. Professor S.D. Adaval and Prof. H.S. Asthana could not attend the first meeting and Professor V. Manuel could not attend the second meeting. Dr. S.K. Mitra and Professor S.C. Shukla attended both the meetings.

The Committee noted the comments of the C.A.S. committee as reported by Prof. S.B. Adaval and Dr. J.N. Kaul and the relevant observations made in minutes of the Advisory Committee on Centres of Advanced Study which are reproduced below:-

"The Committee considered the report of the assessment committee which evaluated the working of the CAS in Education at Baroda University and the additional comments made by some members of the Committee. It was felt that as the conclusions drawn by the Committee did not seem to flow directly from the observations made in the body of the report and as there was some divergence of opinion among the members of the Committee, it may be useful to have a meeting of the assessment committee to reconsider the whole matter. The final report of the assessment committee may be placed before the next meeting of the Advisory Committee".

The Committee considered its own report, the comments of the members on different issues raised in the report and the observations made by the CAS Committee, observations and suggestions of the committee are given below.

1. The members of the Committee were informed by the UGC that questions have been raised by the Standing Committee of the UGC on Advanced Centres regarding the report submitted by the Assessment Committee. The members were also informed that the Assessment Committee is not expected to make any recommendations regarding the continuation or otherwise of any advanced centre which, according to the members is one of the privileges of the Assessment Committee following from one of the terms of reference of the Committee which says that the Committee has to make recommendations regarding the next 5 years and particularly about the financial matters. The members felt that the assessment report contained all the views of the Assessment Committee and the UGC could consider those views independently of the recommendations made by the Committee.

2. It was noted that the first Assessment Committee under the Chairmanship of Prof. A.R. Wadia had made some recommendations and given some guidelines about the working of the CAS in Education at Baroda University. The members felt that it was a definite advantage that the Centre did not implement these recommendations; otherwise it would have lost the concentration of work which it has developed now.
3. Advanced Centre in any subject concentrates its efforts in a specific area of the subject. Likewise, C.A.S.E. has specialised in research on teaching and its contribution as an advanced centre should be judged in that context. This is where it has made an all India impact.
4. The performance of the Centre during the first five years was not very good primarily because of the changes that took place in the leadership of the Centre.
5. It was recognised that the impact of the Centre on the teaching programme in the Faculty of Education had not been much because it had to work under very difficult conditions created by the internal organisational set up in the Faculty of Education. The Committee however was pleased to note that this difficulty had, by and large, been straightened out. It is hoped that the innovative programmes and research carried on in the Centre will get reflected in the teaching programme of the Centre.
6. Inter-departmental cooperation even within the Faculty has not been possible because of conditions mentioned above and is still more unlikely in the future in view of the recent changes in the position of senior staff in the Faculty of Education. It was noted that two or three senior persons in the Faculty including, the Director of the Centre are due to retire in a couple of years.
7. The Centre needs to develop inter-disciplinary studies and research in cognate disciplines like statistics, sociology and psychology and the Advisory Committee should have representatives from those disciplines. It should be emphasised that inter-departmental collaboration should be preferably with strong departments to avoid the danger of weak departments weakening the centre itself.
8. The question of the Centre's contribution towards an original theoretical frame work for research in its chosen area of specialisation namely Teaching, was discussed. It was recognised that it is too early to judge this issue. Even if the Centre adopted existing models and developed these further that should be regarded as a positive contribution.
9. The Centre should retain the benefits accruing from internal assessment of its candidates but while doing so the benefits of standard prevailing in other universities should not be lost sight of.

10. There was considerable discussion on the concept of advanced centre and what should be expected of such centres. It was recognised that in spite of difficulties what has been achieved by the C.A.S. in the field of research in education is worthy of appreciation.

11. It has been pointed out in the report that the Centre started functioning effectively only from 1969 although it was set up and recognised as a Centre in 1963. The present assessment therefore, pertains to only five years from 1969. It is, therefore, recommended that another assessment may be made by about 1978-79 to confirm that the present development has been sustained and strengthened sufficiently. .

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION
NEW DELHI

(4)

Meeting:
Dated : 22.12.1976

Item No. : 7 To consider the recommendations of the Advisory Committee for Centres of Advanced Study in Humanities & Social Sciences on the report of Committee set up by the Commission to evaluate the work of the Centre of Advanced Study in History, Aligarh Muslim University and to examine its development proposals for the Fifth Plan period.

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The University Grants Commission constituted a Committee consisting of the following members to evaluate the work done by the Centre of Advanced Study in History, Aligarh Muslim University and to examine its V Plan development proposals:-

1. Professor S. Gopal,
Chairman,
National Book Trust of India,
New Delhi.
2. Dr. R.S. Sharma,
Head of the Department of History,
Delhi University, Delhi.
3. Dr. S.C. Misra,
Head of the Department of History,
M.S. University of Baroda,
Baroda.

The Committee visited the Centre of Advanced Study in History, Aligarh Muslim University on October 31, 1975. A copy of the report of the Committee is attached (Annexure).

The following are the main observations and recommendations of the Committee.

- i) The Committee is impressed by the work done so far and being done at the Centre and recommends that in view of the work done at the Centre during the past 8 years., the Commission may continue to provide assistance to the centre to enable it to strengthen teaching and research not only in the existing areas but also in new areas, regions and periods of Medieval Indian History.

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- ii) The Committee feels that the courses at Honours M.A. and M.Phil. levels will have to be looked into and revised and while doing so, the suggestions made in sub paras (a) to (f) of Para 9-2 of the report of the Committee may be kept in view.
- iii) The meetings of the Board of Studies should be fixed according to a Calander which may be circulated well in advance to all the members.
- iv) The Centre, in addition to developing studies in the fields in which it is at present engaged, should pay special attention to the study of History of India between the periods 800-1200 and 1700-1800. Its focus of study has so far been on Turko - Afghan and Mughal periods. The studies relating to the period preceding 1200 A.D. and following 1700 A.D. have more or less received low priority. Moreover, the focus of study even during the period 1200 and 1700 AD has been so far on Northern region of India. The centre should introduce optional papers on History of some regions other than North like Rajasthan and Deccan at honours/M.A. level and promote research on political, Social, Economic and Cultural History of other regions in the country during the Medieval period.
- v) The Centre should introduce one or two optional papers on medieval history of non-India countries especially West Asian and Central Asian countries at M.A. level and also promote comparative studies and research on Social Economic and Cultural History in various countries during a particular period. The centre should develop medieval archaeology. The centre should give high priority to this aspect of study and take up exploration and excavation work of a few sites belonging to the medieval period in and around Aligarh.
- vi) The Centre should have regular seminars, discussions and meetings for discussing academic and administrative problems. The faculty should meet for such purposes at least once a month. Research scholars may also be invited to some of these meetings.
- vii) The Committee would like to see efforts made to achieve some measures of interaction for example the department of West-Asian Studies should know the currents of thought and developments in the later medieval period while undertaking the study of any problem relating to the development in a West-Asian country in the modern period. Similarly, the Centre could very well collaborate with the department of Persian, Islamic, Culture or Theology in bringing out critical edition of various texts written in medieval period.

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- viii) Special efforts will have to be made by the University to make this Centre an All India Centre of Advanced Study in medieval History.
- ix) The University have to recruit the best talent available in the country for teaching and other posts at this centre to develop it as a Centre of excellence in the field of Medieval Indian History.
- x) The Centre should organise workshops for college teachers every year for 4 to 6 weeks in which about 40 teachers from a particular region may participate. The centre should aim to cover all the regions of India in these workshops in 4 or 5 years.

The Committee examined the proposals of the Centre for development and recommends that the Commission may provide assistance as per details given below to the Centre over and above the assistance already provided to it :

- a) Post of One Professor, three Readers and two Lecturers. The post of Professor may be either in general medieval history or history of 18th century, while the posts of Readers should be in (i) Central Asian History;
(ii) Economic History and (iii) Regional History like Rajasthan/Deccan. One of the Lecturer's post should be in Medieval Archaeology and the other in any field of general Medieval History.
- b) Two research associates as per UGC rules for undertaking various studies which the Centre proposes to undertake.
- c) Two technical assistants (one of whom may be draftsman and the other archaeological assistance) for developing medieval archaeology.
- d) Suitable assistance for employing part-time teachers for undertaking courses in languages.
- e) Annual grant of Rs.15,000/- for exploration and excavation work.
- f) A grant of Rs.30,000/- p.a. for organising regional workshops every year for University and college teachers in Medieval Indian History from all over the country.
- g) A grant of Rs.9,000/- p.a. for Seminars, travel and visiting fellowships over and above Rs.21,000/- p.a. already made available for this purpose.
- h) A grant of Rs.10,000/- p.a. for books and journals over and above Rs.10,000/- already provided for this purpose.
- i) A grant of Rs.15,000/- p.a. for publication over and above Rs.5,000/- p.a. to enable the Centre to undertake publication of monographs, texts and atlases.

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- j) A grant of Rs.5,000/- for contingencies over and above Rs.5,000/- already provided for the purpose.
- k) A non-recurring grant of Rs.30,000/- for equipment including, a scanner and cartographic equipments and Rs.15,000/- for essential books and journals over and above Rs.15,000/- for Books and Rs.5,000/- for equipment already sanctioned by the Commission as basic grant during the Fifth Plan period.

Financial Implications: The financial implications of the recommendations made by the Committee are indicated below. The figures are in lakhs of rupees.

A. Recurring

i) Staff:	Rs. 1.60
ii) Excavation work:	Rs. 0.15
iii) Workshops :	Rs. 0.30
iv) Seminars/Visiting Fellowships:	Rs. 0.09
v) Books :	Rs. 0.10
vi) Publication :	Rs. 0.15
vii) Contingency :	Rs. 0.05
Total:-	<u>Rs. 2.44</u> per annum

B. Non-Recurring :

i) Equipment :	Rs. 0.30
ii) Books	Rs. 0.15
Total:-	<u>Rs. 0.45</u>

The matter was placed before the Advisory Committee for C.S in Humanities & Social Sciences at its meeting held on 20.12.1975 for consideration. The advisory Committee agreed with to academic recommendations of the Visting Committee and also with its financial recommendation ad detailed above. If the above recommendations are accepted the Commission's assistance will be provided on a cent per cent basis till the end the Fifth Plan period i.e. till the end of 1978-79.

The matter is placed before the Commission for consideration.

UNIVERSITY GRANTS COMMISSION

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Report of the Committee which visited the Centre of Advanced Study in History at Aligarh Muslim University to evaluate the work done at the Centre and to examine its proposals for development during the Fifth Plan period.

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The University Grants Commission constituted a Committee consisting of the following members to evaluate the work done by the Centre of Advanced Study in History, Aligarh Muslim University and to examine its Fifth Plan development proposals:

1. Professor S. Gopal
Chairman
National Book Trust of India
Delhi.
2. Dr. R.S. Sharma
Head of the Department of History
Delhi University.
3. Dr. S.C. Mishra
Head of the Department of History
M.S. University of Baroda,
Baroda.
4. Shri A.B. Gupta,
Deputy Secretary
University Grants Commission.

1.2 The Committee visited the Centre of Advanced Study in History, Aligarh Muslim University on 31st October, 1975. The Committee had separate meetings with the Head of the Department of History, members of the teaching staff, post-graduate students and research scholars and had a general discussion with them on various problems relating to the development of teaching and research at the Centre of Advanced Study.

2. Basic Facts:

2.1 The University Grants Commission recognised the department of History, Aligarh Muslim University, as a Centre of Advanced Study in History in 1968 and provided special assistance to the Centre for undertaking specialised studies in the field of Medieval Indian History (800-1800 A.D.). The Commission has provided posts of one Professor, one Reader and two lecturers to the Centre. Four national scholarships for postgraduate studies, two senior and two junior research fellowships and annual grants of Rs.15,000/- for visiting fellows/seminars, Rs.10,000/- each for books, contingency and Administrative Staff, Rs.6,000/- for travel and Rs.5,000/- for

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publication and non-recurring grants of Rs.55,000/- for books. Rs.35,000/- for equipment and Rs.1.5 lakhs for building have also been provided to the Centre. In addition, the department has posts of one Professor and six Readers in Medieval Indian History. The post of Professor is, however, lying vacant and has not been filled owing to the Executive Council's decision that no appointments on temporary basis be made for the posts of professors and readers. Consequently, lecturers on temporary basis have been appointed in leave vacancies.

2.2 The Centre in Medieval Indian History is a part of the department of History. Although special efforts have been made to develop teaching and research in Medieval Indian History, Studies in Ancient and Modern Indian History and European History including British History have also been developed simultaneously. This is the only Centre in the country which has been recognised by the UGC for developing higher studies and research in Medieval Indian History.

2.3 The Centre is offering courses at B.A.(Hons.), M.A. and M.Phil. levels. In 1974-75, the enrolment of students was 45 in B.A.(Hons.) and 41 in M.A. 11 students were working for their M.Phil./Ph.D. degree. 14 students have so far been awarded Ph.D. degrees. Of these 7 got their degrees only this year and the rest between 1968-74. Facilities for teaching of 25 optional/compulsory papers are available in the 1st Semester and 22 in the 2nd Semester in M.A. Paperwise enrolment of students is given in Appendix I.

3. Work done at the Centre:

3.1 The main areas of work at the Centre are:- (i) Political, Administrative and Economics History of Medieval India; (ii) Historical Geography; (iii) Social and Cultural History of Medieval India including History of Science; (iv) Biographical Studies; (v) Collection and calendaring of source material relating to the medieval period of Indian history and (vi) editing of important historical texts with translation. The Centre has so far published about a dozen books and monographs including studies of the Delhi Sultanate, Revenue Administration under Mughals, Afghan Despotism and a History of Sher Shah's Reign and texts like Tarik-i-Mohammadi and Tarikh-i-Daudi. The Centre has also an Atlas of Mughal in the Press. About 140 papers have been published in research journals by the faculty members on various aspects of Medieval Indian History and Culture.

3.2 The Centre has so far organised four seminars. The first seminar on "problems of social & economic history" was organised in December, 1968. In 1969, two seminars were organised, one on "Medieval inscriptions" and the other on "Medieval Society". Fourth seminar was organised in 1972 on the "transformation of the Medieval Indian Economy into a colonial economy". Scholars from India and abroad participated in these seminars.

3.3 The Centre is having collaboration with universities in U.K. through the British Council. Under this programme a distinguished British Scholar comes for a few weeks to the Centre to deliver lectures and conduct seminars, and a younger scholar from a British University comes to teach advanced courses in British and European History every year. Similarly, one senior member from the Centre goes to UK for three months every year and a younger faculty member for 12 months. Four senior British scholars and two younger scholars from UK have visited the Centre while four senior faculty members and five younger members of the faculty have visited and worked in the universities in UK under this programme. The Centre has also been collaborating with the UNESCO under the schemes of "International Study of the civilisations of Central Asia." Under this programme, the Centre was visited by three reputed scholars; one each from Iran, Turkey and UK, who delivered lectures on History of Ottoman Empire and History of Iran. Two faculty members from the Centre visited USSR, UK and Iran under this programme. The Centre proposes to bring out a book on "Central Asia during the 16th century" under this programme.

3.4 The Indian Council of Historical Research has provided two fellowships to the Centre, and also financial assistance for work on "Archaeo-botany" based on material from the sites excavated by the department. It has established a urdu translation unit at the Centre. The Centre is also implementing two ICIR projects - one on "Akhabrat of Aurangzeb's region" and the other on "Mughals in Deccan (1590-1636)".

4. Plans for Development:

4.1 The Centre proposes to introduce new courses at M.A./ M.Phil. level in (i) Modern Historiography, (ii) Medieval Indo-Persian Paleography, (iii) History of Science and Technology, (iv) Regional History, (four regions, viz. Gujarat, Rajasthan, Maharashtra and Bengal) and (v) Medieval Britain.

4.2 The Centre also proposes to (i) complete the dictionary on "award of Mansabs"; (ii) Extend work on historical geography to the Delhi Sultanate; (iii) undertake a detailed study of Ain-i-Akbari's area and revenue etc. (iv) develop medieval archaeology; (v) prepare monograph on muslim legal thought and mysticism during 17th century; (vi) undertake studies on foreign relations of Delhi Sultanate; and Political and Economic History of India in 18th century; (vii) complete the calendaring of documents acquired at the Centre and (viii) publish texts relating to the administrative and social history of Medieval India.

4.3 The Centre has requested for creation of additional posts of three Professors, four Readers and six Lecturers, three research associates and additional assistance for various items during the Fifth Plan period for undertaking the work proposed above.

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5. Meeting with the Head of the Department:- In his meeting with the members of the Committee, the head of the department emphasised the need for providing special assistance to the Centre to enable it to not only strengthen the existing fields but also to undertake special studies in new areas. The main focus and thrust areas of the centre would be: (i) statistical approach to economic history of Medieval period; (ii) historical geography; (iii) preparation of regional maps; (iv) theory and practice of actual law which was in force during the medieval period and how it differs from the Islamic law as evident from various judgements; (v) religious history; (vi) translation and interpretation of religious texts and (vii) medieval Indian Archaeology. He pointed out that necessary material and competence is available in the department for undertaking the above studies. He specifically mentioned that there is also a need for developing medieval Indian Archaeology since the area around Aligarh is rich in medieval sites. The Centre has already undertaken work on preparation of a monograph on "History of Aligarh" and a study of 500 villages in the district has been completed.

6. Meeting with the Postgraduate Students:- The students were not very happy with the compulsory papers which every student has to offer. These papers are - British History (1760-1837) and French Revolution/Unification of Germany. These two papers are not related to the Medieval period and hence have very little relevance to the course. The students were keen on a compulsory paper in some period of Indian History rather than of British or European History. The need for teaching of language at M.A. level was also emphasised by some students so that they could consult source material in original.

7. Meeting with the Research Scholars: The Research Scholars were not very happy with the language courses, prescribed for M.Phil. students. These courses were generally in modern Persian whereas the source material was mostly in classical Persian. They were, therefore, of the view that the course in languages should be so devised as to help them in reading and understanding the source material. Research Scholars did not have more frequent meetings with the faculty members jointly for any academic discussion, since the Centre had no forum for such meetings. The scholars stressed the need for organising regular seminars and discussions on various academic matters.

8. Meeting with Faculty Members: The faculty members stressed the need for revising the syllabi and introducing interdisciplinary studies such as history of political thought or philosophy of historical thought or Historiography at M.A. level. A paper in regional history could also be introduced and it would also be useful to encourage studies in non-Indian Medieval History at the M.A. level. The teachers were generally not in favour of introducing a compulsory paper in language

like Persian and Arabic at M.A. level, since it would be too heavy for students. The language course could be introduced at M.Phil. level. The faculty was not having any regular discussion or seminars and the lack of this was keenly felt. The teachers also sought provision of necessary foreign exchange to the Centre so that the Centre would be able to obtain Microfilms and latest publications from abroad without delay.

9. Observations & Recommendations of the Committee:-

9.1 The Committee is impressed by the work done so far and being done at the Centre and recommends that in view of the work done at the Centre during the past 8 years, the Commission should continue to provide assistance to the Centre to enable it to strengthen teaching and research not only in the existing areas but also in new areas, regions and periods of Medieval Indian History, especially in the fields envisaged by the Head & the Faculty members.

9.2 The Committee feels that the courses at Hons. M.A. and M.Phil. levels will have to be looked into the revised and while doing so, the following suggestions may be kept in view:

- (a) History of South India in Medieval period has not received due attention either in the field of teaching or research and this needs to be encouraged.
- (b) It would be useful to introduce papers on Medieval History of some non-Indian countries in place of modern British History, French Revolution or Unification of Germany which are at present compulsory. Parallel periods in Russian/Central Asian/West Asian/East Asian History may be considered for being introduced.
- (c) A paper on "historiography and historical methods" optional papers on regional history like History of Rajasthan/Deccan may be introduced at M.A. level.
- (d) The quantum of modern history should be increased for medieval Indian History students. There is at present only one paper on Modern History of India (1805-1858). The study of Modern Indian History will have to be brought up to 1947. Similarly, in the papers on Constitutional History of India, the period of study is only up to 1947 which excludes the study of present Indian Constitution. It would be appropriate to include a study of the Constitution of India in this paper. There seems to be over emphasis on the study of British History and this could be substituted by introducing papers on various aspects of Modern Indian History or Modern Asian History if considered feasible.

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(e) The M.Phil. course is a regular one-year course and the students are given two courses in languages. These do not seem to be of direct relevance to the studies in which the research students are engaged. The courses are arranged by the department of Persian which has specialised in Modern Persian. It would be useful if the Centre itself organises language courses since some emphasis will have to be placed on acquaintance with the technique for deciphering and understanding original texts. Moreover, it may not be necessary to confine the course in languages to Persian alone. The course could be in other languages too, in which the scholar may have to equip himself for consulting the source material on the subject of his research and, therefore, may vary from scholar to scholar. Such as Dutch and Portuguese. Develop expertise in these fields and this could be begun by the Centre employing persons if necessary even the retired teachers who have experience in this field on part-time basis for teaching the language courses. The course in language should be made compulsory for M.Phil. students and optional for M.A. students.

The Department should

(f) There should be a common compulsory paper for all M.Phil. students in History and Historical Methods". This course should be conducted not only through lectures but also through regular seminars.

9.3 The Committee learnt to know that the meetings of Board of Studies arranged at a very short notice and external members generally do not find it possible to attend. This is not a healthy practice. Experts from other universities will have to be actively associated with the framing of syllabi at various levels and, therefore, the University should take care that meetings of Board of Studies are not hurriedly arranged. It would be useful to have the meetings of Board according to a fixed calendar which may be circulated well in advance to all the members.

9.4 The Centre, in addition to, developing studies in the fields in which it is at present engaged may consider paying attention to the study of history of India between the period 800-1200 and 1700-1800. Its focus of study has so far been on Turko-Afghan and Mughal periods. The studies relating to the period preceding 1200 A.D. and following 1700 A.D. have not received equal attention. Moreover, the focus of study during the period 1200-1700 A.D. has been largely on northern region of India. As already suggested earlier in the report, the Centre should introduce optional papers on history of some regions other than North like Rajasthan or Deccan at Honours, M.A. level and promote research on Political, Social, Economic and Cultural History of other regions in the country during medieval period. This might begin with introducing courses in which the faculty has expertise as Rajasthan, Bengal and Gujarat.

9.5 The Centre has also not paid sufficient attention to the development of studies on Medieval History of countries other than India. Such studies are essential for developing a comparative and critical outlook among students. It would, therefore, be appropriate if the Centre introduces one or two optional papers on medieval history of non-Indian countries especially West Asian and Central Asian countries at M.A. level and also promotes comparative studies and research on Social, Economic and Cultural History in relevant countries during particular periods.

9.6 The department of history has a strong wing of Archaeology which has done excellent excavation work at Atranji Khara and it is, therefore, appropriate for the Centre now to propose the development of medieval archaeology. The Committee would suggest that the Centre should now give high priority to this aspect of study and take up exploration and excavation work of a few sites belonging to the medieval period in and around Aligarh and Agra.

9.7 The Committee was concerned at the paucity of academic discussion & collaboration in the faculty. The faculty meets only when it is called for to conduct some official business otherwise there was no meeting ground. The Centre should have regular seminars discussion and meetings for discussing academic and administration problems. The faculty should meet for such purposes at least once a month or possibly more frequently. Research scholars may also be invited to some of these meetings.

9.8 The Aligarh University has departments of West Asian Studies, Islamic Culture, Theology, Persian and Arabic, in addition to the Centre without any academic interaction with other disciplines in related fields. This question was discussed with the head of the department and he pointed out to the Committee that the areas of work as well as approach of other departments were different from the one in which the Centre was interested. Other departments were either working in a traditional way or were mainly concerned with the contemporary developments in the countries of West Asia. Even so the Committee would like to see the efforts made to achieve some measures of interaction for example the department of West Asian Studies should know the currents of thought and developments in the later medieval period while undertaking the study of any problem relating to the development in a West Asian country in the modern period. Similarly, the Centre could very well collaborate with the department of Persian Islamic Culture or Theology in bringing out critical edition of various texts written in Medieval period. Collaboration with Department like Sociology and Political Science could be envisaged.

9.9 The Centre has mostly attracted students from its own University or from the neighbouring universities. Very few

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students have come from the universities situated in the other regions of the country specially from Southern and Eastern India. In 1972-73 there were only 10 students in M.A. who came from non-Hindi speaking areas, of these seven were from Kerala and one each from Tamilnadu and Orissa and West Bengal. In 1973-74, this number declined to five (four from Kerala and one from Manipur). This disproportionate weightage to Kerala also need not be made permanent feature. In M.Phil. courses most of the students were from Hindi speaking areas. The university has not been able even to fill the quota reserved for outside students for award of fellowships and scholarships. This is the only Centre for Medieval History in the entire country and should have, therefore, attracted and set out to attract students from all parts of the country. Unfortunately, it has not been able to develop a national all-India character. Special efforts will have to be made by the University to make this Centre an all India Centre of Advanced Study in Medieval History. Attractive fellowships/Scholarships should be offered to such students even at M... stage. One way of doing this would be to write to all the departments of History in the country some time in March/April each year requesting them to consider sending some of their best students for admission to the Centre especially in the field of Medieval Indian History and for research and apprise them with the physical and other facilities available at the Centre. Applications for award of fellowships and scholarships be invited through advertisement in the newspapers which are in wide circulation in the Southern, Eastern and Western regions of the country.

The faculty at the Centre also mostly consists of people who belong to the University or to the neighbouring universities. The University will have to recruit the best talent available in the country on an all-India basis for teaching and other posts at this Centre to develop it as a Centre of excellence in the field of Medieval Indian History.

9.10 The Centre has done little to bring the results of its studies to the notice of the teachers and scholars of Medieval Indian History in other universities and colleges. The Centre thus has not done much to improve the teaching of medieval Indian History in other institutions. The department of History organised a workshop for teachers as early as in 1965 but thereafter nothing has been done in this field. The Centre has to discharge its responsibility in this direction and the Committee suggests that it should organise regularly workshops for college teachers every year for four to six weeks in which about 40 teachers from a particular region may participate. The Centre should aim to cover all the regions of India in these workshops in four or five years. If this is done, this would go a long way in improving the teaching of Medieval Indian History in the country. The centre should function as a catalytic element in the sphere of teaching and research in History particularly in Medieval Indian History.

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9.11 The Committee examined the proposals of the Centre for development and recommends that the Commission may provide assistance as per details given below to the Centre over and above the assistance already provided to it.

- (a) Posts of one Professor, three Readers and two Lecturers. The post of Professor may be either in general medieval history or history of 18th century, while the posts of Readers should be in (i) Central Asian History; (ii) Economic History and (iii) Regional History like Rajasthan/Deccan. One of the Lecturer's post should be in Medieval Archaeology and the other in any field of general Medieval History.
- (b) Two research associate as per UGC rules for undertaking various studies which the Centre proposes to undertake.
- (c) Two technical assistants (one of whom may be draftsman and the other aracheological assistant) for developing medieval archaeology.
- (d) Suitable assistance for employing part-time teachers for undertaking courses in languages as initial step to develop necessary linguistic skills. Full-time teachers may be appointed in due course.
- (e) Annual grant of Rs.15,000/- for exploration and excavation work exclusively for medt archaeology.
- (f) A grant of Rs.30,000/- p.a. for organising all-India workshops every year for University and College teachers in Medieval Indian History from all over the country. Particular emphasis may be given to one region in one year but there should also be participants from other regions.
- (g) A grant of Rs.9,000/- p.a. for seminars, travel and visiting fellowships and above Rs.21,000/- p.a. already made available for this purpose.
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- (h) A grant of Rs.10,000/- p.a. for books and journals over and above Rs.10,000/- already provided for this purpose.
- (i) A grant of Rs.15,000/- p.a. for publication over and above Rs.5,000/- p.a. to enable the Centre to undertake publication of monographs, texts and atlases.
- (j) A grant of Rs.5,000/- for contingencies over and above Rs.5,000/- already provided for the purpose.

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- (k) A non-recurring grant of Rs.30,000/- for equipment including, a scanner and cartographic equipments and Rs.15,000/- for essential books and journals over and above Rs.15,000/- for books and Rs.5,000/- for equipment already sanctioned by the Commission as basic grant during the Fifth Plan period.

10. Financial Implications: The financial implications of the recommendations made by the Committee are indicated below. The figures are in lakhs of rupees.

(a) Recurring:

(i) Staff	Rs. 1.60
(ii) Excavation Work	Rs. 0.15
(iii) Workshops:	Rs. 0.30
(iv) Seminars/Visiting Fellowships:	Rs. 0.09
(v) Books:	Rs. 0.10
(vi) Publication:	Rs. 0.15
(vii) Contingency:	Rs. 0.05
Total:-	<u>Rs. 2.44 per annum</u>

(b) Non-Recurring:

(i) Equipment:	Rs. 0.30
(ii) Books:	Rs. 0.15
Total:-	<u>Rs. 0.45</u>

11. The Committee is grateful to the Head of the Department of History, the Registrar of the University and other University authorities for providing all facilities to the members of the Committee at the time of their visit to the Centre.

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Centre of Advanced Study in History,
Aligarh Muslim University.Student EnrolmentM.A. Courses (History)

<u>I Semester Courses</u>	<u>Number of Students</u>		
	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>
HS 51 : Evolution of culture in India (Harappan Culture to the rise of Magadha)	8	14	5
HS 52 : Ancient Indian Palaeography and Numismatics.	-	-	4
HS 57 : History of Delhi Sultanate (1206-1290)	20	26	11
HS 60a : History of the Mughal Empire (1526-1556)	16	17	9
HS 61 : History of the Mughal Empire (1605-1958)	16	17	9
HS 63 : History of India (1707-1761)	8	3	-
HS 64 : History of India (1757-1805)	4	-	-
HS 65 : Social and Economic History of India (1200-1550)	6	9	9
HS 67 : Muslim Religious Thought and Movements in Medieval India (XIII to XVI Century).	12	12	11
HS 69 : Development of Architecture in India (XIII to XVII Century).	10	13	4
HS 71 : Indo-Persian Historiography (a) general.	1	2	2
HS 76 : Early Islamic Political and Administrative Institutions.	13	10	6
HS 79 : History of Persia under the Safavids.	5	2	2
HS 80 : History of the Ottoman Empire, till Salim III.	6	2	-
HS 82 : The French Revolution.	30	24	12

(19)

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HS 84	:	The Unification of Germany.	5	1	3
HS 87	:	History of England (1760-1837)	27	31	13
HS 91	:	Economic History of Western Europe (from the Industrial Revolution to the middle of the XXth Century).	5	1	2
HS 93	:	The age of Mauryas	1	-	4
HS 94	:	History of India from 200 to 300 A.D.	-	-	4
HS 97	:	History of India (1805-1858)	-	-	3
HS 98	:	British Administration from Cornwallis to Dalhousie.	3	2	4
HS 103	:	History of Indian National Movement (1958-1919)	10	6	3
HS 107	:	History of Europe with special reference to National and Liberal Movements (1815-1948)	4	1	1
HS 110	:	Constitutional History of India (1779-1919).	3	6	-
HS 55	:	Development of Art & Architecture in Ancient India.	9	10	
HS 58	:	History of the Delhi Sultanate (1290-1399)	17	17	
HS 60b	:	History of the Mughal Empire (1556-1605)	18	17	
HS 62	:	History of the Mughal Empire (1658-1707)	17	17	
HS 64	:	History of India (1757-1805)	-	3	
HS 66	:	Social and Economic History of India (1550-1700)	6	14	
HS 68	:	Non-Muslim Religious Thought and Movements in Medieval India.	12	14	
HS 70	:	Development of Painting in India (XVI-XVII Cen.)	8	12	
HS 72	:	Indo-Persian Historiography (b) detailed study (to be prescribed).	2	3	

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HS 77	: Social and Economic History of the Umayyid and the Abbasid Empires.	10	8
HS 78	: History of the Minor Dynasties during the Abbasid period.	5	2
HS 81	: History of Central Asia (XVIth and XVIIth Cen.)	5	2
HS 83	: Europe in the Napolenic Age	23	20
HS 85	: The German Empire (1870-1890)	5	1
HS 86	: History of Russia (1900-1924)	8	1
HS 88	: England in the Victorian Era	25	21
HS 89	: Diplomatic History of Europe (1890-1914)	4	1
HS 97	: History of India (1805-1858).	4	-
HS 99	: British Administration from 1861 to 1891	3	2
HS 101	: Economic History of India during the first half of the nineteenth century.	6	3
HS 104	: History of Indian National Movement (1919-1947)	7	5
HS 111	: Constitutional History of India (1919-1947)	3	5

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CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI

(21)

Meeting:

Dated : 22nd March, 1976.

Item No. 8 : To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th plan development proposals of the Centre of Advanced Study in Economics, University of Bombay.

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The department of Economics of the Bombay University was recognised by the University Grants Commission in 1963 as a Centre of Advanced Study in Economics particularly for studies in Public Finance and Industrial Economics. The work done at the above Centre during the past 10 years was assessed by an Assessment Committee in March, 1974. The report of the Assessment Committee was considered by the CAS. Standing Advisory Committee, which recommended that the Centre of Advanced Study in Economics, University of Bombay may continue to receive assistance from the Commission during the 5th plan period as their work was found excellent by the Standing Advisory Committee for CAS. The recommendations of the Standing Advisory Committee were considered by the Commission at its meeting held on 8th July, 1974 and it was decided that the existing level of recurring expenditure other than scholarships, fellowships in the case of Centres of Advanced Study which had completed 10 years be treated as committed expenditure with effect from 1st April, 1974 and taken over by the University/State Government concerned. The Commission further decided that the Centres whose work has been rated as excellent or good may be provided continued assistance under the CAS scheme during the 5th plan period to enable them to strengthen their teaching and research programmes and the Assessment Committee which evaluated the work of these centres may be requested to consider their requirements for the 5th plan period and make suitable recommendations.

The financial implications of the development proposals of the Centre of Advanced Study in Economics, University of Bombay for the 5th plan period are indicated below:-

<u>Recurring:</u>	<u>Estimated expenditure</u>
Academic Staff	Rs. 10,84,000/-
Scholarships and fellowships	Rs. 13,64,000/-
Administrative Staff	Rs. 2,25,000/-
Books & Journals, Publications, travels, seminars, statistical assistants, and contingencies.	Rs. 2,75,000/-
	<hr/>
	Rs. 29,48,000/-

...../-

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Non-Recurring

Buildings (Hostel-cum-apartment)	Rs. 5,00,000/-
Equipment & Furniture	Rs. 50,000/-
Books & Journals	Rs. 75,000/-
	<hr/>
	Rs. 6,25,000/-
	<hr/>
Grand Total (R+N+R) =	Rs. 35,73,000/-

The meeting of the Assessment Committee which had earlier evaluated the working of CAS in Economics, University of Bombay was held in the office of the UGC on the 24th July, 1975 to examine the 5th plan development proposals of the CAS in Economics, Bombay University. A copy of the report of the Committee is attached (Annexure).

The Committee examined the 5th Plan development proposals of the CAS in Economics, University of Bombay, and recommended as under:-

- i) 1 Research Associate in the Lecturer's grade up to the end of the V Plan period.
- ii) 1 documentation officer with specialized training for the job in the grades prescribed by the University on condition that the post is attached to the library for the department of Economics and not to the department.
- iii) Expenditure on Visiting Fellows at the rate of Rs. 15,000 per annum.
- iv) Scholarships and Fellowships:
 - (a) National Scholarships - 4 every year tenable for two years (as in the 4th plan).
 - (b) Jr. Research Fellowships - 4 every year tenable for 3 years (as in the 4th plan).
 - (c) Teacher Training Fellowships - 3 every year tenable for 2 years.
 - (d) (i) Two posts of Sr. Research Fellowships.
(ii) 1 post of Research Assistant (including Statistical assistance).

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v) Other items:

- (a) Books and Journals Rs. 50,000 for the entire plan period.
- (b) Publication Rs. 10,000 per annum
- (c) Travels Rs. 5,000 per annum
- (d) Seminars Rs. 7,500 per annum
- (e) Contingencies Rs. 5,000 per annum.

It was assumed that except for scholarships/fellowships the University and the State Government would continue the level of expenditure on various items available to the department from the UGC during the 4th plan. Support indicated above is, therefore, to supplement what the university/State Government are committed to spend for the maintenance of the department.

The recommendations of the Assessment Committee were placed before the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on December 20, 1975. The Committee noted that the Assessment Committee had not recommended any additional teacher at any level for the Centre. It was agreed that Professor Chakravarti would discuss this with Professor A.K. Das Gupta member of the Assessment Committee and Professor D.T. Lakdawala of the Bombay University. The Committee accepted the other recommendations of the Assessment Committee as listed above.

If the above recommendations of the Standing Advisory Committee for Centres of Advanced Study in the Humanities and Social Sciences are accepted, the Commission's assistance will be available for the above Centre for the period ending 1980-81, provided the University/State Government takes over the recurring expenditure as committed expenditure with effect from 1.4.1981.

The financial implications involved on the recommendations of the CAS Standing Advisory Committee with regard to the above centre for the period ending 1980-81 are worked out to be as under:-

<u>Recurring</u>	<u>Estimated expenditure</u>
1. Research Associate -1	Rs. 69,000/-
2. Documentation Officer-1	Rs. 42,000/-
3. Visiting Fellows	Rs. 75,000/-
4. National Scholarships- 4 every year tenable for 2 years	Rs. 70,200/-
5. Jr. Research Fellowships- 4 every year tenable for 3 years.	Rs. 3,76,500/-
6. Teacher Training Fellowships- 3 every year tenable for 2 years	Rs. 3,00,000 (Approx.)
7. Sr. Research Fellows- 2.	92,000/-

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8. Research Assistant- 1 (including Statistical assistance)	Rs. 36,000/-
9. Publication	Rs. 50,000/-
10. Travels	Rs. 25,000/-
11. Seminars	Rs. 37,500/-
12. Contingencies	Rs. 25,000/-
13. Books & Journals	Rs. 50,000/-
Total:-	<u>Rs. 12,48,500/-</u>

In this connection it may be mentioned that the Commission on the recommendations of the Visiting Committee set up to assess the normal development schemes of the Bombay University during the 5th five year plan period, has agreed to provide the following assistance for its department of economics, during the 5th plan period:

1. Professors - 3 (two in priority I and one in priority II)
2. Equipment Rs. 33,000/- (priority I)
Rs. 17,000/- (priority II)
3. Books Rs. 1,25,000 (priority I)
Rs. 63,000 (priority II)

The matter is placed before the Commission for consideration

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MINUTES OF THE MEETING OF THE ASSESSMENT
COMMITTEE WHICH HAD EARLIER EVALUATED THE
WORKING OF THE CENTRE OF ADVANCED STUDY IN
ECONOMICS, UNIVERSITY OF BOMBAY HELD IN THE
OFFICE OF THE UNIVERSITY GRANTS COMMISSION
ON THE 24TH JULY, 1975.

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The meeting of the Assessment Committee which had earlier evaluated the working of the Centre of Advanced Study in Economics, University of Bombay was held in the office of the University Grants Commission on the 24th July, 1975 to examine the V Plan Development proposals of the Centre of Advanced Study in Economics, University of Bombay. The following attended the meeting:-

1. Prof. A.K. Das Gupta,
New Delhi.
2. Prof. Ashok Guha,
School of International Studies,
Jawaharlal Nehru University,
New Mehrauli Road,
New Delhi.
3. Dr. J.N. Kaul,
Joint Secretary,
University Grants Commission,
New Delhi.
4. Shri C.M. Ramachandran,
Assistant Secretary,
University Grants Commission,
New Delhi.

The Committee examined the V Plan Development Proposals of the Centre of Advanced Study in Economics, University of Bombay and recommended as under:

- i) 1 Research Associate in the Lecturer's Grade up to the end of the V Plan period.
- ii) 1 Documentation Officer with specialised training for the job in the grade prescribed by the University on condition that the post is attached to the Library for the Department of Economics and not to the Department.
- iii) Expenditure on Visiting Fellows at the rate of Rs. 15,000/- per annum.
- iv) Scholarships and Fellowships.
 - a) National Scholarships - 4, every year, terable for 2 years (as in the Fourth Plan)

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- (b) Jr. Research Fellowships - 4 every year, tenable for 3 years (as in the Fourth Plan)
- (c) Teacher Training Fellowships - 3 every year tenable for 2 years.
- (d) (i) 2 posts of Sr. Research Fellowships.
(ii) 1 post of Research Assistant (including Statistical Assistance)
- v) Other Items:
- | | |
|------------------------|--|
| (a) Books and Journals | - Rs. 50,000/- for the entire plan period. |
| (b) Publication | - Rs. 10,000/- p.a. |
| (c) Travels | - Rs. 5,000/- p.a. |
| (d) Seminars | - Rs. 7,500/- p.a. |
| (e) Contingencies | - Rs. 5,000/- p.a. |

It was assumed that except for scholarships/fellowships the University and the State Government would continue the level of expenditure on various items available to the Department from the UGC during the IV Plan. Support indicated above is, therefore, to supplement what the University/State Govt. are committed to spend for the maintenance of the Department.

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UNIVERSITY GRANTS COMMISSION

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Meeting :
Dated : 22nd March, 1976

Item No. 9 : To consider the recommendations made by the Advisory Committees for the Centres of Advanced Study in Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th Plan development proposals of the Centre of Advanced Study in Economics, University of Delhi.

...

The Department of Economics of the Delhi University was recognised by the University Grants Commission in 1963-64 as a Centre of Advanced Study in Economics with emphasis on Economic History and Economic Development. The work done at the above Centre during the past 10 years was last assessed by an Expert Committee in March, 1974. The report of the Expert Committee was considered by the Centre of Advanced Study Standing Advisory Committee which recommended that the Centre of Advanced Study in Economics, University of Delhi may continue to receive assistance from the Commission during the 5th Plan period as their work was found excellent by the Standing Committee. The recommendations of the Standing Advisory Committee were considered by the Commission at its meeting held on 8th July, 1974 and it was decided that the existing level of recurring expenditure other than scholarships, fellowships in the case of Centres of Advanced Study which had completed 10 years be treated as committed expenditure with effect from 1st April, 1974 and taken over by the University/State Governments concerned. The Commission further decided that the Centres whose work had been rated as excellent or good may be provided continued assistance under the CAS scheme during the 5th Plan period to enable them to strengthen their teaching and research programmes and the Assessment Committee which evaluated the work of these centres may be requested to consider their requirements for the 5th plan period and make suitable recommendations.

The financial implications of the development proposals of the Centre of Advanced Study in Economics, University of Delhi for the 5th Plan period are indicated below:

Recurring:

Estimated expenditure
for a period of 5 years

Academic Staff:

Professors	- 4	X
Readers	- 6	X
Research	- 4	X
Associates		X
Visiting Fellows	2	X

Rs 17,60,000

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Scholarships:

4 in M.A. Previous and 4 in M.A. Final each of the value of Rs 150/- p.m.	Rs 72,000
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Administrative Staff	Rs 5,44,400
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Library Books	Rs 50,000
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Total:	<u>Rs 24,26,400</u>
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Non-Recurring:

Equipment & Furniture	Rs 1,70,000
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Library Building	Rs 85,000
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Air-Conditioner for Library	Rs 40,000
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Furniture for library	<u>Rs 25,000</u>
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Total:	<u>Rs 3,20,000</u>
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2. CAS in Economics, University of Delhi.

The assessment committee which had earlier evaluated the working of the CAS in Economics, University of Delhi met in the office of the University Grants Commission on the 26th July, 1975 to examine their V Plan Development proposals. A copy of the report of the Committee is enclosed (Annexure-I). The following are the main recommendations of the Committee:

1. The Committee agreed with the suggestions of the Centre that academic posts should be delinked from specific areas as areas of specialisation are often not really air tight compartments but tend to overlap to some extent. It was also recognised that special interest of a department recognised as a Centre of Advanced Study may change because of circumstances over which it has no control (e.g. change in personnel) or because the department itself wishes to accord a higher priority to a new special area of national importance. In view of this, the Committee felt that additional senior posts now created may not be tied to any particular specialisation and the centre itself should see that

necessary breadth and depth are maintained in its teaching and research.

2. The Committee agreed that the post of Professor of Transport of Economics may be put on a regular basis under the maintenance grant of the University after the end of the V Plan.
3. The Committee recommended additional 3 posts of professors and 3 posts of readers for the Centre during the V Plan. The posts of professors are recommended on the condition that they should not be filled in merely because vacancies exist. The Centre should identify the main thrust of its teaching and research for the next 5 years or so and then locate the persons who will meet its requirements. The Centre should negotiate with the UGC the release of each of the three posts of professors as and when the Centre has identified the proper person and ascertained his acceptance.
4. Research Associates and National Scholarships may continue as in the 4th Plan.
5. A sum of Rs 75,000/- may be placed at the disposal of the Centre for visiting fellowships for the entire V Plan period. This would give the Centre one visiting fellow at the maximum of the grade of a professor for 10 months in a year for 3 years.
6. The requirements of the Centre for Administrative Staff, equipments and furniture may be considered as in the case of other centres of advanced study.
7. A grant of Rs 2 lakh may be provided for the entire plan period for books and a sum of Rs 1,00,000 for the library building of the Centre.

The recommendations of the Assessment Committee were placed before the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on December 20, 1975.

The Committee discussed the suggestion made by the Assessment Committee that:

"Academic posts should be delinked from specific areas as areas of specialisation are often not really air-tight compartments but tend to overlap to some extent. It was also recognised that special interest of a department recognised as a Centre of Advanced Study may change because of circumstances over which it has no

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control (e.g. change in personnel) or because the department itself wishes to accord a higher priority to a new special area of national importance. In view of this, the Committee felt that additional senior posts now created may not be tied to any particular specialisation and the Centre itself should see that necessary breadth and depth are maintained in its teaching and research."

The Committee thought that while there is merit in this suggestion, it might ultimately work against the concept of excellence in studies and research. One of the basic considerations for setting up Centres of Advanced Study was to cultivate peaks of excellence in the departments. In a situation where specialisation would change from time to time, there is a danger that concentration of interests and particular areas of research get more and more diluted. While it is necessary that the standard of the whole department should be raised, it is nevertheless important that the standard of the specialised areas which have given strength to the Department should not suffer on that account.

The Committee desired that the Economics Department of the Delhi University may implement first the recommendations made by the V Plan Visiting Committee of the University and indicate the thrusts of studies and research which the department wishes to develop during the next 5 years or so. The Commission would, on receipt of this information, consider the possibility of strengthening the staff of the Centre.

The attention of the Committee was drawn to the fact that the Rattan Tata Library which is serving the two Centres of Advanced Study in the University, namely, Economics and Sociology, is handicapped because of inadequate servicing facilities particularly at the senior level. A letter from the Head of the Department of Economics, Delhi University, regarding additional senior staff for this library was considered in this connection. The Committee recognised the importance and potential of this library and recommended that an expert committee consisting of one or two senior librarians may be appointed to assess the professional staff needs of the library and suitable assistance provided to the university out of the plan funds for this purpose. The recommendations of this Committee may be processed in the office of the Commission.

The Committee accepted the other recommendations made by the Assessment Committee which are given below:

- (1) The Committee agreed that the post of Professor of Transport of Economics may be put on a regular basis under the maintenance grant of the University after the end of the V Plan.

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- (2) Research associates and National Scholarships may continue as in the IV Plan.
- (3) A sum of Rs 75,000 may be placed at the disposal of the Centre for visiting fellowships for the entire V Plan period. This would give the centre one visiting fellow at the maximum of the grade of a professor for 10 months in a year for 3 years.
- (4) The requirements of the Centre for Administrative staff, equipment and furniture may be considered as in the case of other centres of advanced study.
- (5) A grant of Rs 2 lakhs may be provided for the entire plan period for books and a sum of Rs 1,00,000/- for the library building of the Centre.

The Commission's assistance in accordance with the recommendations of the Assessment Committee and Standing Advisory Committee for Centre of Advanced Study in the Humanities and Social Sciences for the above Centre for the period ending 1980-81 is worked out to be as under:

<u>Recurring:</u>	<u>Estimated Expenditure</u>
a) Professor of Transport Economics	Rs 1,20,000
b) Research Associates & National Scholarships (as in the 4th Plan)	Rs 66,000
c) Visiting Fellows	Rs 75,000
Total:	Rs 2,61,000
<u>Non-Recurring:</u>	
a) Books	Rs 2,00,000
b) Library Building	Rs 1,00,000
Total:	Rs 3,00,000
Grand Total (R + NR) =	Rs 5,61,000

In this connection it may be mentioned that the Commission on the recommendations of the Visiting Committee set up to assess the normal development schemes of the Delhi University during the

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5th Plan period, has agreed to assist the department of Economics of the University for the following purposes during the 5th Plan period in the first phase:-

Books	Rs 30,000
Equipment	Rs 10,000

Staff:

2 Professors
(one each in Monetary
Economics and Public
Finance).

The matter is placed before the Commission for consideration.

MINUTES OF THE MEETING OF THE ASSESSMENT COMMITTEE OF THE CENTRE OF ADVANCED STUDY IN ECONOMICS, UNIVERSITY OF DELHI HELD IN THE OFFICE OF THE UNIVERSITY GRANTS COMMISSION ON THE 26TH JULY, 1975 TO EXAMINE ITS V PLAN DEVELOPMENT PROPOSALS.

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1. The meeting of the Assessment Committee which had earlier evaluated the working of the Centre of Advanced Study in Economics, University of Delhi was held in the office of the University Grants Commission on the 26th July, 1975 to examine their V Plan development proposals. The following attended the meeting:

1. Prof. A.K. Das Gupta
New Delhi.
2. Prof. Tapas Majumdar
Jawaharlal Nehru University
New Delhi.
3. Dr. J.N. Kaul
Joint Secretary, UGC
New Delhi
4. Shri C.M. Ramachandran
Assistant Secretary
UGC, New Delhi.

2. The Committee examined the V Plan development proposals of the Centre of Advanced Study in Economics, University of Delhi.

3. The committee agreed with the suggestion of the Centre that academic posts should be delinked from specific areas as areas of specialisation are often not really air tight compartments but tend to develop to some extent. It was also recognised that special interest of a department recognised as a Centre of Advanced Study may change because of circumstances over which it has no control (e.g. change in personnel) or because the department itself wishes to accord a higher priority to a new special area of national importance. In view of this, the Committee felt that additional senior posts now created may not be tied to any particular specialisation and the centre itself should see that necessary breadth and depth are maintained in its teaching and research.

4. It was noted that the post of Professor of Transport Economics sanctioned by the Ministry of Railways initially for the IV Plan period for the Centre has been extended for another period of 5 years (upto the end of the V Plan period). The Committee agreed that the post of Professor of Transport economics may be put on a regular basis under the maintenance grant of the university after the end of the V Plan.

The Centre had proposed four posts of professors and 6 posts of readers during the V Plan. Of these, one post of professor in public economics and one post of reader has already been approved

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by the university under its first priority schemes of the V Plan development proposals. Keeping this in view, the Committee recommends additional three posts of professors and three posts of readers for the Centre of Advanced Study in economics during the V Plan. There is, however, an important condition attached to these three additional posts of professors, namely, they should not be filled in merely because vacancies exist. The Centre should identify the main thrust of its teaching and research for the next five years or so and then locate the persons who will meet its requirements. The Centre should negotiate with the UGC the release of each of the three posts of professors as and when the Centre has identified the proper person and ascertained his acceptance.

5. The Committee recommends that the Research Associates and National Scholarships may continue as in the IV Plan. No additions seem to be necessary at this stage.

6. The Centre has made a provision for 2 visiting fellowships in its V Plan proposals. The Committee recommends that a sum of Rs 75,000/- may be placed at the disposal of the Centre for the entire Plan period. This would give the Centre one visiting fellow at the maximum of the grade of a professor for 10 months in a year for three years.

7. With regard to the requirements of the Centre for administrative staff, equipments and furniture the Committee agreed that support for these may be considered as in the case of other Centres of Advanced Study.

8. The Committee recommended a grant of Rs 2 lakhs for the entire Plan period for books and a sum of Rs 1 lakh for the library building of the Centre.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated : 22nd March, 1976.

Item No. 10 To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the Vth plan development proposals of the Centre of Advanced Study in Economics, University of Poona.

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The University department of Economics of the Poona University located at the Gokhale Institute of Politics & Economics was recognised by the University Grants Commission in September, 1963 as a Centre of Advanced Study in Economics particularly for studies in Agricultural Economics. The work done at the above Centre during the past 10 years was assessed by an Expert Committee in March, 1974. The report of the Expert Committee was considered by the CAS Standing Advisory Committee which recommended that the Centre of Advanced Study in Economics, University of Poona may continue to receive assistance from the Commission during the 5th plan period as their work was found good by the Standing Committee.

The recommendations of the Standing Committee were considered by the Commission at its meeting held on 8th July, 1974 and it was decided that the existing level of recurring expenditure other than scholarships, fellowships in the case of Centres of Advanced Study which had completed 10 years be treated as committed expenditure with effect from 1st April, 1974 and taken over by the University/State Government concerned. The Commission further decided that the Centres whose work had been rated as excellent or good may be provided continued assistance under the CAS scheme during the 5th plan period to enable them to strengthen their teaching and research programme and the Assessment Committee which evaluated the work of these centres may be requested to consider their requirements for the 5th plan period and make suitable recommendations.

The financial implication of the development proposals of the Centre of Advanced Study in Economics, University of Poona for the 5th Plan period are indicated below:-

Non-Recurring:

- | | |
|--|------------------|
| 1. Library Extension | - Rs. 3,00,000/- |
| 2. Library stacks, furniture & equipment | - Rs. 1,50,000/- |
| 3. Library books & periodicals | - Rs. 2,00,000/- |

.....2/-

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4. Teaching block	- Rs. 10,00,000/-
5. Furniture and equipment for teaching block	- Rs. 2,00,000/-
6. Student Hostel	- Rs. 5,00,000/-
7. Teachers hostel	- Rs. 4,50,000/-
Total:	- Rs. 28,00,000/-

Recurring (for 5 years)

1. Library	- Rs. 3,00,000/-
2. Teaching Staff	- Rs. 5,00,000/-
3. Technical and administrative staff and other expenditure	- Rs. 2,00,000/-
	- Rs. 10,00,000/-

Grand Total: Rs. 38,00,000/-

The Committee appointed earlier by the UGC to assess the progress of the centre of advanced study in Economics at Gokhale Institute of Economics, Poona University to examine the 5th plan proposal of the Centre met in the UGC office on July 30, 1975. The copy of the report of the Committee is attached (Annexure -I). The report of the Committee is circulated to the members of the assessment committee for their comments. A copy of the comments of Professor A.K. Das Gupta on the draft report of the assessment committee is attached (Annexure II). A copy of the comments of Dr. K.N. Raj on this report is also attached (Annexure III). A copy of Dr. Raj's letter of 19th September, 1975 addressed to Dr. J.N. Kaul giving the extracts from Professor Dandekar's letter regarding the efforts made by the Gokhale Institute of Politics and Economics to acquire the status of an autonomous college within the university is also attached (Annexure IV).

The Committee agreed that the University Grants Commission may explore with the Poona University the possibility of the Gokhale Institute of Economics becoming a autonomous institution of the University. If this materialises the Institute should be helped to develop a strong teaching centre both for undergraduate and postgraduate courses and whatever assistance is needed for this purpose should be provided. This is necessary if the human and physical resources available at present in the Institute are to be utilised to the maximum advantage. The Committee desired that the UGC may consider favourably the proposal of the Institute for teaching block (Rs. 5 lakhs), Furniture and equipment for teaching block (Rs. 1 lakh), Student Hostel (4 lakhs), Furniture and Equipment (Rs. 1 lakh) and Teachers Hostel (the permissible ceiling).

(27)

The Committee also accepted the proposal of the Institute to take up the following issues for intensive study and research:-

- a. Indian Economics History
- b. Development of the Indian Economics since Independence

For each of these issues, the Commission may provide one reader, one lecturer and one research associate as proposed by the Institute. The Institute may have the option of appointing the teacher in a Professor scale if an expert of a high level is available and if the expenditure is limited within the budget recommended by the Committee.

The Committee recommended a grant of Rs. 1 lakh for the extension of the library building and Rs. 20,000 for its furniture as a priority measure. A non-recurring grant of Rs. 1,50,000 may also be provided to the Institute for books and journals for the raise of the plan period.

The Committee emphasised that the excellent library facilities already available at the Institute can not be utilised properly unless they are serviced by a adequate number of professionally trained people. The reasonable requirements of the Institute in this regard may be favourably considered by the Commission.

The Committee desired that information about the existing Hostel facilities in the Institute may be obtained from the Institute and necessary assistance provided to enable the Institute to create additional hostel facilities for research scholars and visiting teachers.

The recommendations of the Assessment Committee were placed before the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on December 20, 1975.

The Committee noted the recommendations of Prof. A.K. Dasgupta and Prof. K.N. Raj regarding the autonomy for the Gokhale Institute of Politics & Economics, Poona University, which is a Centre of Advanced Study in Economics. It was agreed that the question of autonomy for this Institute may be referred to the Commission for its consideration.

The Committee noted that the library of the Gokhale Institute of Economics had rich holdings in the special fields developed by the Institute and could be developed into an excellent service institution if it were properly manned. The Committee desired that a small working group of one or two librarians may examine the present position of this library and suggest measures for its improvement. It was noted that the Centre would maintain the library staff sanctioned by the UGC during the III and IV Plans.

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The Committee also endorsed the following recommendations of the Assessment Committee with regard to the Centre:

- (a) One Reader, one Lecturer and one Research Associate each for (a) Indian Economic History and (b) Development of Indian Economics since Independence.
- (b) Rs. 1 lakh for extension of the library building
- (c) Rs. 20,000/- for library furniture
- (d) Rs. 1,50,000/- for books and journals.

If the above recommendations of the Advisory Committee are accepted, the Commission's assistance will be available for the period ending 1980-81 provided the University/State Government takes over the recurring expenditure as committed expenditure with effect from 1st April, 1981.

The financial implications involved on the recommendations of the Assessment Committee and Standing Advisory Committee with regard to the above centre are summarised below:-

<u>Recurring (upto March, 1981)</u>	<u>Estimated Expenditure</u>
1. Reader - 2	Rs. 1,86,000
2. Lecturer - 2	Rs. 1,38,000
3. Research Associates - 2	Rs. 1,38,000
Total:	<u>Rs. 4,62,000</u>
 <u>Non-Recurring:</u>	
1. Extension of Library building	Rs. 1,00,000/-
2. Library Furniture	Rs. 20,000/-
3. Books & Journals	Rs. 1,50,000/-
Total	<u>Rs. 2,70,000/-</u>
Grand Total (R+N.R.)=	Rs. 7,32,000/-

In this connection it may be mentioned that the Visiting Committee set up by the Commission to assess the normal development schemes of the Poorn University during the Fifth Five Year Plan Period has not made any recommendations for its Deptt. of Economics during the Fifth plan period.

The recommendations of the Advisory Committee regarding the question of autonomy for the Gokhale Institute of Politics & Economics, Poorn and also for setting up of a small working group to examine the present position of the library of the Institute and suggest measures for its improvement are also for Commission's consideration.

The matter is placed before the Commission for consideration.

AS(HR)/JS(I)
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REPORT OF THE ASSESSMENT COMMITTEE ON THE V PLAN DEVELOPMENT PROPOSALS OF THE CENTRE OF ADVANCED STUDY IN ECONOMICS, UNIVERSITY OF POONA.

....

The Committee appointed earlier by the University Grants Commission to assess the progress of the Centre of Advanced Study in Economics at Gokhale Institute of Economics, Poona University was requested to examine the V Plan development proposals of the Centre. The Committee met in the UGC Office on July 30, 1975. The following were present:

1. Professor A.K. Das Gupta.
2. Professor K.N. Raj.
3. Dr. J.N. Kaul.
4. Shri C.M. Ramchandran.

The Committee had a quick look at the recommendations made by it in March 1974 in regard to its assessment of the C.S in Economics of Poona University. Professor K.N. Raj reiterated his unhappiness about his signature being appended to the report when he had not in fact conveyed his assent. He said he had some fundamental differences with the report as it was and would like to emphasize that the Gokhale Institute of Economics could make a more effective contribution to teaching and research in its special field if it was helped to become an autonomous institution within the University of Poona. He agreed to send a note on this and this would be appended to the report of the present Committee.

It was agreed that the University Grants Commission may explore with the Poona University the possibility of the Gokhale Institute of Economics becoming an autonomous institution of the University. If this materialises the Institute should be helped to develop a strong teaching centre both for undergraduate and post-graduate courses and whatever assistance is needed for this purpose should be provided. This is necessary if the human and physical resources available at present in the Institute are to be utilised to the maximum advantage. The UGC may consider favourably the proposal of the Institute for a teaching block (Rs. 5 lakhs) furniture and equipment for the teaching block (Rs. 1 lakh), Students' hostel (Rs. 4 lakhs), furniture and equipment (Rs. 1 lakh) and teachers' hostel (the permissible ceiling).

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The Committee accepted the proposal of the Institute to take up the following areas for intensive study and research:

- (a) Indian Economics History; and
- (b) Development of the Indian Economics since Independence.

For each of these areas, the Commission may provide one Reader, one Lecturer and one Research Associate as proposed by the Institute. The Institute may have the option of appointing a teacher in a professor's scale if an expert of a higher level is available and if the expenditure is limited within the budget recommended by the Committee.

The Committee recommended a grant of Rs. 1 lakh for the extension of the library building and Rs. 20,000/- for its furniture as a priority measure. A non-recurring grant of Rs. 1,50,000 may also be provided to the Institute for books and journals for the rest of the Plan period.

The Institute has proposed a recurring grant of Rs. 60,000 per year for the professional and administrative staff of the library. It was, however, not clear whether the Institute had taken into account the fact that the library posts created by the Institute during the V plan and financed by the UGC funds would have to be maintained by the University and the State Government after the UGC assistance ceased towards the end of the IV Plan. The Committee desired that the UGC may obtain necessary details from the Institute and process this proposal further. The Committee emphasised that the excellent library facilities already available at the Institute cannot be utilised properly unless they are serviced by an adequate number of professionally trained people. The reasonable requirements of the Institute in this regard may be favourably considered by the Commission.

The Committee was inclined to consider favourably the proposal of the Institute for extending its hostel facilities for research scholars visiting the Institute from other Universities and colleges. The Committee desired that information about the existing facilities may be obtained from the Institute and necessary assistance provided to enable the Institute to create additional hostel facilities for research scholars and visiting teachers.

.....

COMMENTS OF PROFESSOR A.K. D.S GUPTA ON THE REPORT OF THE ASSESSMENT COMMITTEE ON THE V PLAN DEVELOPMENT PROPOSALS OF CENTRE OF ADVANCED STUDY IN ECONOMICS, UNIVERSITY OF POONA.

....

My comments will be confined to the paragraph in the Draft Report which relates to the University Grants Commission exploring the possibility of the Gokhale Institute of Economics becoming an autonomous institution. For the rest, the recommendations in the Draft Report are in consonance with the spirit of our earlier report based on a visit to the Institute, which I had signed.

I cannot of course object to the UGC exploring the question of recognising the Institute as an autonomous institution. But I think I can, and should, give my views on the matter, as a member of the Assessment Committee, before the UGC takes it up with the Poona University.

The Gokhale Institute has never made its mark as a centre of teaching. It has been a research institution, a pioneer indeed in field research. But its contribution to teaching is insignificant. When our team visited the university, we found that there were only about forty students on the roll in two post-graduate classes taken together. We were also told that the Institute did not attract the best students of the area. I am afraid the reason for this failure to attract good students for post-graduate training does not lie in the lack of autonomy on the part of the Institute, - for this applies to other colleges as well; it lies, I suspect, in the fact that the Institute does not have an academic tradition. The kind of research in which the institute has specialised has little to do with academic teaching in post-graduate classes, not to speak of under-graduate classes. It is not directed either to the exploration of theories or to the analysis of institutions such as Money, Banking or Trade, - just those branches of learning in which students in universities are supposed to be interested. Field studies are useful and important, and there are best left to research institutions like the Gokhale Institute. The pattern of research that the universities are expected to do, as a prop to teaching, is, however, entirely different. If the Gokhale Institute is encouraged by the University Grants Commission to extend its teaching responsibilities as an autonomous institution, then I fear that both teaching and research will suffer - the level of teaching will be mediocre, and research, such as the Institute has been doing will have a setback.

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Annexure III to item No. 10

Report of the Assessment Committee on the Fifth Plan Development Proposals of the Centre of Advanced Study in Economics, University of Poona (drafted on the basis of the minutes of the meeting of the Committee held on July 30, 1975 at the office of the University Grants Commission: Some Comments by Professor K.N. Raj.

.....

1. No report or recommendations were submitted by the Committee as such in March, 1974. What was circulated as its report in April, 1974, to the Committee on the Centres of Advanced Study, was a draft to which my name had been typed in as a signatory without receiving my assent to the contents of the draft. Further, though the Director of the Centre of Advanced Study, University of Poona, Professor V.M. Dandekar, had promised to send a fresh note on the development proposals for the Fifth Plan Period on the basis of the discussions the Committee had at Poona on March 23, 1974 and it had been agreed that the report of the Committee would be written in the light of it, a copy of this note (which reached the office of the Commission before the end of March) had not been sent to me along with the proposed draft of the report. Since this raises important questions of procedure and principle, and is not merely a question of my feeling unhappy about it, I wish to reiterate what I had stated in a letter to the then Chairman of the Commission, Dr. George Jacob, on July 6, 1974 that "it is wrong for the UGC to adopt procedures which in effect assume that members of Visiting Committees would not be interested in going into the issues in detail and would be content to sign reports prepared for them on the basis of information available to the office of the UGC." Dr. Jacob had then decided that an alternative draft I had prepared in May 1974 (after independently securing a copy of the note furnished to the UGC by Professor Dandekar) would be appended to the other one and circulated to the Committee on the Centres of Advanced Study. Until then meeting of the Committee held on July 30, 1975 there were therefore two draft reports, neither fully endorsed by all the members of the Committee. I would not have considered it necessary to point this out but for the report now drafted saying that the Committee "had a quick look at the recommendations made by it in March, 1974". Not only is it incorrect but the fact that there was no earlier report from the Committee makes it necessary to consider whether the latest report drafted covers all the relevant points adequately. In my view it does not.

2. A perusal of the draft report I had prepared in May, 1974 (and which I presume, was circulated in July, 1974 to the members of the Committee on the Centres of Advanced Study) will show that the basic issue was not just whether the Gokhale Institute of Economics and Politics should be helped to become "an autonomous institution within the University of Poona". The Institute has been in fact an autonomous institution within the University in all except certain matters. The issue was really whether the Institute should be given the opportunity to try out experiments in under-graduate and post-graduate teaching in Economics by having the additional freedom to formulate courses and methods of instruction and examination which the University of Poona would, for good reasons, find it difficult to adopt. Let me quote the relevant paragraphs from my earlier draft.

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"It should be pointed out that though the Gokhale Institute has been functioning as the Department of Economics of the University, there has been no centralized teaching of the subject at the M.A. level at Poona, unlike in Bombay and Delhi. Teaching continues to be done independently in different colleges as well as at a 'post-graduate centre' in the University. This post-graduate centre was located initially in the University Campus, and so the members of the staff of the Gokhale Institute had to go to the Campus for teaching M.A. students registered at the Centre. The arrangement was changed two years ago, and the University centre is now located within the institute; but it is still the case that the Institute teaches only a part of the total number of students registered for the M.A. Economics course in the University as a whole."

"For M.A. students registered in the Institute (in its role as the University's post-graduate centre) it has tried to improve standards of training in a variety of ways. Admissions are made more selectively; more emphasis has been given to mathematical methods and quantitative analysis and seminars and tutorials have been organised to supplement lectures. Nevertheless, it was the judgement of the Institute itself that what had been achieved thereby had not been good enough; and that one of the main reasons for it was that it was bound by the courses and syllabi and methods of evaluation considered appropriate by the University (which had also to take into account the limited resources available to and the other problems facing the various constituent colleges which registered students for the M.A. Economics degree). Another contributory factor in its view was that good students were not being attracted to Economics at the M.A. level, as the better ones made their choice in favour of other subjects at the under-graduate stage. These are problems which those familiar with university teaching in India at the M.A. level Economics would readily recognise. But they deserve fresh consideration when an institution such as the Gokhale Institute capable of offering training in Economics at an advance level highlights them in the light of the kind of experience it has had makes proposals designed to find solutions over a period of time."

"One major proposal of the Institute is that it should be given the status of an autonomous college in the University, so that it would be free to devise its own courses and methods of teaching and evaluation. The Vice-Chancellor of the Poona University, with whom the Committee discussed this matter, was of the view that there would be no objection to it from the University once the University Grants Commission fully endorsed the proposed system of recognition of autonomous colleges. The Committee is of the view that, if a system of autonomous colleges is to be experimented with, one cannot visualize a more appropriate beginning

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being made in Economics than with institutions such as the Gokhale Institute; for it has the resources and the right ideas for raising standards of training at the postgraduate level, and also attaches (unlike some other research institutions) enough importance to training at this level to want to take up this task. The Committee therefore strongly endorses the proposal."

"Once the Institute is recognised as an autonomous college, it would be possible for it to undertake also experimentation with undergraduate courses in Economics as, the Committee was told, it was interested in doing. This would of course change somewhat the character of the Institute, since teaching at the undergraduate and postgraduate level would form a larger part of its activities and it would become less of a pure research institution as it has been. It is for the Institute to give adequate thought to all the implications of such a change before making final decisions regarding these proposals. The Committee, on its part, has no doubt that if the Gokhale Institute is willing to experiment with fully integrated courses in Economics, starting at the undergraduate level and incorporating all the relevant advances in the subject, very useful contributions are likely to be made to the teaching of Economics in India. For this important academic reason, the Committee would commend any effort in these directions that the Gokhale Institute is prepared to make in the Fifth Plan period, and suggests that, after the Institute gives more thought to the matter and makes detailed proposals, the University Grants Commission should consider giving support to the extent needed. The Institute would however first expect the Commission to give support to the idea in principle before proceeding to work the details in consultation with the University of Poona."

"A related proposal of the Institute is that it would like to take up in a systematic way, in the Centre of Advanced Studies, the preparation of suitable text-books and other teaching material for both undergraduate and postgraduate courses in Economics. The urgency of this needs no stressing. Since competent economists in India have shown so far considerable disinclination to take up such work, and the Gokhale Institute is in an excellent position to organise it both with its own staff and by inviting scholars from elsewhere to come to the Institute for the purpose, the Committee not only supports the proposal but would suggest that very high priority be given to it. The Institute should however, be asked to prepare detailed proposals indicating the areas in which such work is to be undertaken and completed in the Fifth Plan period, since the Commission may wish to promote similar activity in some other centres as well without fear of duplication."

"In this connection, the Committee would like to point out that the Gokhale Institute has perhaps the best library in Economics and in the social sciences in general in the whole of India. The University Grants Commission, in its view, should therefore support proposals which would enable others elsewhere in the country to take advantage of this facility, apart from assisting the further development of the library itself."

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"Similarly, a special feature of the Institute, to which the Committee would like to draw pointed attention, is the fact that it has among its staff several persons (some well known, and some not-so-well-known) who have been doing devoted work in areas which have been thought to be not very fashionable but which have more relevance and use for this country than many areas of research to which considerable glamour happens to be attached. This is reflected also in the writings on the subject in Indian languages which the Institute has been promoting through its journals, *Vijnana*, and in other ways. The Institute is more strongly rooted in the soil, in more senses than one, and the Committee feels that this is a dimension which the Commission needs to give adequate recognition to."

"These are also among the reasons why the Committee has supported the idea of the institute experimenting with undergraduate and postgraduate teaching in Economics. If such teaching is to be really useful and make a wide impact in the country, it has to draw heavily on material drawn from the Indian environment, link up sophisticated concepts and methods of analysis with the problems thrown up at all levels in the Indian economy, and increasingly adopt Indian languages as the media of instruction."

The proposal of the Gokhale Institute to enlarge its sphere of activities, and take up teaching at the undergraduate and postgraduate level as an "autonomous college" within the Poona University, has to be viewed in this larger perspective of its capabilities and potentialities.

3. The note from Professor Dandekar went to the University Grants Commission on March 28, 1974, does state some of these considerations in fuller detail. The University Grants Commission would be doing an injustice to itself if these considerations are brushed aside, as is done in the earlier draft report it circulated to the Committee on Centres of Advanced Study in April, 1974, the more recent report, based on the meeting held on July 30, 1975, marks some improvement but it still appears to me half-hearted, showing very inadequate appreciation of the larger academic functions that established research institutions like the Gokhale Institute should be actively encouraged to take up in the wider interests of higher education in the country.
4. The office of the Commission has just sent me a copy of the comments on the latest draft report received from my colleague in the Committee, Professor A.K. Das Gupta. Since he had not expressed his difference of opinion in the course of the visit to the Centre in March 1974, and it was not clear to me even at the meeting held on July 30, 1975 what precisely was the reason for the

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differences in judgement between us, I have found this latest statement from him a very useful one expressing clearly his position. It is for the Committee on Centres of Advanced Study to take a view on the respective considerations the two of us have put forward, considerations which in both cases are of a wholly academic nature. In case my reactions to Professor Das Gupta's observations would be of help to the Committee in coming to a decision. I am giving them briefly in the following paragraph:

5. The basic point that Professor Das Gupta makes is that the Institute has been so far primarily a research institution, engaged mainly in field studies; that since it has not been engaged very much in teaching, and its contribution in this field has been so far insignificant, it does not have "an academic tradition"; the kind of research it has specialised in has little to do with academic teaching postgraduate classes, not to speak of undergraduate classes, since it has not been directed "either to the exploration of theories or to the analysis of institutions such as Money, Banking or Trade - just those branches of learning in which students in universities are supposed to be interested"; that "the pattern of research that universities are expected to do, as a prop to teaching is, however, entirely different"; and that if the Institute is encouraged to extend its teaching responsibilities "both teaching and research will suffer the level of teaching will be mediocre, and research as the Institute has been doing will have a setback."

The only comments I wish to make are the following:

- i. a tradition, good or bad, is in my view not something anyone should be forced to live with forever, particularly when there is dissatisfaction with it on the part of those directly concerned and they have some other cogent ideas as to what they might do;
- ii. the almost exclusive pre-occupation with "exploration of theories" (which in practice has been confined largely to theories on problems that have interested economists in the more advanced industrial countries), and with only "the analysis of institutions such as Money, Banking or Trade", has been, I think, the bane of the teaching of Economics in Indian universities, even in the most distinguished Departments of Economics;
- iii. institutions such as the Gokhale Institute which have dirtied their hands and brains with problems relating to land tenure systems, irrigation, livestock, social mobility, mass poverty, etc. are perhaps the ones that can be depended on to help correct the bizzare character of what now goes for advanced training in Economics in this country;

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- iv. the Gokhale Institute will admittedly not find it easy to carry out the task it is proposing to undertake, since not only is the task itself stupendous but the Institute has the problem that, though it has some very distinguished economists and economic historians, the team as a whole is not strong enough to cope with all that it has now on its hands;
- v. it is however only when challenging tasks are undertaken that more persons interested in this kind of work will be attracted to such institutions and thus help to make fuller use of the facilities built up in them over a long period; and lastly,
- vi. the cost and the risk involved is nothing at all compared to the numerous adventurous "academic" enterprises to which the University Grants Commission has been encouraged to give full support to.

H.N. Raj

Centre for Development Studies
Trivandrum.

September 10, 1975.

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ANNEXURE IV TO ITEM No. 10

Copy of letter dated September 19, 1975 from Professor K.N. Raj
Centre for Development Studies Prasantha Hill, Aakulam Road,
Ulloor, Trivandrum, addressed to Dr. J.N. Kaul, Joint Secretary,
University Grants Commission, New Delhi.

.....

I had written to you a letter last week about the report
of the Assessment Committee for the Centre for advanced Study
in Economics, University of Poona. By a coincidence I have just
received a letter from Professor Dandekar which has a reference
to the effort made by the Gokhale Institute since then to acquire
the status of an autonomous college within the University. The
relevant extract is given below:

" You will remember that when you visited the Institute
in March 1974 as a member of the UGC Visiting Committee
I had mentioned our interest in seeking an autonomous
college status and organise systematically a five year
course of undergraduate and postgraduate in Economics.
I am glad to say that we have made considerable progress
on the idea with the Poona University. We have
formally applied to the University seeking Autonomous
College Status and the application is now under active
consideration of the University. For this purpose, the
University had sent a/autonomous status. I thought you
might be interested in our replies to the several
questions as they give full particulars of our application
for an autonomous college status and explain what we
propose to do by way of innovation in teaching of
Economics."

questionnaire to
all Institutions and
colleges seeking

I am sure that, if you write to Professor Dandekar, you will
get a copy of the replies given by the Institute to the questions
put to it by the Poona University.

This underlines the importance of the points I had raised
in my note. Personally I would consider it a tragedy if the
effort of the Institute to secure the status of an autonomous
college does not succeed on account of lukewarmness on the
part of the U.G.C. I hope you will therefore draw the attention
of the Acting Chairman of the U.G.C. as also of the Committee
on Centres of Advanced Study, to all the relevant facts of the
case.

.....

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

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Dated : 22nd March, 1976.

Item No.11 To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th plan development proposals of the Centre of Advanced Study in Linguistics, Annamalai University.

.....

The department of linguistics of the Annamalai University was recognised by the University Grants Commission in 1953-64 as a Centre of Advanced Study on the basis of the contributions made by this Department in the field of Tamil linguistics. The work done at the above Centre during the past 10 years was assessed by an Assessment Committee in January, 1974. The report of the Assessment Committee was considered by the CAS Standing Advisory Committee, which recommended that the Centre of Advanced Study in linguistics, University of Annamalai may continue to receive assistance from the Commission during the 5th Plan period as their work was found good by the Standing Advisory Committee. The recommendations of the Standing Committee were considered by the Commission at its meeting held on 8th July, 1974 and it was decided that the existing level of recurring expenditure other than scholarship, fellowships in the case of Centres of Advanced Study which had completed 10 years be treated as committed expenditure with effect from 1st April, 1974 and taken over by the University/State Government concerned. The Commission further decided that the Centres whose work has been rated as excellent or good may be provided continued assistance under the CAS scheme during the 5th plan period to enable them to strengthen their teaching and research programmes and the Assessment Committee which evaluated the work of these centres may be requested to consider their requirements for the 5th plan period and make suitable recommendations.

The financial implications of the development proposals of the Centre of Advanced Study in linguistics, University of Annamalai for the 5th Plan period are indicated below:-

Estimated expenditure for
the 5th Plan Period.

Non-Recurring

Building, purchase of a van
equipment, library books and
furniture.

Rs. 13,96,000/-

(50)

Recurring

Professors - 5	0	
Readers - 6	0	
Lecturers - 8	0	
Contingencies, Seminar, travel other expenditure, library and publications.	0	Rs. 14,54,000

The meeting of the Assessment Committee which had earlier evaluated the working of CAS in linguistics, Annamalai University was held in the office of the UGC on the 30th July, 1975 to examine the 5th plan development proposals of the CAS in linguistics. A copy of the report of the Committee is attached (Annexure)

The Committee examined the 5th plan development proposals of the CAS in linguistics, Annamalai University and recommended as under :-

1. Staff

- One professor either for comparative dravidian, History of literary dravidian languages or for descriptions of dravidian languages.
- Two vis-iting professors (transformation/Instrumental Studies).
- 1 Reader (as in the case of professor)
- 2 Visiting readers (transformation/instrumental studies as in the case of visiting professors)
- 1 documentation officer - Library (with consistently good academic career).

The Committee recommended that additional academic posts should be made available to the Centre only after all the existing vacancies have been filled by the University.

The Committee also recommended the following non-recurring grants for the above centre during the V plan period

- Building for the Centre and its library. Rs. 3 00, 000
- Furniture permissible percentage
- Books and Journals Rs. 1,50,000

- 4. Publication Rs. 10,000 p.a. on condition that sale proceeds are used to create a revolving fund of the Centre.
- 5. Other requirements. As the UGC may decide in the case of other Centres of Advanced study.
(Contingencies, Seminars, travel etc.)

The recommendations of the Assessment Committee were placed before the Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on December 20, 1975.

The Committee endorsed the following recommendations of the Assessment Committee:

- (a) One professor and one reader for comparative Dravidian, history of literary Dravidian languages or for description of Dravidian tribal languages.
- (b) One visiting professor for transformation/instrumental studies. Rs. 50,000/-
- (c) One Documentation Officer for the library. The Officer should have a consistently good academic career and a good professional degree.

It was noted that additional academic post would be made available to the Centre only after the existing vacancies have been filled up by the university.

- (d) Books and Journals Rs. 1,50,000/-
- (e) Publications Rs. 10,000/- p.a.

on the condition that (i) the Centre would continue to maintain the level of expenditure on publication as was provided to it by the UGC in the IV Plan and (ii) the sale proceeds would be used to create revolving fund for publication.

If the above recommendations of the Advisory Committee are accepted, the Commission's assistance will be available for the period ending 1980-81 provided the University/State Government takes over the recurring expenditure as committed expenditure with effect from 1st April, 1961.

The financial implications involved on the recommendations of the Assessment Committee and CAS Standing Advisory Committee with regard to the above centre for the period ending 1980-81

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we worked out/be as under:

	<u>Estimated expenditure</u>
1. Professor - 1	Rs. 1, 20, 000/-
2. Reader - 1	Rs. 93, 000/-
3. Visiting professor - 1	Rs. 50, 000/-
4. Documentation Officer - 1 for the Library	Rs. 42, 000/-
5. Books and Journals	Rs. 1, 50, 000/-
6. Publications	Rs. 30, 000/-
Total	<u>Rs. 4, 85, 000/-</u>

In this connection, it may be mentioned that the Commission on the recommendations of the Visiting Committee set up to assess the normal development schemes of the Annamalai University during the Fifth Five Year Plan period, has agreed to provide the following assistance for its Department of Linguistics during the Fifth plan period in the first phase:-

Lecturers (2) (for the period ending March, 1981)
(Telugu, Malayalam or Kannada)

Books - Rs. 20, 000/-

The matter is placed before the Commission for consideration.

AS(HR)(JS(1))

(17)

Annexure to Item No 11

MINUTES OF THE MEETING OF THE ASSESSMENT COMMITTEE OF THE CENTRE OF ADVANCED STUDY IN LINGUISTICS, ANNAMALAI UNIVERSITY HELD IN THE OFFICE OF THE UNIVERSITY GRANTS COMMISSION ON THE 30TH JULY 1975 TO EXAMINE ITS V PLAN DEVELOPMENT PROPOSALS.

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1. The meeting of the Assessment Committee which had earlier evaluated the working of the Centre of Advanced Study in Linguistics, Annamalai University was held in the office of the University Grants Commission on the 30th of July, 1975 to examine the V plan Development proposals. The following attended the meetings

1. Professor D. Javare Gowda
Vice-Chancellor
Mysore University
Mysore.
2. Professor V. I. Subramoniam
Head of the Department of Linguistics
Kerala University
Trivandrum.
3. Dr. J. N. Kaul
Joint Secretary
University Grants Commission
New Delhi.
4. Shri C. M. Ramachandran
Assistant Secretary
University Grants Commission
New Delhi.

The Committee examined the V Plan Development Proposals of the Centre of Advanced Study in Linguistics, Annamalai University in the light of the recommendations of the Assessment Committee which was appointed earlier to evaluate the work done by the above centre since its recognition as a Centre by the University Grants Commission.

3. The Committee agreed with the proposals of the Centre to continue the following research activities in the Fifth Plan:-

(a) Dravidian Studies : Comparative Dravidian :

1. Preparation of detailed Comparative Dravidian Phonology.
2. Publication of a Hard Book of Dravidian in two volumes.

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3. Bringing of Comprehensive Grammars for the four literary Dravidian Languages, viz. Tamil, Malayalam, Kannada and Telugu in four volumes.

b. History of Literary Dravidian Languages:

Bringing out an exhaustive study of Ancient Tamil texts (viz. Tamil, Kannada, Telugu, Malayalam and Fulhi etc.) and a grammar and a reader for the ancient texts as well as the study of ancient inscriptions of the Dravidian languages, from the linguistic and socio-linguistic point of view.

(c) Descriptions of Dravidian Languages:

Completion of descriptions of Dravidian non-literary and the Tribal languages viz., Toda, Kasaba, Irula, Paniya Kurumba, Kattunaikka etc. (South Dravidian) and publication of languages. Extension of the study to the Central Dravidian languages also.

of Descriptive Grammars and Vocabulary of these

(d) Syntactic Studies:

Bringing out of Monographs on syntactic structures of Tamil, viz., (i) Modality in Tamil, (ii) Passive in Tamil, (iii) Aspects in Tamil, (iv) Noun Phrases in Tamil, (v) Relative Clauses in Tamil and (vi) Compounds in Tamil. This will be extended in series, to Malayalam and monographs on (vii) Auxiliary in Malayalam, (viii) Complementation in Malayalam, (ix) Relative clause in Malayalam and (x) Compounds in Malayalam would be brought out. After the completion of this, the work shall be extended to Kannada and Telugu in a phased programme.

(e) Instrumental Studies.

Completion of the instrumental analysis of vowels and consonant sounds of the four literary languages, viz., (i) Tamil, (ii) Telugu, (iii) Malayalam and (iv) Kannada would be completed and also a book: Laboratory Tamil - (Teaching Material) and programmed learning tapes with instruction would be brought out in the next five years.

4. The Committee examined the staff requirements of the Centre and recommended the following staff for the V plan period:

- I. 1 Professor either for Comparative Dravidian, History of Literary Dravidian Languages or for Descriptions of Dravidian Language.
- II. 2 visiting professors (Transformation/Instrumental studies).

- III. 1 Reader (as in the case of Professor).
- IV. 2 Visiting Readers (Transformation/Instrumental Studies) as in the case of the visiting Professors.
- V. 1 Documentation Officer - Library (with consistently good academic career).

The Committee recommended that additional academic posts should be made available to the Centre only after all the existing vacancies have been filled by the University.

5. The Committee also recommended the following non-recurring grants for the above centre during the V Plan period:

- | | |
|---|--|
| 1. Building for the Centre and its library | Rs.3,00,000 |
| 2. Furniture | Permissible percentage |
| 3. Books and Journals | Rs.1,50,000 |
| 4. Publication | Rs.10,000 p.a. on condition that sale proceeds are used to create a revolving fund of the Centre |
| 5. Other requirements (Contingencies, Seminars travel etc.) | As the UGC may decide in the case of other Centres of Advanced Studies. |

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Meeting :

Dated : 22 March 1976

(56)

- Item No. 12 To consider the recommendations made by the Advisory Committee for the Centres of Advanced Study in Humanities and Social Sciences on the report of the Assessment Committee set up by the Commission to examine the 5th plan development proposals of the Centre of Advanced Study in Sanskrit University of Poona.

The Department of Sanskrit of the Poona University, was recognised by the University Grants Commission in 1964 as a Centre of Advanced Study in Sanskrit. The work done at the above Centre during the past 10 years was assessed by an Assessment Committee in March 1974. The Report of the Assessment Committee was considered by the CAS Standing Advisory Committee which recommended that the Centre of Advanced Study in Sanskrit, University of Poona may continue to receive assistance from the Commission during the 5th Plan period as their work was found excellent by the Standing Committee. The recommendations of the Standing Advisory Committee were considered by the Commission at its meeting held on 8 July 1974 and it was decided that the existing level of recurring expenditure other than scholarship, fellowships in the case of Centres of Advanced Study which had completed 10 years be treated as committed expenditure with effect from 1st April, 1974 and taken over by the University/State Government concerned. The Commission further decided that the Centres whose work has been rated as excellent or good may be provided continued assistance under the CAS scheme during the 5th Plan period to enable them to strengthen their teaching and research programmes and the Assessment Committee which evaluated the work of these centres may be requested to consider their requirements for the 5th Plan period and make suitable recommendations.

The financial implications of the development proposals of the Centre of Advanced Study in Sanskrit, University of Poona for the 5th Plan period are indicated below:-

Staff :

2 Readers, 2 Sastries, 2 Research Associates, 2 Sr. Research Fellows, 2 Jr. Research Fellows and 2 National Scholars.

Estimated expenditure:

Books	Rs. 60,000/-
Publication grant	Rs. 1,00,000/-
Furniture & Equipment	Rs. 34,500/-
Refresher Course	Rs. 30,000/-

not indicated.

contd..

(57)

The meeting of the Assessment Committee which had earlier evaluated the working of CAS in Sanskrit, Poona University was held in the office of the UGC on the 25 August 1975 to examine the 5th plan development proposals of the Centre. A copy of the report of the Committee is attached (Annexure).

The Committee examined the 5th plan development proposals of the CAS in Sanskrit, Poona University and recommended as under:-

Staff:

Reader in Mimamsa.

Two Research Associates, one may be a traditional scholar of Acharya or equivalent qualification and the other may be a scholar with postgraduate or research qualification in the field.

Reader in Nyaya

Two research associates - one traditional scholar of Acharya or equivalent qualification and the other may be a scholar with postgraduate research qualification in the field.

One senior, one junior Research fellow and one national scholar in each of the two branches, in addition to the fellowships and scholarships already made available to the Centre (3 senior, 6 junior and 4 national scholarships).

Books Rs. 50,000/-

Publication Rs. 1,00,000/-

Furniture One duplicator gestotner - Rs. 10,000/-
(if no duplicator is not there).

Visiting teachers and visiting fellows:

Collaborative research on the basis of visiting teachers for all over the country and abroad: Rs. 50,000/- .

The Recommendations of the Assessment Committee were placed before the Standing Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on December 20, 1975. The Advisory Committee agreed with the above recommendations of the Assessment Committee.

If the above recommendations of the Advisory Committee are accepted the Commission's assistance will be available for the period ending 1980-81, provided the University/State Government takes over the recurring expenditure as committed expenditure with effect from 1st April 1981.

The financial implications involved in the recommendations of the Assessment Committee and CAS Standing Advisory Committee with regard to the above Centre for the period ending 1980-81 are worked out to be as under:-

contd..

Reader - 2	=	Rs.1,86,000
Research Associates - 4		Rs.2,76,000
Jr. Research Fellows - 2		Rs.1,78,400
Sr. Research Fellows - 2		Rs. 92,000
National Scholarships - 2		Rs. 35,000
Books		Rs. 50,000
Publication		Rs.1,00,000
Equipment (duplicator gestetner)		Rs. 10,000
Visiting Teachers & Visiting Fellows		Rs. 50,000
		<hr/>
Total		Rs.9,77,400
		<hr/>

In this connection it may be mentioned that the Commission on the recommendations of the Visiting Committee set up to assess the normal development schemes of the Poona University during the 5th Five-Year Plan, has agreed to provide the following assistance for its department of Sanskrit and Prakrit Languages during the 5th Plan period in the first phase:-

Books Rs.5,000/-
Reader - 2

The matter is placed before the Commission for consideration.

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Minutes of the meeting of the Assessment Committee of the Centre of Advanced Study in Sanskrit, Poona University held on 25th August 1975 in the office of the University Grants Commission.

The only Centre of Advanced Study in Sanskrit in India is in the Poona University. The Centre has been specialising in Vedic studies and Vyakarana. It is advisable that the two branches of Nyaya and Mimamsa are also taken up by the Centre. These are the two basic Sastras that deserve special attention at present, and are also allied to the two branches being specialised at Poona now.

Mimamsa is the ancient Sastra dealing with the rules of interpretation of the Vedic texts: it is also relevant to the present time, since it deals exhaustively with the theories of interpreting sentences. At present there is no university which has full-fledged facilities for teaching and research in Mimamsa. It has been neglected for long, and needs full support.

Nyaya has received attention from modern Indologists in the West, and attempts have been made to interpret texts in the light of modern logic. It is highly necessary that in India also there should be a centre where advanced texts on Nyaya are studied on modern lines and interpreted. Many of the books on grammar are written in Navya Nyaya style and many problems of verbal comprehension are discussed in Nyaya texts. For a comprehensive comparative study of Sabdabodha or verbal comprehension and study of Nyaya and Mimamsa as well as Vyakaran is essential.

Staff

Reader in Mimamsa

Two Research Associates, one traditional scholar of Acharya or equivalent qualification and the other may be a scholar with postgraduate or research qualification in the field.

Reader in Nyaya

Two research associates - one traditional scholar of Acharya or equivalent qualification and the other may be a scholar with postgraduate research qualification in the field.

One senior, one junior Research Fellow and one national scholar in each of the two branches, in addition to the fellowships and scholarships already made available to the Centre (3 senior, 6 junior and 4 national scholarships).

Books Rs.50,000/-
Publications Rs.1,00,000/-
Furniture: one gestetner Rs.10,000/-
If no gestetner is not there.

contd..

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Visiting teachers and visiting fellows:

Collaborative research on the basis of visiting teachers for all over the country and abroad.

1. To acquaint the visiting teachers with the research activities of the centre and to upgrade their competence in their specialised areas.
2. To initiate joint research projects which the visiting teachers might implement in their own institutions and finalise if necessary at the Centre.
3. To organise seminars on topics appropriate to the research interest of the Centre - Rs.50,000/-.

(sd/-)

K. K. Raja

26.8.75

Confidential

UNIVERSITY GRANTS COMMISSION

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MEETING :

DATED : 22nd March, 1976

Item No. 13 To consider the recommendations of the Advisory Committee for the Centre of Advanced Study on Humanities and Social Sciences on the report of the Committee set up by the Commission to evaluate the work of the Centre of Advanced Study in Sociology, Delhi University and to examine its development proposals for the Fifth Plan period.

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The Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on the 9th May, 1975 noted that the Centre of Advanced Study in Sociology at Delhi University had also sent its Fifth Plan development proposals. Though this Centre had not yet completed 10 years and its work had not been assessed, the Committee recommended that the proposal of this Centre may also be examined by a Committee of experts. Accordingly, a Committee consisting of the following members was constituted to evaluate the work of the Centre and to examine its development proposals for the Fifth Plan period:

1. Professor S.C. Dube,
Director,
Indian Institute of Advanced Study,
Simla.
2. Professor Yogendra Singh,
Head of the Department of Sociology,
Jawaharlal Nehru University,
New Delhi.
3. Professor T.N. Madan,
Head,
Asian Research Centre,
Institute of Economic Growth,
Pune.
4. Dr. J.N. Kaul,
Joint Secretary,
University Grants Commission,
New Delhi.

2. Earlier the University Grants Commission at its meeting held on the 11th February, 1975 considered the report of the Committee appointed to review the work of the Cell on the Sociology of the North-Eastern Hill Area in the Department of Sociology, Delhi University and desired that while assistance to the

university may be continued on the present level for 1975-76 the proposal may be examined as a part of the development proposal of the Centre of Advanced Study in Sociology. The proposal was also, therefore, referred to the visiting committee for consideration.

3. The Committee visited Delhi University on the 20th August, 1975. A copy of the report of the Committee is attached (Annexure).

4. The Committee is of the opinion that in view of the excellence of the work done by the Centre it should be strengthened and encouraged to emerge as a pace-setting Institution in Sociology (including Social Anthropology). Some important suggestions have been made by the Committee (as detailed in first 8 paras of the report) for the consideration of the Centre not in a spirit of criticism but as an aid to the realisation of its full potential.

5. The Committee recommended the following:-

- (i) Two research associates may be provided to the Centre on the usual terms and conditions attached to such appointments.
- (ii) Two to four additional research fellowships may be provided to the Centre, the exact number to be determined by the availability of first-rate scholars.
- (iii) The number of National Scholarships may be increased from four to six to enable the Centre to attract more students from other parts of the country.
- (iv) One post of steno-typist may be provided for the Centre, considering the research papers and materials collected and produced by the staff of the Centre.
- (v) A non-recurring grant of Rs.5,000/- may be sanctioned for furniture for the Centre during the Fifth Plan period.
- (vi) The existing provision of Rs.15,000/- for seminars, visiting fellows and visiting professorships may be increased to Rs.20,000/- per annum.
- (vii) The present allocation of Rs.10,000/- made for field work may be increased to Rs.15,000/- per annum and the budget head should be changed from "field work" to "research projects" in order to permit the use of funds for non-field work research.
- (viii) The annual grant of Rs.15,000/- provided for books and journals may be increased to Rs.20,000/- and an additional non-recurring provision of Rs.1.00 lakh may be made for purchasing new books and back numbers of important journals.

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6. The Committee has recommended that the work relating to the North-Eastern Hill Areas Cell is an avoidable duplication and should be phased out during the current Plan period. Since the Centre has already been permitted to continue the existing level of expenditure during 1975-76, no recommendation was made by the Committee for the Cell for the current year. For the rest of the plan period the Cell may be provided with one scholarship for B.A.(Hons.), two scholarships for M.A., one scholarship for M.Litt. and ~~two~~ one scholarship for Ph.D. at the usual rates permitted by the Commission. All these scholarships should be phased out by the end of the Fifth Plan period. The Committee also recommended that a special provision of Rs.30,000/- may be made for (a) visiting professorships and (b) seminars and workshops in collaboration with North-Eastern Hill University.

7. No senior post has been recommended by the Committee either for the Centre or for the Cell for Sociological studies of North-Eastern Hill Areas in view of the fact that Fifth Plan Visiting Committee of the University has recommended an additional post of professorship for the Department. This, the Committee thinks and the Centre agreed, should be adequate for the present needs of the Department and the Centre. If, however, the Fifth Plan Visiting Committee's recommendation is not accepted by the Commission, the Centre may be provided a professorship under the CAS scheme.

The matter was placed before the Advisory Committee for Centre of Advanced Study in Humanities and Social Sciences at its meeting held on December 20, 1975.

8. The Advisory Committee agreed with the academic and financial recommendations made by the Visiting Committee. The Advisory Committee, in particular, emphasised the need for developing collaboration between the Centre on the one hand and various other related departments of Delhi University on the other. For collaboration with other departments in the university, the Centre may consider instituting joint appointments with other related and interested departments. The Centre may also consider the possibility of organising a series of optional courses concerning basic concepts of Sociology, methods of research etc., for students and teachers of other departments so that the insight and concepts of sociology and anthropology are fed into teaching and research of other departments.

9. The Advisory Committee agreed that the North Eastern Hill Areas Cell and its academic staff should become an integral part of the Department and should not be treated as a separate entity either for programming or for financial purposes. The Centre could now usefully extend the scope of such studies and research and cover other hill regions and tribes and develop a comparative perspective which would make a distinctive contribution to a better understanding of the processes of social change and national development. This programme should not be lost sight of altogether.

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10. For Sociology and Anthropology to thrive in the North eastern Hill Areas region, it is necessary to cultivate these disciplines in the region itself. For this purpose, it will be necessary to develop a strong base in this discipline in the North Eastern Hill University. The Centre could play a useful role in this development by strengthening its channels of contacts and communication with North Eastern Hill University.

11. The University may be requested to indicate the action proposed to be taken on these recommendations and those made by the Visiting Committee.

12. The Financial implications of the recommendations of the Visiting Committee and the Advisory Committee are given below:

1. RECURRING

A. Centre of Advanced Study in Sociology

Estimated expenditure
for the period ending
1980-81.

1. Research Associates- 2	Rs. 1, 38, 000/-
2. Research Fellowships (2 to 4)	Rs. 1, 04, 000/-
3. National Scholarships (2)	Rs. 33, 000/-
4. One Scholarship for B.A. (Hons.) 2 scholarships for M.A., one scholarship for M.Litt. and one scholarship for Ph.D. till the end of 1980-81 for N.E.H.A. Programme.	Rs. 36, 000/-
5. Steno-typist - 1	Rs. 36, 000/-
6. Seminars, visiting fellows and visiting professorships including N.E.H.A. Programme	Rs. 25, 000/- + Rs. 30, 000/-
7. Field Work	Rs. 25, 000/-
8. Books and Journals	Rs. 25, 000/-
	<u>Rs. 4, 76, 000/-</u>

NON-RECURRING

a) Furniture for the Centre	Rs. 5, 000/-
b) New books and Back numbers of important journals	Rs. 1, 00, 000/-
	<u>Rs. 1, 05, 000/-</u>

Total (R + NR)

Rs. 5, 81, 000/-

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This support will be in addition to the assistance to be provided to the Centre in respect of Teaching and non-Teaching staff already sanctioned in 1968.

In this connection it may be mentioned that the Commission on the recommendations of the Visiting Committee set up to assess the normal development schemes in Delhi University during the 5th plan period, has agreed to assist the department of Sociology of the University for the following items during the 5th plan period in the first phase:

1. Books - Rs. 30,000/-
2. Staff
(Professor-1 -
quantitative method to Sociology)

The matter is placed before the Commission for consideration.

(AS(HR))(JS-II)

Annexure to Item No.13

Report of the Committee which evaluated the working of the Centre of Advanced Study in Sociology, Delhi University and its Fifth Plan development proposals.

To evaluate the work of the Centre of Advanced Study in Sociology, Delhi University, and to examine its development proposals for the Fifth Plan Committee, consisting of the following, was appointed by the U.G.C.:

1. Professor S.C. Dube
Director,
Indian Institute of Advanced Study,
Simla.
2. Professor. Yogendra Singh,
Head of the Department of Sociology,
Jawaharlal Ne hru University,
New Delhi.
3. Professor T.N. Madan,
Head of the Asian Research Centre,
Institute of Economic Growth,
Delhi.
4. Dr. J.N. Kaul,
Joint Secretary
University Grants Commission
Bahadur Shah Z afar Marg
New Delhi.

The Committee visited the Delhi University on 20th August, 1975. It first had a preliminary discussion with the Vice-Chancellor and later on had separate meetings with the members of the staff research scholars, and M.A. students of the Department. The Committee was mainly concerned with the Centre of Advanced Study in Sociology, though it also considered the work of the North Eastern Hill Areas Cell and Pakistan Area Study Programme assigned to the Department.

In recognition of its work and the potential of its faculty the UGC had recognized the Department of Sociology, Delhi University, as a Centre of Advanced Study in 1968. This is the only Centre in the subject of sociology that covers partially social anthropology also. Since its recognition as a Centre the Department has continued to do good work. A distinguished member of its faculty, Professor M.N. Srinivas, has moved elsewhere although he continues to be associated with the department as an honorary professor. The Centre has done particularly well in the areas of social stratification, family and kinship, religion and urbanization. It undertook to

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organise and edit the three volume survey of research in different fields of sociology on behalf of the Indian Council of Social Science Research. At least four trend reports have been contributed by the members of this department. The Centre has attracted students from different parts of the country, including some belonging to the scheduled tribes and scheduled castes. The Committee was impressed with the recent efforts made by the Department towards modernisation of its syllabi. It has also noted with interest some of the innovations in instructional methods, particularly student projects. The standard of some of the Ph.D. theses is commendably high.

The Committee is of the opinion that in view of the excellence of the work done by the Centre it should be strengthened and encouraged to emerge as a pace setting institution in sociology (including social anthropology).

The following suggestions are being made for the consideration of the Centre not in a spirit of criticism but as an aid to the realisation of its full potential.

1. The Committee had an uneasy feeling that the Centre has not taken full advantage of its location in the Delhi School of Economics and of the proximity of other quality departments in the University. We would like to suggest that some thought be given to the possibility of the departments of sociology, Economics, History, Linguistics etc. to devise some course jointly which may be offered as part of the syllabus in each department. We have noted that advantage is taken of some of its course offering by the Department of Economics, but this gesture is not reciprocated by the Sociology Centre. We suggest that the possibilities of the Centre interacting more closely with the Departments of Economics, Human Geography, History, Political Science and Psychology be examined closely.

2. The courses offered by the Centre are of an advanced standard, but in our opinion they need to be balanced by more adequate representation of certain branches of the discipline and significant schools of thought. The powerful current known as radical sociology in the west, finds insufficient reflection. It would be useful to include imaginative and competence building courses in survey methods and quantitative techniques. These are intrinsically important in Sociology and enlarge the employment opportunities of the students. We have noted from a document supplied by the Centre that out of 168 students, who have obtained the M.A. degree from 1968-74, only 8 are teaching in universities and colleges. Most of the latter we are told are in Delhi University itself. A degree of expertise in survey research and quantitative method will considerably extend the employment potential of the M.A.s of the Centre. We have discussed with the faculty the desirability of updating and enlarging some courses particularly those relating to economic development and education.

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It is to be hoped that the Centre will consider our proposals in a constructive spirit.

The focus of the M.Litt. programme offered by the Department is diffused, even somewhat blurred. As organised at present, the programme requires course work but without any examination. Seminar participation and the writing of a dissertation on secondary material or on fieldwork are required. This is expected to take two years, but most students seem to have taken three. Some students registering for the M.Litt. come from disciplines other than sociology and it is unlikely that they are fitted by the kind of training they received to take up teaching assignments in sociology after obtaining this degree. The Department should consider two alternative courses of action. Either it may give the students more intensive course work with examination; or the M.Litt. course may be restricted to students who already have an M.A. in Sociology. However, provision may be made for joint supervision of doctoral research between the sociology and other interested departments. Here again, the avenues of inter-departmental cooperation need to be explored. As for sociology students the merit of the programme would seem to be that it offers the facility for a mid-term degree between M.A. and Ph.D. without the student having to register for a Ph.D. straightaway. The viewpoint of the Department seems to be that this prevents wastage. Whereas this argument has its merit, it is not wholly convincing. We strongly feel that the objectives of the M.Litt. course need to be defined precisely and its instructional strategy modified accordingly.

4. The North Eastern Hill Areas Cell has done good work, but in view of the establishment of the North Eastern Hill University it should start rethinking its role. There will be no gain in saddling the Department with the work which should normally be done by the contemplated sister department in North Eastern Hill University. This we regard as avoidable duplication. However, we do not recommend closing down the cell. For five years more it will have a useful supportive function in helping the proposed Department of Anthropology and Sociology at Shillong to get on its feet.

5. The Pakistan Area Programme has had to work under tremendous odds. We have noted with satisfaction that some work done by scholars associated with this programme has attracted international attention. The study of culture at a distance bristles with difficulties, and the unit is valiantly trying to overcome them. In forming this opinion we are expressing a favourable view only about the theoretical interest aroused in a limited way about the by the work of the kind. No significant contribution has been made towards understanding Pakistan society.

6. The Committee is a little disturbed to find a tendency towards excessive inbreeding in the Department. Of the four professors one is a Ph.D. from Delhi, all the four Readers are Delhi Ph.Ds. and three out of four lecturers are also Delhi products. This trend, if continued, particularly at the senior level, we are affraid, may lead to the constriction of perspectives. A centre of national importance is expected to keep its doors and windows open to currents of thought from elsewhere also even though they do not conform to its dominant view. In other words, while we suggest that talented scholars from within the Department should be given encouragement, a positive effort should be made to balance this by scouting for talent outside.

7. The course offerings of the Centre will improve with more adequate reflection of the work of Indian sociologist and anthropologists. It is counter productive to leave the students uninformd regarding the work of Indian scholars whose contributions have been rated high both nationally and internally. The committee also noted that out of 11 visiting professors invited from 1959-74 only two were Indians. We consider it useful to expose the students more to important currents of Indian thinking.

8. Nearly all the faculty has been engaged in research, although its work is uneven both in quality and quantity.

To make a real impact the research endeavours of the Centre should have greater unity of purpose and a clearer focus. This does not, however, mean that the Centre should have a narrow research focus. On the contrary, a multiplicity of interests and approaches should be encouraged, as already indicated in Paragraphs 6 and 7 above. An effort in this direction will bring out in clear relief the potentialities of the department. With this aim in view and also for achieving greater integration in the instructional endeavour of the Centre we suggest creation of a faculty council which should be involved in academic decisions as well as in preparing plans for the future.

9. Financial Implications and Recommendations:

I. The Committee agrees that the Centre should have one or two research associates who will provide sufficient flexibility to the Centre in making short ter research projects. The Centre has had some difficulty in recruiting senior research scholars. It is recommended that two research associates may be provided to the Centre on the usual terms and conditions attached to such appointments.

II. The Centre itself is doubtful about the utility of senior research scholarships. As such no addition to their numbers seems to be necessary.

III. The Centre has at present 4 junior fellowships which, the Committee thought, were not adequate in view of the fact that both M.Litt. and Ph.D. students are eligible for such fellowships and the number of such scholars has steadily increased. It is recommended that 2 to 4 additional research fellowships may be provided to the Centre, the exact number to be determined by the availability of first-rate scholars.

IV. The number of National Scholarships may be increased from 4 to 6 to enable the Centre to attract more students from other parts of the country.

V. Considering the research papers and materials collected and produced by the staff of the Centre, the Committee recommends the post of one steno-typist.

VI. A non-recurring grant of Rs.5,000/- has already been sanctioned to the Centre for equipment during the Fifth Plan period. A similar non-recurring grant of Rs.5,000/- may be allowed for furniture for the same period.

VII. The existing provision of Rs.15,000/- for seminars, visiting fellows and visiting professorships may be increased from Rs.15,000/- per annum to Rs.20,000/- per annum.

VIII. The Centre has at present a budget of Rs.10,000/- for field work. It is understood that the steady increase in the staff and the production of research materials has generated a demand for more money for research investigations and more field work. It is recommended that the present allocation may be increased to Rs.15,000/- p.a. and the budget should be changed from "field work" p.a. to "research projects" in order to permit the use of funds for non-field work research.

IX. The Centre has at present a provision of Rs.15,000/- p.a. for books and journals. This is obviously inadequate for the various demands made on the Centre by the staff and the scholars. It is recommended that the annual grant may be increased to Rs.20,000/- and an additional non-recurring provision of Rs.1.00 lakh may be made for purchasing new books and back numbers of important journals.

X. In view of the provisions made above, it does not seem necessary to increase the provision of Rs.5,000/- made for miscellaneous items to Rs.10,000/-

XI. The Committee has recommended that the work relating to the North Eastern Hill Areas Cell is an avoidable duplication and should be phased out during this Plan period. It is understood that the Centre has already been permitted to continue the existing level of expenditure during 1975-76. In view of this no recommendation was

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made by the committee for the Cell for this year. For the rest of the Plan period, the Cell may be provided with one scholarship for B.A.(Hons.), 2 scholarships for M.A., one scholarship for M.Litt. and one scholarship for Ph.D. at the usual rates permitted by the Commission. All these scholarships should be phased out by the end of the Fifth Plan period. It is also recommended that a special provision of Rs. 30,000/- may be made for (a) Visiting professorships, and (b) seminars, and workshops in collaboration with the North-Eastern Hill University. It is not necessary to recommend any funds for research investigations, literature, stationery and contingencies; provision for such items should be made out of the normal budget available to the department and to the Centre.

XII. No senior post has been recommended by the Committee either for the Centre or for the Cell for Sociological Studies of North Eastern Hill areas in view of the fact that the Fifth Plan Visiting Committee of the University has recommended an additional post of a Professor for the Department. This, the Committee thinks and the Centre agreed, should be adequate for the present needs of the Department and the Centre. If, however, the Fifth Plan Visiting Committee's recommendation is not accepted by the Commission, the Centre may be provided a professorship under the CAS scheme.

The Committee is grateful to the Vice-Chancellor and to the staff and students of the Centre of Advanced Study in Sociology of Delhi University for the courtesy and consideration shown to the members of the Committee during their visit to the University of Delhi.

UNIVERSITY GRANTS COMMISSION

72

Meeting:

Date: 22nd March, 1976

Item No: 14 To consider the recommendations of the Committee set up by the University Grants Commission for proposing ways and means of developing expertise in the field of Archaeology and Museums in the Universities.

...

The University Grants Commission set up a Committee consisting of the following members for proposing ways and means of developing expertise in the field of Archaeology and Museums in the Universities:-

1. Professor R.S. Sharma
Department of History
Delhi University
2. Shri M.N. Deshpande
Director-General
Archaeological Survey of India
New Delhi.
3. Shri C. Shiva Ramamurti
Director
National Museum
Jan Path
New Delhi.

The Committee met in the UGC Office on January 15, 1976. A copy of the minutes of the meeting of the Committee is attached (Annexure). The Committee made the following recommendations:-

1. Information may be obtained from the universities offering courses in Archaeology with regard to (a) the courses offered by them relating to archaeology; (b) number of teachers who have special interest in and competence for archaeological work; (c) arrangements available in the universities for practical work and excavation and (d) excavation work that they have already completed in the past 10 years or so.

p.t.o.

2. It may be necessary to provide some marginal assistance to the universities for developing archaeological studies. This will all depend on the level of attainment already achieved by them in this field. Information to be obtained from the universities as in Para I above will help in the selection of such universities. Generally assistance should be provided only to those universities which have at least 4 courses in Archaeology and adequate arrangement for practical training.
3. It will be important to keep in view the regional development of Archaeology and Museums. For this purpose, it will be necessary to group the universities according to regions and draw up a long term programme for each region in consultation with the Archaeological Survey of India. In this connection it was noted that Delhi University, which is thinking of developing studies and research in Archaeology, could also include Rajasthan in the scope of its activities. Proposal from any one of the Universities in Rajasthan for research in Archaeology could also be considered.
4. Ten Fellowships of the value of Rs. 500/- p.m. for a period of 3 months every year may be made available to in-service teachers who may like to undertake training in field archaeology with the Archaeological Survey of India at their major excavation areas. These fellowships will be awarded for 2 terms, each of three months, in two successive years so that the training course is completed at the end of two years. The selected fellows will be eligible for T.A. in accordance with University rules. Besides training in excavation, the teacher-fellows will get training in sorting out materials, preparation of reports and illustrations for publications. Selection of fellows may be made by a Committee of the History Panel and may include a representative of the Archaeological Survey of India.
5. At any one given time, the maximum number of fellowships will not exceed 20. Implementation of this scheme may be reviewed towards the end of the V Plan period.
6. Teachers in the Departments of History & Archaeology who are selected for National Associateships, may be encouraged to work with the Archaeological Survey of India and the National Museum.

- P O : K

7. There may be an advantage in sending a few university teachers to some neighbouring countries in Central, South-East and West Asia for training in Archaeology. This may be considered under the scheme of Cultural Exchange, whenever possible.
8. The Committee desired that a list of transparencies on Indian culture, painting, and architecture may be obtained from the National Museum and sent to those universities which have museums and which are offering courses in Indian Art and Architecture.

The matter is placed before the Commission for consideration.

A.S. (RFR) JS(L)

Minutes of the meeting of the Committee
on Developing expertise in Archaeology
and Museums.

(75)

The University Grants Commission appointed a Committee consisting of the following members for proposing ways and means of developing expertise in the field of Archaeology and Museums in the Universities:

1. Prof. R.S. Sharma,
Head of the Deptt. of History,
Delhi University.
2. Shri MN Deshpande
Director-General
Archaeological Survey of India
New Delhi.
3. Shri C. Shivaram Murty,
Director,
National Museums,
Janpath, New Delhi.

The Committee met in the UGC office at 10.30 A.M. on January 15, 1976. All the members attended the meeting.

Professor Satish Chandra, Chairman, UGC, chaired the meeting.

The Committee noted that facilities for studies and research in Archaeology were available in the following 21 universities:

Northern Region:

- (1) Allahabad
- (2) Aligarh Muslim
- (3) Banaras Hindu
- (4) Delhi (W. courses)
- (5) Gorakhpur
- (6) Kurukshetra
- (7) Lucknow

Eastern & Central
Regions:

- (8) Calcutta
- (9) Gauhati (Deptt. of Anthropology)
- (10) Patna
- (11) Shantiniketan
- (12) Sambalpur
- (13) Utkal
- (14) Saugar

Western Region:

- (15) Baroda
- (16) Nagpur

Southern Region:

- (17) Poona
- (18) Calicut
- (19) Dharwar
- (20) Madras
- (21) Osmania

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The Committee made the following recommendations :

- (1) Information may be obtained from the universities mentioned above with regard to (a) the courses offered by them relating to archaeology; (b) number of teachers who have special interest in and competence for archaeological work; (c) arrangements available in the universities for practical work and excavation and (d) excavation work that they have already completed in the past 10 years or so.
- (2) It may be necessary to provide some marginal assistance to the universities for developing archaeological studies. This will all depend on the level of attainment already achieved by them in this field. Information to be obtained from the universities as in para 1 above will help in the selection of such universities. Generally assistance should be provided only to those universities which have at least 4 courses in Archaeology and adequate arrangement for practical training.
- (3) It will be important to keep in view the regional development of Archaeology and Museums. For this purpose, it will be necessary to group the universities according to regions and draw up a long term programme for each region in consultation with the Archaeological Survey of India. In this connection it was noted that Delhi University, which is thinking of developing studies and research in Archaeology, could also include Rajasthan in the scope of its activities. Proposal from any of the Universities in Rajasthan for research in Archaeology could also be considered.
- (4) Ten Fellowships of the value of Rs.500/- p.m. for a period of 3 months every year may be made available to in-service teachers who may like to undertake training in field archaeology with the Archaeological Survey of India at their major excavation areas. These fellowships will be awarded for 2 terms, each of three months, in two successive years so that the training course is complete at the end of two years. The selected fellows will be eligible for T.A. in accordance with University rules. Besides training in excavation, the teacher-fellows will get training in sorting out materials, preparation of reports and illustrations for publications. Selection of fellows may be made by a Committee of the History Panel and may include a representative of the Archaeological Survey of India.
- (5) At any one given time, the maximum number of fellowship will not exceed 20. Implementation of this scheme may be reviewed towards the end of the V Plan period.
- (6) Teachers in the Departments of History & Archaeology, who are selected for National Associateships, may be encouraged to work with the Archaeological Survey of India and the National Museum.

(7) There may be an advantage in sending a few university teachers to some neighbouring countries in Central, South-East and West Asia for training in Archaeology. This may be considered under the scheme of Cultural Exchange, whenever possible.

(8) It was noted that the Commission had already accepted in principle the proposal for assisting universities for development of museums and audio-visual aids and that the Panel on History had recommended the following 15 universities for this purpose:

- (1) Dibrugarh
- (2) Utkal
- (3) Andhra
- (4) Saugar
- (5) Gauhati
- (6) Kurukshetra
- (7) Deccan College, Poona University
- (8) Allahabad
- (9) Mysore (Audio-Visual)
- (10) Delhi
- (11) Sardar Patel (Museum)
- (12) Visva-Bharati
- (13) Calcutta (Archaeology)
- (14) Sambalpur
- (15) Baroda.

(9) Shri Sivaramamurty informed the Committee that the National Museum had already brought out a series of transparencies on Indian Sculpture, painting and architecture. The Committee desired that a list of such transparencies may be obtained from the National Museum and sent to those universities which have museums and which are offering courses in Indian Art and Architecture.

The Committee concluded its deliberations with thanks to the Chair.

Confidential

University Grants Commission

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78

Meeting :

Dated : March 22, 1976.

Item No 15 To consider the recommendations made by the Panel on Law at its meetings held on November 22, 1975 and January 27, 1976 regarding scholarships for full-time LL.M. Courses.

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The University Grants Commission, at its meeting held in July, 1975 considered the recommendations made by the Panel on Law that the LL.M. Course should be offered to whole time students only and that such facilities should not be made available to part time students. The Commission accepted the recommendation made by the Panel and desired that names of a few institutions which could be developed for creating adequate facilities for full time LL.M. course may be suggested by the Panel. The Commission also desired that views of the universities may be ascertained in the matter.

The decision of the Commission and the views of ten universities (Annexure) which were received in this connection were placed before the Law Panel. The Panel noted with satisfaction that the UGC had accepted the recommendation that the LL.M. course should be offered to wholetime students. It was also noted that the Commission had emphasised that such facilities should not be made available to part-time students. It was, however, felt that this decision of the Commission would be practical only if appropriate financial help is given to LL.M. students in the form of scholarships.

The Panel recommended that to begin with, a scholarship of Rs.400/-p.m. may be given to all students enrolled in LL.M. classes provided they had (a) a consistently good academic record (at least a second class pre-legal educational career) and (b) first class LL.B. Degree.

In this connection, it may also be stated that the Commission at its meeting held on July 14, 1975 decided that consequent upon the revision of scales of pay, the minimum qualification required for recruitment of lecturers in the Faculty of Law and Law College should be LL.M. Degree in view of this, the provision for LL.M. studies will have to be considerably strengthened in some selected universities.

p.t.o.

(79)

The Law Panel has recommended that the following departments which have full-time LL.M. courses could be further developed for creating adequate facilities for full-time Master's degree in Law :

Danaras, Rajasthan, Andhra, Cochin, Delhi (campus centre)

It was mentioned that the Law Schools of Delhi (II campus) Panjab, Madras, Bombay and Poona were likely to switch over to full-time LL.M. course from the next academic session and they could also be kept in view in this scheme.

The Panel observed that there were wide variation in facilities in the existing Law Schools in respect of their LL.M. courses. It was recommended that UGC may select some Law Schools which are capable of starting full-time LL.M. courses to take care of national requirements at this level and assess the needs of such schools with the help of Visiting Committees.

The matter is placed before the Commission for consideration.

AS(HR)/JS(F)

Annexure to Item No.15

for very long time. Most of the students in the LL.B degree course

1. Jabalpur : The recommendation is ideal, but it is not practical especially in M.P. where students cannot afford to remain without job/are part-time students and 3-year duration of this course is cumbersome for them. They can hardly afford to stay for LL.M. for another 2 years as full time students. The university, therefore, finds it difficult to agree with the recommendation.

2. Panjab : The University offers LL.M. course only to whole-time students, candidates in whole-time or part-time employment inconsistent with the obligation of the LL.M. course, are not admitted.

3. Sri Venkateswara : The head of the department of Law has suggested to the university that LL.M. classes should be held from 10 AM to 4 PM. No other arrangement would do justice to this course.

4. Poona : LL.M. studies on a full-time basis can be insisted upon only if all students get a full fellowship and have a reasonable assurance of employment after completion of the course. Neither the university nor the UGC guarantee either. It will be completely impractical to insist that LL.M. students should pursue the course exclusively and not undertake any employment. Since most of them come to this course at the age of 25 after putting in 6 years of studies at degree level and most of them have families to support and therefore have to be in employment. The part-time students are more serious and exhibit greater devotion to studies and show better performance at the examination. The university has suggested that the problem could be solved by extending the LL.M. course for part-time students by one year. They may be permitted to offer a lesser number of papers during any one year and thus complete the LL.M. course in 3-years whereas full-time students may complete it in 2 years as at present.

5. Kurukshetra : The University agrees that the LL.M. course should be offered to whole-time students. The university has, however, requested that the Panel may define as to what they mean by whole-time and part-time students, so that there may not remain any doubt at the time of admitting students. The university admits only such students to the LL.M. examination as have pursued a regular course of study in the department for 2 years; or have to appear in the examination as ex-students.

6. Jodhpur University: The University has endorsed the suggestion made by the Panel.

(8)

- 2 -

7. Andhra University : The University has all along been running a full-time M.L. course which has substantial research content. Equation of this course with M.Phil. programme with suitable modifications in the curriculum is highly welcome. It would give a more or less really academic, research oriented advanced study in Law at the master's degree level.

8. Punjabi University : All the faculty members have endorsed the suggestion made by the Law Panel.

9. B.H.U. : The members of the Law Faculty agreed with the recommendations of the Panel and the University has already made a provision that LL.M. course would be a full-time course in its ordinance.

10. Karnatak : The University has a regular course of 2 years duration and vacation course of 3 years duration of LL.M. level. The university welcomes the suggestion that only full-time students would be admitted to the regular course. The university, however, feels that there are some really serious persons who are interested in higher studies in Law, but because of their profession or employment they are not able to take up the studies as regular students. The university has been conducting vacation courses for such students. It has helped many law teachers serving in various colleges to acquire LL.M. degree by attending classes during the vacations.

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CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

82

Meeting :

Dated : 2nd March, 1976

Item No. 16 To consider the recommendations of forty-second report of the Committee on the welfare of Scheduled Caste & Scheduled Tribes on the Ministry of Education and Social Welfare.

The Commission at its meeting held on 12th November, 1973 (Item No. 15) agreed to reserve 10% of the fellowships allocated to the universities (650) or ~~for~~ direct award (200 JRF + 100 SRF) for Scheduled castes and scheduled tribes candidates provided they fulfil the minimum qualifications laid down for the award of such fellowships. In case qualified candidates are not available reserved fellowships may be treated as unreserved. The Commission also agreed that 10% of the Research Associateships instituted by the UGC (50) may be earmarked for scheduled castes and scheduled tribe candidates. In case qualified candidates belonging to these communities are not available reserved Associateships are to be treated as unreserved (Item No. 32 dated 10.3.1975). It has been further agreed that 50 Junior Research Fellowships may be awarded, in addition to the 10% already reserved to the eligible candidates belonging to scheduled castes and scheduled tribes from the session 1976. The applications for those awards will be invited along with the general fellowships with a clear indication that these fellowships are exclusively for scheduled castes and scheduled tribes candidates.

The Committee on the Welfare of Scheduled Castes and Scheduled Tribes on the Ministry of Education has desired that there should be a reservation of 22½% seats for scheduled castes/tribes candidates in junior/Senior Fellowships and Research Associateship (15% for scheduled castes and 7½% for scheduled tribes), so that sufficient number of candidates belonging to these communities become qualified to fill the various reserved academic posts in universities and colleges. A copy of the recommendation, as received from the Ministry of Education and Social Welfare vide its letter No. F. 16-3/76(LU) dated 21st January, 1976 is attached as annexure.

The matter is placed before the Commission for consideration.

AS(RF)/JS.II

A.T.O.

83

Recommendation (Sl. No. 26 in Appendix VI)

Para No. 3.22

The Committee note that the University Grants Commission has decided to reserve ten per cent of the Fellowships instituted by it in the Universities or awarded by it directly, for candidates. The Committee further note that the Commission has also decided to reserve ten per cent seats in Research Associates for Scheduled Castes and Scheduled Tribes. The Committee desire that there should be a reservation of $22\frac{1}{2}$ per cent seats for Scheduled Castes/Tribes in Junior/Senior Fellowships and Research Associates (15% for Scheduled Castes and $7\frac{1}{2}$ % for Scheduled Tribes), so that sufficient number of candidates belonging ^{to} these communities become qualified to fill the various reserved academic posts in the universities and colleges.

Confidential

University Grants Commission

Meeting:

Date : 22 March 1976

84

Item No 17 To receive a Report of the UC-ISSA Study Team on Social Sciences in Professional Education.

In 1970 the University Grants Commission and Indian Council of Social Science Research took the initiative of setting up a joint study team with the co-operation of the Indian Council of Agricultural Research, the Indian Council of Medical Research and the All-India Council of Technical Education relating to the introduction of social sciences in professional education viz. Agriculture, Engineering and Medicine, under the Chairmanship of Dr. M.S. Gore, Director, Tata Institute of Social Sciences, Bombay.

The term of reference of the Study Team were as follows:-

- a. To study the place given to social sciences in the education for the professions of agriculture, engineering and medicine. (Note: The scope of agriculture would be defined as by the ICAR for its purposes).
- b. To ascertain the views of educators, administrators and professionals in each of these of fields on the desirability of including social science content in their respective programmes of professional education and to study their perception and reaction to social sciences where these have been introduced.
- c. To study the profile and problems of social scientists currently engaged in these fields, and their views on social sciences education and utilization of researches.
- d. To indicate the nature of contribution that social sciences can and should make to agriculture, engineering and medicine.
- e. To spell out the organisation modifications and supports that might be necessary to incorporate social science content in these educational programmes.
- f. To indicate the type of research and study courses in social sciences that should be promoted to equip social scientists to contribute to the preparation of agricultural scientists, engineers and medical men.
- g. To work out a programme of pilot projects whereby experiments in the incorporation of social sciences content can be undertaken in professional colleges other than major all-India institutions.

The report of the Study Team is given in Appendix.

contd..

(89)

A "generalised summary" of the recommendations is as below:-

Objectives for the contribution that Social Sciences can make in professional education.

- a. To give the student a perspective from which to understand human behaviour and culture.
- b. To make the student aware of the social environment in which he functions and of the problems facing the country and the need to attract his efforts to the attainment of national goals.
- c. To make the student aware of his own psychological and sociological orientation.
- d. To equip the professional to play his administrator-manager role more effectively.

Courses

- i. Courses whether undisciplinary or interdisciplinary should be framed with reference to the objectives above. Some of the courses should be problem-oriented related to the field appropriate for each of the professions. Basic disciplines will have to be introduced before problem-oriented courses can be taught.
- ii. Courses such as on the philosophy of science, growth of civilisation, culture and society will be useful and should be included in the curriculum.
- iii. Courses should be oriented to the Indian context in order to make it more relevant to the student.
- iv. Institutions having facilities should try to develop a programme of postgraduate specialisation in Social Sciences.

Time allocation

Eight per cent of the total curricula for State level colleges, 10 per cent for the Regional Institutes and 12 per cent for the IITs would be appropriate. For medical colleges, at least 200 hours of teaching time should be provided for social sciences out of the total time available for instruction which may largely come out of the time allocated for preventive and social medicine and subjects like paediatrics and obstetrics for training in social paediatrics and social obstetrics.

Allocation of Marks

Allocation of marks for courses in social sciences should be proportionate to the time spent on these courses and the marks required for passing in social sciences should be the same as for other subjects.

contd.

Teaching Methods

New methods to be developed to arouse the students' interest in social sciences. Seminars, case studies, etc., would be more appropriate to teach social sciences rather than the lecture method.

Social Science Teacher

Scientist's contribution in professional institutions should cover the following aspects.

a. As a teacher

His main responsibility being to teach social science as part of an integrated educational programme by developing new teaching materials such as collecting case studies or evolving audio-visual and other teaching aids which would help illustrate social science concepts to the students.

b. As a Researcher

Social scientists to be encouraged to conduct research in areas where an understanding of social factors is particularly necessary for the practice of his profession.

c. As a Member of Social Science Department

The social science department should be developed as an active department which can assist other technical developments dealing with issues where an understanding of social factors become necessary. Undertaking cost/benefit analyses, provision of case counselling services, etc., are ways in which social science teachers can involve themselves in the work of an institution.

d. As a Member of the Organisation

The social scientists can study and analyse the institution as a social system and work out ways of increasing its efficiency. Social Scientists may help in developing student welfare activities, staff activities, systems for student selection and evaluation, improvement of personnel practices, etc.

Organisational Issues

a. Faculty and Organisation of Department

Separate social science department wherever possible should be developed. The core faculty may be permanently attached to the institution and an adjunct faculty from other institutions may be invited to join for a specified period on part-time basis.

contd.

(87)

b. Recruitment of Staff

Persons to be selected to teach social sciences should show evidence of their interest and ability to adapt social sciences in a technological culture.

c. Work-load

The teaching load must be adjusted to provide sufficient time for research.

d. Promotion, Salary and Emoluments

Suitable opportunities must be provided for social scientists to advance in their career.

e. Facilities for the Development of Professional Interest

Institutions should provide facilities and equipment necessary for the development of such departments particularly by increasing the number of library books and providing proper facilities for research.

f. Contact with other Social Scientists

Special efforts must be made to encourage communication and interaction with other social scientists through seminars, discussions, visiting lectureships etc. for exchange of ideas with social scientists from similar institutions, or even general or liberal art institutions. Social scientists in professional institutions should also be encouraged to participate in seminars and meetings organised by other bodies. Associations may be created of social scientists working in professional institutions where issues and problems of common interest can be discussed.

The matter is placed before the Commission for consideration.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

88

Meeting :

Dated : 22nd March, 1976

Item No. 18 To consider a reference from the Ministry of Education and Social Welfare regarding recommendations made by a Committee of Writers on travelling fellowships/special Visiting Professorships.

The Ministry of Education and Social Welfare on the basis of the recommendations made by the Standing Committee of the National Integration approved a committee of distinguished Writers to consider the various ways of promoting National Integration through creative writings. The Committee had inter-alia recommended the following:-

- (i) Travelling Fellowships should be established to enable writers to go round other places for stay as well as giving lectures.
- (ii) School Visiting Professorships in creative Indian literature should be established at selected Universities.

The Ministry of Education has felt that the suggestions made by the Committee are valuable and could contribute a good deal towards the promotion of National Integration through Writers. The Ministry has now desired that the Commission may take appropriate steps for the implementation of the above recommendations of the Committee.

The matter is placed before the Commission for consideration.

AS(CP)

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 22nd March, 1976

Item No. 19: To reconsider the report of the M.Phil Committee about the objectives and working of the M.Phil courses in the Universities.

The Commission at its meeting held on 7th January, 1976 generally accepted the guidelines suggested by the Committee regarding the objectives and working of the M.Phil courses as per Appendix I.

Arising out of the minutes at its meeting held on 16th February, 1976, it was agreed that the guidelines earlier suggested for M.Phil courses may be brought up again for consideration.

The matter is placed before the Commission for consideration.

JS(II)

Appendix II to Item 17.

1. Objectives :

- i) M. Phil should constitute basically a pre-Ph.D. degree course; and
- ii) to provide facilities for training in research methodology; to promote inter-disciplinary studies;
- iii) to offer advanced courses beyond the Master's degree level which could lead to Ph.D. research;
- iv) to serve as a filter for assessing the suitability of a scholar for pursuing research leading to Ph.D.

2. Courses

- I. M.Phil students may be required to take upto four courses to be prescribed by the department concerned, one on methods of research, one or two on major aspects of the subject and one in an allied subject;
- II. M.Phil students should be required to attend and participate in at least six seminars to be organised for the purpose by the department;
- III. Apart from the core courses, other courses for the M.Phil. shall have to be prescribed according to individual needs. M.Phil. programmes should not be mixed up with Faculty Improvement Programmes which may be for shorter duration. However, for college teachers undertaking a M.Phil programme may be designed in such a way as to cover topics etc. which may help them to raise their professional competence as teachers.

3. Duration:

The duration of the M.Phil course should be generally two semesters (one academic year) with permission to complete the dissertation subsequently either as a regular candidate or as an ex-student. The duration in which the course work and dissertation should be completed should be fixed separately. The course work could be completed in a period not longer than three semesters and dissertation not longer than five semesters in all. The semesters should include once successful seminar pertaining to the scholar's dissertation.

4. Admission requirements:

Admission to the M,Phil programme should be made on the basis of:-

- a. Satisfactory performance at the Master's degree examination and test conducted by the department concerned;
- b. Admission recommended by the department concerned shall have to be approved by the Board of Research Studies in the universities concerned;

5. Attendance :

M.Phil students will be required to participate seminars and lectures during the semesters to the satisfaction of the department concerned which may recommend to the Board of Research Studies the removal of the names of students who were irregular in attendance from the M.Phil rolls.

6. Requirements for the Degree:

- i. Assessment of grade in course work should cover both written and oral examinations;
- ii. Weightage for dissertation should not be less than 25 per cent of the credits given for course work. Provision however, may be made for dissertation being given upto 50 per cent of the credits in special cases.
- iii. M.Phil should be simultaneously a terminal degree for those who do not show a research aptitude as evidence from assessment. Candidates must have at least B (high second class) (including dissertation) to qualify for M.Phil.
- iv. Satisfactory performance at the seminars as assessed by the department in terms of grade in an appropriate manner (on the basis of paper presented at the seminar and his contribution to the discussion on all papers).

7. Evaluation :

The performance of the M.Phil students in the various examinations and tests in respect of the course work and seminars may be evaluated in terms of four categories:-

- i. F Category - students who have failed or whose grades are below the prescribed grade point average and, therefore, have to leave the programme;

- ii. C Category - students who may complete their M.Phil programme and submit their dissertation for the M.Phil degree but will not be allowed to proceed to the Ph.D. programme:
 - iii. Category B and A - students who may complete their studies for the M.Phil and after obtaining the degree proceed to Ph.D. programme.
 - iv. O Category - outstanding students who may proceed to the Ph.D. degree programme after or without obtaining the M.Phil degree.
8. Administration of the M.Phil degree programme:
- i. M.Phil. programme should be instituted in universities having strong teaching departments in the concerned disciplines;
 - ii. M.Phil programme shall be administered by the department concerned through its M.Phil Committee.
 - iii. The M.Phil Committee will -
 - a. recommend students for admission to the M.Phil course;
 - b. draw the syllabus for the courses;
 - c. assign these courses to the concerned teachers of the departments;
 - d. organise seminars;
 - e. to guide in the selection of topic for dissertation;
 - f. make arrangements for evaluating performance of the M.Phil students at the seminars;
 - g. recommend names of examiners for M.Phil dissertation to the university;
 - h. recommend to the university for the award of or otherwise of the degree to the students on the basis of assessment.

9. Academic staff:

The responsibility of introducing M.Phil courses in the postgraduate teaching department in particular will rest with the department itself on the assumption that the department has the necessary infrastructure for instituting such additional responsibility i.e. having the requisite academic and supporting staff and other physical facilities such as, library, laboratory etc. Marginal assistance could be provided by the Commission to such departments intending to introduce M.Phil courses where a certain number of college teachers are accommodated to pursue their M.Phil/Ph.D programme.

Supplimentary Note.

UNIVERSITY GRANTS COMMISSION

Meeting :

Dated : 22nd March, 1976

Item No. 19 : To consider the general question of fixing the value of M.Litt. scholarships.

The University Grants Commission has not laid down any rules for the award of scholarships for M.Litt. courses. The details of scholarships/fellowships under implementation by the University Grants Commission are given in the Annexure.

The C.A.S. in sociology in Delhi University has suggested that the value of the M.Lit Scholarship should be revised upward. The existing rate of stipend agreed to by the Commission for the M.Litt. scholarship awarded by the Department of Sociology, University of Delhi under the scheme "Special Cell of Sociological Study in the North East Hill Area of India" is Rs. 250/- per month without any contingency grant. The question of enhancement of the value of stipend for this scholarship was considered by the Visiting Committee appointed by the Commission to evaluate the working of the N.E.H.A. in the department of Sociology, Delhi University which visited the University on the 12th and 13th September, 1974. The Committee recommended that the value of M.Litt. scholarship may be decided by the UGC in accordance with its policy. The University Grants Commission at its meeting held on the 10th/11th February, 1975 considered the report of the above Committee and desired that while assistance to the University may be continued on the present level for 1975-76 the proposal may be examined as a part of the development proposal of the Centre of Advanced Study in Sociology. The proposal was, therefore, referred to the Committee set up by the Commission to evaluate the working of the Centre of Advanced Study in Sociology, in Delhi University and to examine its development proposals for the 5th plan period. The Committee visited the Delhi University on the 20th August, 1975, but do not make any specific recommendation regarding the enhancement of the value of the M.Litt. scholarship.

The University of Delhi has requested that the value of M.Litt. scholarship under the above scheme may be increased.

The matter is placed before the Commission for consideration.

AS(HR)/JS(I)

Annexure to Item No. 19 (supplementary Note)

Details of Scholarships/Fellowship under implementation by the University Grants Commission.

- (1) Scholarships for Honours and Postgraduate Studies in Arabic and Persian. 20 scholarships are available every year to outstanding students pursuing for Honours/Post-graduate studies in Arabic/Persian in universities and colleges. The value of scholarships is Rs. 1200/- per annum for Honours and Rs. 1800 p.a. for Postgraduate studies and scholarship is tenable for the duration of the course upto a maximum of the 3 years for Honours students and 2 years for Post-graduate students.
- (2) Scholarships for Postgraduate studies in Sanskrit, Pali and Prakrit, 20 Scholarships are available every year to outstanding students pursuing studies in Sanskrit, Pali or Prakrit in universities and colleges in the country. The value of the scholarships is Rs. 1800/- p.a. tenable for the duration of the course subject to a maximum of 2 years.
- (3) Scholarships for Postgraduate Studies in Science and Humanities for students belonging to Hill Areas of Northern Eastern Region and Ladakh. 10 scholarships are awarded for promoting academic communication between North Eastern Hill Region and Ladakh and other parts of the country to outstanding students belonging to the Hill areas of Assam, Arunachal Pradesh, Manipur, Nagaland, Meghalaya, Mizoram and Ladakh. The value of Postgraduate scholarship is Rs. 1800/- p.a. in addition to Rs. 200/- for the whole tenure for purchase of books and Rs. 100/- to cover initial expenses are also available. Actual second class rail/bus fare for the journey from the place or residence to the place of duty once a year is also admissible. These scholarships are tenable for a period of 2 years and a sum of Rs. 1500/- p.a. is also admissible for approved contingency expenditure.
- (4) The Centres of Advanced Study and University Departments selected for special assistance in Humanities award scholarships to enable outstanding graduates to undertake Post-graduate studies leading to Master's degree in these subjects. To encourage mobility of students with a view to promoting national integration among university students of different regions. 128 scholarships are awarded every year and the value of scholarship being Rs. 150/- p.m. in addition to a sum of Rs. 200/- payable for the duration of the course every year for purchase of books. A travel grant covering actual second class rail fare from the place of residence to the Centre of Study is also given once in a year and a sum of Rs. 100/- is paid to cover incidental expenses.

- (5) Postgraduate scholarships in Engineering and Technology at the rate of Rs. 400/- p.m. for the duration of the course or 24 months whichever is less are made available by universities for H.E., M.Tech. studies in Engineering and Technology. 1279 such scholarships are allotted at present to different universities by the UGC.

Apart from these, the UGC also has a number of research fellowships schemes as below:-

- (1) Junior Research Fellowships for Science and Humanities:
200 such fellowships are awarded every year. Value of Rs. 400/- p.m. for the first two year and Rs. 500/- p.m. for a further period of 2 years, besides a sum of Rs. 1500/- p.a. for contingency.
- (2) Junior Research Fellowships in Science and Humanities allocated to universities to be awarded by the universities concerned.
600 such fellowships are allocated by the Commission every year, value being Rs. 400/- p.m. for the first 2 years and Rs. 500/- p.m. for the next 2 years besides Rs. 1500/- p.m. for contingency.
- (3) Junior Research Fellowships by Centres of Advanced Study and Departments selected for special assistance.
217 such fellowships are available, value being Rs. 400/- p.m. for the first 2 years and Rs. 500/- per month for the next 2 years, together with a contingency grant of Rs. 1500/- p.a. per fellow.
- (4) Junior Research Fellowships for Students belonging to Hill Areas of Northern Eastern Regions and Ladakh.
10 such fellowships are available, value being Rs. 400/- for the first 2 years and Rs. 500/- for the next 2 years together with an annual contingency grant of Rs. 1500/- per fellow.
- (5) Fellowships in Computer Science, Instrumentation Work and other chosen areas like space Science, Workshop technology Engineering etc.
75 such fellowships have been allocated to universities so far at the rate of Rs. 400/- p.m. per fellow. These are sanctioned to students, who have joined Post-M.Sc./B.E. Postgraduate courses in the fields indicated above.

- (6) Senior Fellowships:- 47 such fellowships are awarded by universities to promote higher education in the field of engineering and Technology, at the rate of Rs. 500/- p.m. for a period of 2 years and Rs. 600/- p.m. thereafter for another 2 years along with a contingency grant of Rs. 1000/- per month per scholar.
- (7) 100 senior research fellowships are awarded for Advanced Study and research in Science and Humanities at the rate of Rs. 600/- p.m. together with a contingency grant of Rs. 2000/- p.a.
- (8) 60 research fellowships are awarded directly by the UGC to research students engaged in Advanced Study and Research in Engineering and Technology; the value of fellowships being Rs. 500/- p.m. for the first 2 years and Rs. 600/- thereafter for another 2 years along with a contingency grant of Rs. 1000/-. A provision of Rs. 2000/- also exists for publication of research work.
- (9) 157 senior research fellowships are also available in Centres of Advanced Study and Universities selected departments for special assistance, at the rate of Rs. 600/- per month per fellow together with a contingency grant of Rs. 2000/- p.a.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

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Meeting:

Dated : 22nd March, 1976

Item No. 20 : To consider the report of the seminar on continuing education held at Poona on February 7-9, 1976.

The Seminar on Continuing Education, sponsored by the University Grants Commission, was convened by the University of Poona, from February 7 to February 9, 1976. Representatives from 12 universities and one institution deemed to be a university viz. Aligarh, Andhra, Bombay, Burdwan, Gujarat Vidyapeeth, Jammu, Osmania, Poona, Panjab, Rajasthan, Saurashtra, SNDT Women's University and Sri Venkateswara University participated in the seminar.

2. The seminar also had the benefit of the advice and expertise of Dr. Mohan Sinha Mehta, Chairman, UGC Standing Committee on Continuing Education, Dr. Nicolas Haines, Associate Professor, Australian National University and Dr. Alan Rogers, Senior Lecturer in History, Department of Adult Education, University of Nottingham, U.K.

3. The seminar had 8 intensive sessions. The report and suggestions are given in Annexure-2. The main recommendations are summarised below for the information of the Commission.

- a) Continuing education has to be accepted as a new, but very important, function of the university. Its many functions are remedial, vocational, cultural, economic, political, training for responsible citizenship and community development, improving human relations, leadership-training etc.
- b) Extension programmes which begin on the periphery, ultimately become an integral part of teaching and research in the university departments.
- c) In so far as social service activities, adult literacy and other programmes related to our national objectives are concerned, these might be very important but the direct involvement of the university extension departments alone in these activities is not likely to achieve the objectives of continuing education.
- d) The extension department of the university should not become a wing of the education faculty since the philosophy of adult education is more broad-based and inter-disciplinary in character while the focus of a department of education is mainly on the training and retraining of teachers and producing leaders of educational thought.
- e) Universities should safeguard against venturing out into areas in which other agencies may be functioning more successfully, and should concentrate, as far as possible, on areas in which they have superior know how and comparative advantage.

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- f) Some of the priority areas would be programmes oriented towards the removal of poverty and reduction of disparity, updating of knowledge and skills, participation in development and fulfilment of read educational needs to make them more meaningful to consumers of knowledge.
- g) The first step is to assess the needs of the community and to design the programmes, content and methodology to suit those particular needs. This must, inevitably, be a continuous process.
- h) Extension work involves language and communication skills but, more than this, it is the right kind of methodology for maximising learning. Of course, one has to emphasize learning more than teaching.
- i) Instead of diversifying its activities and resources over a wide range of activities, the university should be content with a modest but firm beginning. This strategy is likely to be more effective.
- j) There should be a separate department responsible for this activity with a good deal of flexibility and functional autonomy. The department may offer courses of a credit or non-credit nature either planned on campus or off-campus. The department should be directly responsible to the Vice-Chancellor. For better organisation, two committees should be formed: one consisting mainly of academicians and the other comprising largely of representatives of the community.
- k) In the context of clearly-defined objectives of continuing education, the programmes and activities must essentially be knowledge-based with such orientation to the development of appropriate skills and abilities, as may be desirable from the view point of the learners and of the effectiveness of methodology and communication.
- l) The Centre or department of Continuing Education should function as an independent unit within the general framework and guidelines formulated by the university.
- m) Priority should be given to Programmes which are likely to have a multiplier effect. Leaders in various walks of social life such as panchayat leaders, block development officer, teachers, journalists, doctors, engineers, managers, labour leaders etc. should receive the utmost attention in a programme of continuing education, if it is to act as an initiator and animator.
- n) The existing confusion regarding terminology arises mainly because each one seems to be emphasizing either the agent or the student or the content and methods or the educational goals, and a proper understanding of the process of learning in relation to goals is, therefore, necessary.
- o) The educational administrator should also become an integral part of the educational process and continuing education programmes should attempt to orient them to the learning processes.
- p) The problem of defining the adult is as important as it is complex. This should be taken up in the local context, keeping in view the level of

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maturity, age, etc.

q) The need to change the attitude of University staff to continuing education was underlined in order to ensure close involvement of the academic community in extension work.

r) The introduction of continuing education as a discipline by a few universities in India is important in view of the expansion of continuing education. Programmes in various institutions and the fact that there is at present a lack of trained personnel in this discipline.

s) The character and pattern of adult education as a discipline would depend on a variety of factors of which the mental equipment of the learner would be one of the most important.

t) In planning continuing education as a University discipline one must consider the areas of change taking place in the country as this would help assessment of the learning needs.

u) Summer Institutes should be organized for the training and orientation of personnel in the departments/centres of continuing education.

v) The U.G.C. may constitute a Task Force consisting of experts in the different disciplines for working out such details as the level, objectives and contents of the course in continuing education.

w) The Director/Co-ordinator of continuing education should be treated as part of the academic staff.

The Commission may consider the recommendations of the seminar with special reference to continuing education as a University discipline as spelt out in paras (r), (s), (t), (u) and (v).

D.S.(ER)

Seminar on Continuing Education held at Poona from February 7th to February 9th, 1976.

Report and Suggestions

The Seminar on Continuing Education, sponsored by the University Grants Commission, was convened by the University of Poona, from February 7 to February 9, 1976.

Representatives from 12 Universities and one institution deemed to be a university viz., Aligarh, Andhra, Bombay, Burdwan, Gujarat Vidyapeeth, Jammu, Osmania, Poona, Panjab, Rajasthan, Saurashtra, S.N.D.T. Women's University and Sri Venkateswara University participated in the seminar. These included vice-chancellors, professors of university departments, directors of centres/departments of continuing/extension education and principals of colleges. The seminar thus represented different levels and shades of opinion in the University system and yet all the participants were committed to the basic philosophy that universities have an important and unique role to play in the socio-economic, cultural and educational advancement of the community through variegated programmes of continuing education. The seminar also had the benefit of the advice and expertise of Dr. Mohan Sinha Mehta, Chairman, UGC Standing Committee on Continuing Education, Dr. Nicolas Haines, Associate Professor, Australian National University and Dr. Alan Rogers, Senior lecturer in History, Department of Adult Education, University of Nottingham, U.K. Resource persons from Seva Mandir, Udaipur and persons distinguished in public life in Maharashtra provided valuable guidance to the seminar and refreshing ideas and points of view. Representatives of the UGC, NCERT, and the Indian Adult Education Association also participated in the deliberations of the seminar.

First Session

Prof. D.A. Debholkar, Vice-Chancellor, University of Poona, welcoming the participants, laid stress on the important and somewhat complex role which the university has to play in maintaining standards of teaching and research on the one hand and in catering to the cultural aspirations of the local community on the other. He observed that while it was futile to try to educate those who did not wish to learn, it was an obligation on the part of the University to provide adequate facilities for learning to all those who have the motivation to learn. The pace and mode of learning have to be adjusted to the needs of the individual and group in order to achieve optimum social welfare.

In his inaugural address on "Adult Education - The New Imperative of Our Time", Dr. Mohan Sinha Mehta pointed out that it is a fact of history that whenever the community has been in crisis, it is adult education which rescued it. In modern times, adult education has become an imperative in view of the constantly widening and deepening stream of new knowledge, which is often referred to as "knowledge explosion". The knowledge acquired in school and college becomes

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inadequate and obsolete often in one's own life time. Advances in Science and technology in recent times have given special significance to the scheme of university continuing education. In this context, one has to reckon with the changing character of modern society, which embraces every aspect of the individual's life. The scope of university continuing education is indeed vast and varied. It deals with the whole spectrum of human life, its need and problems, and the inevitable conclusion is that education is a life-long continuous process.

Continuing education has to be accepted as a new, but very important, function of the university. Its many functions are remedial, vocational, cultural, economic, political training for responsible citizenship and community development, improving human relations, leadership-training etc.

Dr. Mehta raised the following issues in regard to extension programmes:

- (a) Are they to be decentralised or integrated into a single university extension division ?
- (b) Should extension programmes and courses be viewed as integral or peripheral functions of the university ?
- (c) What should be the comparative value of credit and non-credit courses ?
- (d) Should greater stress be laid on credit courses or on non-credit programmes ?
- (e) Should there be a separate "Extension Faculty"? Or should teachers be drawn on part-time or permanent basis from other university departments and/or from outside the university ?
- (f) Should the continuing education section be a part of the education faculty (or education institute) of the University ?
- (g) Should extension programmes and courses be self-supporting ? If so, to what extent ?
- (h) Should the extension department be autonomous in financial matters ?
- (i) What should be the priorities in the selection of programme ?

In the discussion that followed Dr. Mehta's thought-provoking address, a number of issues were raised such as the education of displaced masses, the role of non-formal education in the promotion of national objectives, the education of agricultural and industrial workers, the nexus between continuing education and productivity, job oriented courses, and the general question of training and re-training adult education workers, and research and evaluation.

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Dr. Mehta summed up the discussion by pointing out that extension programmes which begin on the periphery, ultimately become an integral part of teaching and research in the university departments. In so far as social service activities, adult literacy and other programmes related to our national objectives are concerned, these might be very important but the direct involvement of the university extension departments alone in these activities is not likely to achieve the objectives of continuing education. It has to be borne in mind that the role of the university is that of a catalytic agent and that it has to initiate programmes under continuing education which might generate interest in the other institutions undertaking these tasks and thereby speed up the tempo of the total process of the education of the community. The extension department of the university should not become a wing of the education faculty since the philosophy of adult education is more broad-based and inter-disciplinary in character while the focus of a department of education is mainly on the training and retraining of teachers and producing leaders of educational thought.

Second Session

In the second session Dr. N.H. Haines spoke on the philosophy and scope of continuing education. Dr. Haines began by pointing out that in the planning of policies and programmes for continuing education we need a general philosophy of society. We seek the responsible society - one in which we maximise the number of those who are competent to manage their affairs and share in the management of society's resources.

According to Dr. Haines, education is both a major resource in itself - the resource of knowledge - and a process by which we improve competence in the management of all other resources, personal and collective.

The four major areas of provision by continuing education are those of theory, techniques, practical and experiential learning. A comprehensive programme for continuing education will allow for all these. This describes the scope of continuing education : the provision of theoretical knowledge, of technical skills, of practical understanding in the management of human relations and the experiential learning by which self-knowledge, especially at the affective level, is achieved.

In considering the organizational scope of continuing education we have two major factors to face, both arising from the context of life-long learning. First, the range of organization and institutions which will be involved and second, the range of personal needs changing through the course of life.

The first, organizational dimension, requires the university to see itself as part of a learning society and to co-ordinate its efforts with other organisations. In this respect, the university has to learn from other institutions and to diffuse knowledge also. This helps to determine the nature of the extension agency it creates, its functions, management, and staffing needs.

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The second, personal dimension, involves the university in all the kinds of knowledge education provides, including the practical and experiential. This raises questions about the involvement of the university, through extension and otherwise, in social and community development.

A number of issues were raised by the participants including those of staff training, involvement in social change and the role of extension departments. It was agreed that these should be discussed in depth in the later sessions.

Third Session

In the third session, Dr. N. Haines invited the participants to identify areas likely to have significant implications in planning programmes and policies of continuing education. This would include trends anticipated and foreseen by the participants, as well as changes, which, from their point of view appear to be desirable. Participants identified the following areas of change:

- (1) Classless society on the socialistic democratic pattern,
- (2) Redistribution of income, wealth and assets,
- (3) Extension of the benefits of modernisation to rural areas
- (4) Small family norm
- (5) Non-formal education
- (6) Group relationships
- (7) Increased productivity and improved techniques of production,
- (8) Desire for a richer, and fuller, life,
- (9) Liberation of women, including abolition of the dowry system,
- (10) Humanistic studies for professional groups,
- (11) World Government,
- (12) Unified legal system,
- (13) Unified monetary system.
- (14) Emotional adjustment in a changing society,
- (15) Breakdown of social and religious values,
- (16) Challenge to constituted authority.

The participants then formed themselves into three groups to discuss at length needs, priorities and resources in relation to the areas of change identified above. The discussions of each group, which were reported upon by the conveners, were received with great interest by the general body.

Fourth Session

In the post-dinner session of the seminar, the Directors/co-ordinators of continuing/extension education from the universities of Sri Venkateswara, Andhra, Aligarh, Poona, Punjab and Rajasthan and Seva Mandir, Udaipur, gave an account of how they assessed the educational needs of the community, formulated programmes, elicited the co-operation of the academic community, voluntary agencies etc., and evolved procedures for evaluating the programmes. The exchange of ideas led to lively discussion which mainly centred on symbiosis between the department/centre of continuing education and university teaching departments and how to make the interaction between the two more meaningful. The question whether the programmes implemented by the different universities came within the purview and scope of continuing education was also discussed in the hope that the universities concerned would reorient their programmes accordingly.

Fifth Session

In his address on "The Role of Universities in Continuing Education", Dr. Mohan Sinha Mehta made the following important observations:-

- (a) Though universities are maintained by the community, they have, by and large, remained isolated from the main stream of national life preferring to exist in a kind of ivory tower and thus failing to fulfil their obligations to the community at large.
- (b) Now that a more realistic awareness of their commitment to the philosophy of continuing education is fast growing, universities should not hesitate to undertake those programmes for which they alone can provide specialised knowledge, expertise and leadership.
- (c) Universities should safeguard against venturing out into areas in which other agencies may be functioning more successfully, and should concentrate, as far as possible, on areas in which they have superior know-how and comparative advantage.
- (d) Some of the priority areas would be programmes oriented towards the removal of poverty and reduction of disparity, updating of knowledge and skills, participation in development and fulfilment of real educational needs to make them more meaningful to consumers of knowledge.
- (e) The first step is to assess the needs of the community and to design the programmes, content and methodology to suit those particular needs. This must, inevitably, be a continuous process.

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(f) Extension work involves language and communication skills but, more than this, it is the right kind of methodology for maximising learning. Of course, one has to emphasize learning more than teaching.

(g) Instead of diversifying its activities and resources over a wide range of activities, the university should be content with a modest but firm beginning. This strategy is likely to be far more effective.

(h) In organising a department of continuing education, one should understand very clearly the objectives of university level continuing education. There should be a separate department responsible for this activity with a good deal of flexibility and functional autonomy. The department may offer courses of a credit or non-credit nature either planned on campus or off-campus. The department should be directly responsible to the Vice-Chancellor. For better organisation, two committees should be formed: one consisting mainly of academicians and the other comprising largely of representatives of the community.

(i) There is need for developing self-financing programmes which could be worked out in consultation with the community in a specific university area. The possibility of financing the programmes through fees, publications, donations, etc. should be fully explored. Financial assistance, by way of grants, is already available from the Central and State agencies for programmes of continuing education. The problem of finance is not, thus, insurmountable.

(j) In the context of clearly-defined objectives of continuing education, the programmes and activities must essentially be knowledge-based with such orientation to the development of appropriate skills and abilities, as may be desirable from the view point of the learners and of the effectiveness of methodology and communication.

(k) Lectures, discussion classes, seminars, summer schools audio-visual aids, etc. could all be used with advantage in programmes of continuing education but the keyword here should be flexibility in relation to the resources and expertise of the university and the needs of the community.

The following points were brought out in the ensuing discussion:

(a) The Centre of Department of Continuing Education should function as an independent unit within the general framework and guidelines formulated by the university.

(b) The functioning of the department should be decentralised as far as possible so that the colleges might be involved and enabled to play their role in continuing education.

p.t.c.

(c) The department of continuing education should, as far as possible, be a self-propelled activity, able to generate its own impulses.

(d) Priority should be given to programmes which are likely to have a multiplier effect. Leaders in various walks of social life such as panchayat leaders, block development officers, teachers, journalists, doctors, engineers, managers, labour leaders etc. should receive the utmost attention in a programme of continuing education, if it is to act as an initiator and animator.

(e) In assessing the educational needs of the community, a variety of methods could be used but the findings may not always fully reflect the real needs of the community and, therefore, some kind of value judgement might be necessary from time to time.

Sixth Session

The Sixth Session was devoted to a definition of the principal terms used in the area concerned with the extension of knowledge and stimulation of the intellectual and cultural life society and in short, making learning a life long process. Universities in different parts of the world vary often use different terms, /Adult Education, Non-formal Education, Extension Education, Extra-mural Education, Recurrent Education etc.

or identi-
activities
; Conti-
ng Education

Dr. Rogers, the main speaker in the session, pointed out that the first important principle involved in conceptualisation is that the process of learning is more important than its structure, and that 'Education' is not necessarily synonymous with "learning". Learning involves something more than acquisition of knowledge and it should not only lead to change in behaviour but also in application to given and new situations. Learning is conditioned by environment and other influences but the important thing is that it has to be a voluntary effort. According to Dr. Rogers, education is "contrived learning" and the present confusion about terminology stems from the fact that we often over-emphasise the importance of the educator, who is only an agent, rather than the educational goals achieved through a process which brings about change in behaviour through content and methods.

The second important principle to be recognised is that the process of adult learning is different from that of child learning. Education at the University level has three important objectives viz., self-realization, social-change and the development of skills and abilities.

The following points were brought out in the discussion:-

- (a) The existing confusion regarding terminology arises mainly because each one seems to be emphasizing either the agent or the student or the content and methods or the educational goals, and a proper understanding of the process of learning in relation to goals is, therefore, necessary.

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- (b) The educational administrator should also become an integrate part of the educational process and continuing education programmes should attempt to orient them to the learning processes.
- (c) The problem of defining the adult is as important as it is complex. This should be taken up in the local context, keeping in view the level of maturity, age, etc.

() It was agreed that a group consisting of Dr. Mohan Singh Mehta, Dr. B. Ghosh, Dr. M.N. Paisane, Dr. N. Haines and Shri L.G. Rajwade would attempt to arrive at a definition of the principal terms. A workable definition of "adult education" is given in the annexure for more intensive discussion by a later seminar or forum.

Seventh Session

Extension : Modes, Styles and Roles

Dr. Haines posed the following three questions for discussion:

1. How do Universities see their relations with the community ?
 2. What varieties of extension agencies are there and how do their staff perceive their role ?
 3. What criteria can there be for extension involvement in social change ?
1. University attitudes to a community involvement were seen in three ways :
 - (a) On the "missionary" model, going out to the community with the knowledge product and sometimes setting up further centres for the diffusion of knowledge under their control and according to their methods.
 - (b) The "Magnet" model, regarding themselves as centres toward which the public should be attracted.
 - (c) As members of a "learning society" combining the delivery of knowledge with a "search" into the problems as experienced by the community. This is the "partnership" idea. Each model implies different requirements of training and attitude.
 2. Extension departments were seen in the following three ways:
 - (a) The service department, carrying out the extension demands of internal departments and requiring mainly administrative staff.

- (b) The "mini-university" or teaching department with a subject oriented staff.
- (c) The department concerned with educational process should also be involved in diffusing learning in the community. This model requires staff to be experts in the process, negotiating with various "publics" and initiating community groups into self-learning as well as relating their needs to academic resources.

Extension, especially on the third model, involves the University in Social change. Criteria for such involvement were suggested as follows:-

- (a) It is not enough to say that learning is promoted. The learning must be of a kind which would satisfy accepted academic criteria of objectivity and impartiality.
- (b) Alternatives must be opened up. Involvement should not mean promotion of an ideology.
- (c) Educators must address themselves to beliefs, their critical review and exposure to knowledge.
- (d) The activity should be "Knowledge based" but with an understanding of knowledge which includes theory, techniques, practical and experiential learning.

In the discussion that followed, the need to change the attitude of University staff to continuing education was underlined in order to ensure close involvement of the academic community in extension work. While the likelihood of "service" departments being introduced was seen, there was clear indication of the need for an immediate introduction of a "process and community education" unit to be set up with highly qualified staff to act as an initiating and diffusion unit. There should be at least one such unit in each zone.

Eighth Session

Continuing Education as a University Discipline

Dr. Haines raised the following questions :

1. Is continuing education a discipline ?

As a discipline is an organized body of knowledge and methods, it is doubtful whether we should refer to continuing education as such. In fact the conventional study of adult education may become obsolescent with the emergence of a new field of continuing education.

Other disciplines have emerged from fields of inquiry. The field in this case is determined by a number of problems which are new as they are caused by a rate and type of change, or changes, which are new both in their extent and in the rapidity with which they are taking place.

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The changes concerned indicate the other disciplines which should be involved in the study of the field. They are social, technological, political, moral and spiritual.

The educational implications of change include obsolescence or inadequacy of some institution of education. Further traditional methods are no longer adequate. New Processes of Learning are needed, and are emerging. These will enable groups to undertake learning themselves but these processes must be understood and diffused.

2. How is the field to be understood by prospective "trainers"?

Dr. Haines suggested that this could be done by Co-ordinated interdisciplinary studies undertaken at a high level by those aware of the field and committed to its study. (Economists, psychologists, sociologists, Philosophers.). The qualifications for this group must include high level of attainment in their own field together with a vision of the future of society through life long learning. These are more important than traditional degrees in adult education.

Adult educators must be educated as adults. The process by which they are educated must introduce them to the processes by which they will educate others.

3. The role of the Universities in educating educators.

There are to be two stages by which the programme is constructed nation wide. First, setting up a high level task force to explore the field and initiate action research to understand the processes. Second, a diffusion of knowledge and understanding to a second level (Heads of training departments).

There are also two levels in which the University will be engaged. First (in one or two universities or between them), the high level research-action group described above. This will persist as a mobile force available to other centres and with short term, changing membership. The second level, derived from this group, will be the "managers" of departments or the leading educators in the field.

4. Special importance of "process" learning.

In addition to the study of relevant theory and practice from the various existing disciplines on the one hand, action research and "internship" on the other, special attention must be given to methods and techniques of group and community learning processes.

Dr. Mohan Sinha Mehta pointed out that the introduction of continuing education as a discipline by a few University in India is important in view of the expansion of continuing education programmes in various institutions and the fact that there is at present lack of trained personnel in this discipline.

Dr. Roger's made the following points:-

- (a) It might be desirable to start with the process of education in order to develop a training programme. The learning process should be an active and continuous process. In planning the programme or discipline the main focus should be on the students their basic potential, motivation, aspirations and goals.
- (b) The character and pattern of adult education as a discipline would depend on a variety of factors of which the mental equipment of the learner would be one of the most important.

Dr. Srivastava pointed out that in planning continuing education as a University discipline one must consider the areas of change taking place in the country as this would help assessment of the learning needs.

The seminar then formed itself into three sub-groups in order to formulate an outline of courses for three types of students (1) teachers for adults (2) social workers, and (3) University extension staff.

The following suggestions also emerged during the course of discussion:-

- (a) Summer Institutes should be organized for the training and orientation of personnel in the departments/Centres of Continuing education.
- (b) The U.G.C. may constitute a Task Force consisting of experts in related disciplines for working out such details as the level, objectives and contents of continuing education as a discipline.
- (c) It was agreed that the participants may evaluate the effectiveness and outcome of the Seminar on a proforma circulated for the purpose.
- (d) The Director/Coordinator of continuing education should be treated as a member of academic staff.

**REPORT OF THE UGC-ICSSR STUDY TEAM ON THE
ROLE OF SOCIAL SCIENCES IN EDUCATION FOR
AGRICULTURE, ENGINEERING AND MEDICINE**

SOCIAL SCIENCES IN PROFESSIONAL EDUCATION

Agriculture, Engineering, Medicine

REPORT OF THE UGC-ICSSR STUDY TEAM

**UNIVERSITY GRANTS COMMISSION
INDIAN COUNCIL OF SOCIAL SCIENCE RESEARCH**

1975

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F O R E W O R D

The report presented in this book is the culmination of work that started in 1970, when the idea of setting up a Team to study the contributions of social sciences in professional education first came up. In 1969 a group of medical experts and social scientists had met to discuss various issues related to the introduction of social sciences in medical education. Out of this meeting arose the idea of extending these discussions to cover two other professions of major importance today—agriculture and engineering. The Indian Council of Social Science Research and the University Grants Commission took the initiative of setting up a joint Study Team with the co-operation of the Indian Council of Agricultural Research, the Indian Council of Medical Research and the All India Council of Technical Education. The following persons were requested to be on the Study Team :

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The Secretariat for the Study Team was provided by the ICSSR, The ICSSR also met the expenditure that the Study Team incurred during the course of its work.

During the course of these five years since the Team was set up, the position of Secretary has been occupied by different persons successively. Dr. Udai Pareek served as Member-Secretary of the Study Team till October 20, 1972 when he had to discontinue as other commitments and changes in his assignments claimed his time. Dr. Yogesh Atal, who had joined the ICSSR in the meantime as one of its Directors became Member-Secretary, but he too had to leave in 1974 when he took up an assignment in Paris with UNESCO. Subsequently Dr. H.R. Chaturvedi functioned as Secretary until the end of June 1975. I would like to express my thanks to each of them for the assistance they have given in the work of the Team.

The first meeting of the Study Team was held on May 14, 1971 when the members defined their terms of reference as follows :

- (a) To study the place given to social sciences in the education for the professions of agriculture, engineering and medicine. (Note : The scope of 'agriculture' would be defined as by the Indian Council of Agricultural Research for its purposes.)
- (b) To ascertain the views of educators, administrators and professionals in each of these fields on the desirability of including social science content in their respective programmes of professional education and to study their perception and reaction to social sciences where these have been introduced.
- (c) To study the profile and problems of social scientists currently engaged in these fields, and their views on social science education and utilization of researches.
- (d) To indicate the nature of contribution that social sciences can and should make to agriculture, engineering and medicine.
- (e) To spell out the organizational modifications and supports that might be necessary to incorporate social science content in these educational programmes.
- (f) To indicate the type of research and study courses in social

(vii)

sciences that should be promoted to equip social scientists to contribute to the preparation of agricultural scientists, engineers and medical men.

- (g) To work out a programme of pilot projects whereby experiments in the incorporation of social science content can be undertaken in professional colleges other than major all-India institutions.

Toward these objectives the Team decided to distribute its activities over three phases : In the first phase information about professional institutions and social scientists working in these institutions was collected. Lists of professional institutions were obtained and through them the names of social scientists working in these institutions. This prepared the ground for the next phase, when in-depth studies were carried out on aspects relating to the introduction of social sciences in institutions of professional education. Two surveys carried out for the Team by Dr. Yogesh Atal have given us much of the base material we needed to obtain a comprehensive picture of social sciences in these institutions. One of the surveys was on social science teachers working in the colleges of agriculture, engineering and medicine. The other enlisted the views of the administrators of these institutions regarding social sciences and social scientists. Along with this, Dr. S.K. Gupta of the Saugar University was requested to undertake the content analysis of social science syllabi followed by these institutions. The analysis covered compulsory and optional courses, the number of courses, hours and the marks allotted for social sciences (separately for the under-graduate and graduate courses), the disciplines that were offered, the structure and organization of the courses and an analysis and evaluation of the social science text books.

The Study Team additionally sponsored the following studies :

1. Social Sciences in Medical Education and Perception of Students and Teachers (Project Director : Dr. S.N. Chattopadhyay). A summary of this paper has been given in the companion volume entitled *Social Sciences in Professional Education : Agriculture, Engineering and Medicine*, Report of a Conference, New Delhi, ICSSR, 1975.
2. Developing a Paradigm of Adoption of Social Sciences in Higher Agricultural Education (Project Director : Dr. Y.P. Singh). Published in the same volume.
3. Social Science Curriculum and Field Training Needs of its Teachers in Higher Agricultural Education (Project Director : Dr. Y.P. Singh). The results of this study are still being processed.

For the third phase, visits were planned to representative professional institutions. The Study Team as a whole was able to visit only two institutions—the Indian Institute of Technology, Bombay, and the

Haryana Agricultural University, Hissar. Other visits were made by the Members individually. The Malvia Regional College of Engineering, Jaipur, Regional Engineering College, Jamshedpur, Indian School of Mines, Dhanbad, the Bihar College of Engineering, Patna, and the University of Roorkee were visited by Dr. Kamta Prasad. The Medical College, Bangalore, by Dr. D. Anand (who was not a member but kindly agreed to make a visit on our request) and Dr. Udai Pareek and Dr. Yogesh Atal visited the University of Udaipur, Department of Agricultural Extension and the R.N.T. Medical College, Udaipur. Dr. Somnath Chattopadhyay visited the Institute of Medical Sciences, Banaras Hindu University. I take this opportunity of thanking the management of all these institutions for the facilities extended by them.

Besides these studies and visits, three papers were prepared—one on each profession—by Dr. Y.P. Singh (agricultural education), Dr. Kamta Prasad (engineering education), and Dr. S.N. Chattopadhyay (medical education). These papers reviewed in detail the position of social sciences in each of these professions and have been published in the volume referred to above.

As all these studies and projects neared completion, the members of the Study Team felt that a Conference where social scientists as well as members from the different professions could meet and participate in a discussion on social sciences in professional education, would be helpful and would provide direction for further work in the area. Accordingly, the ICSSR sponsored a Conference from September 20 to 22, 1974 on the Role of Social Sciences in Professional Education. As mentioned above the proceedings of this Conference have been published by the ICSSR. The book includes the background papers (referred to above) that were prepared prior to the Conference, and may be looked upon as a companion volume to this one. Three working papers were prepared for discussion at the Conference—(i) Social Sciences in Agricultural Education, by Dr. S.N. Singh of the Indian Agricultural Research Institute, New Delhi, (ii) Social Sciences in Engineering Education, by Dr. K.N. Sharma of the Indian Institute of Technology, Kanpur, and (iii) Social Sciences in Medical Education, by Dr. Kamala Gopal Rao of the National Institute of Health Administration and Education, New Delhi. The discussion at the Conference focussed on the following points :

- i. What is the present position of social sciences in each of the professional disciplines ?
- ii. What are the areas of practice where social scientists can contribute ?
- iii. What is the social science content that should be included in the curriculum ?
- iv. How much time should be allotted to the teaching of social sciences ?

- v. What should be the equipment of those who teach social sciences in institutions where the primary aim is to educate agricultural scientists, engineers and medical men ?
- vi. What should be the role of educational institutions and universities in regard to effecting changes in the curriculum ?

This report which is being presented in this slim volume is the result of the deliberations of the members of the Study Team. In their deliberations the members used the data that became available to them as a result of the several studies referred to above. The three chapters dealing with social sciences in agriculture, engineering and medical education were first drafted by Dr. Y.P. Singh, Dr. Kamta Prasad and Dr. Somnath Chattopadhyay respectively. I would like to thank them on behalf of the other members of the Team for all their help and assistance. They had to work under considerable pressure, since all this work had to be accommodated while they carried on their normal responsibilities at their respective institutions. Miss Nasreen Fazalbhoy helped in drafting the other parts of the report and also in re-editing the entire report in her capacity as Research Assistant to the Chairman of the Study Team. Her assistance has been invaluable.

I should also like to thank all the members of the Study Team for their patience and for their active participation in the work of the Team which, while its work was productive, seems to have taken longer than any of them could have predicted when they agreed to join it.

Another person who without being a member of the Study Team has had a great deal to do with its work is Shri J.P. Naik, Member-Secretary of the Indian Council of Social Science Research. He has not only been patient but has consistently shown interest in the progress of the work of the Committee and has seen that it was provided with all necessary administrative and secretarial support. On behalf of the Study Team I must sincerely thank him and through him the many members of the ICSSR staff who have had to help directly and indirectly in the work of the Team.

New Delhi

M.S. GORE

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INTRODUCTION

CHAPTER I

INTRODUCTION

In this report we have focussed on the relationship between social sciences and three professions—agriculture, engineering and medicine. In the education for these professions social sciences are taught in relation to certain aspects of professional functioning, as for instance in medicine where social sciences are considered relevant in training for preventive and social medicine, or in agriculture where they are taught in the course on extension. However, the teaching of social sciences has been seen as rather peripheral to the main focus of the profession. Today there is a realization that the contribution of social sciences can be greater than it has been in the past and that social sciences should become established in their own right in professional education.

Establishing the social sciences as independent disciplines in professional education will depend on a number of factors. An important factor is the present state of development of social sciences — whether or not social sciences can currently make a practical contribution to professional education. For administrators and other key personnel to incorporate social sciences into the curriculum, the contribution of social sciences must be more than theoretical. At present social science applications in the fields of agriculture, engineering and medicine need to be further developed. An appropriate place for this development may be in institutions of professional education where knowledge particular to the problems of the individual profession is readily available. A second factor in establishing social sciences in professional education is to see how they are to be incorporated into the curriculum. For instance, sufficient time must be allotted to social sciences in the curriculum, some strategy for integrating social science concepts with the rest of the curriculum must be developed, etc. Finally, the necessary auxiliary facilities in terms of qualified staff, research equipment, library facilities, etc., for developing social sciences must be provided.

Since the term "social sciences" refers to a composite of several disciplines, it would be useful to clarify which disciplines are being referred to in this report. In general the disciplines that come under the rubric of social sciences are considered to be all those that contribute to our understanding of society and human behaviour. These disciplines are anthropology, economics, management, political science, psychology, sociology, etc. For each of the professions the relevant social science disciplines will differ. In general, for agriculture the disciplines of economics, extension, psychology and sociology are

considered to be relevant, along with some aspects of law and political sciences. For engineering the emphasis is on economics and management, while for medicine it is on psychology and sociology.

The first step in establishing social sciences in professional education is to be clear on what the educational objectives of introducing social sciences should be. Clearly stating the objectives will be worthwhile for several reasons. First, clarifying the objectives is necessary if other departments are to participate in fulfilling the objectives. Since social sciences are allotted a limited time period in the curriculum, a combined effort from all relevant departments to relate social factors to their functioning will reinforce their relevance and enable the students to relate them to different aspects of professional functioning. Second, the objectives must be communicated to the students. This is particularly important because students question why social sciences should be studied at all in professions where the main focus is on the application of the natural and physical sciences. Third, within the social science department also, teachers may have different conceptions of the meaning of social sciences and of their relevance and contribution. Establishing of an understanding and acceptance between the members is necessary for the department to work with a unified purpose. Finally, knowing the objectives is helpful when revising, evaluating and measuring the effects of the teaching programme.

We see the objectives of teaching social sciences in programmes of professional education as covering the following aspects :

The study of social sciences should first of all give the student a perspective from which to understand human behaviour and culture. This is usually regarded as the "liberalizing" or "general education" value of social sciences. With increasing specialization, the science and technology student has little contact with ideas that would give him a perspective of man and society and which would temper his approach to the problems he encounters. The study of social sciences can make him aware of the realities of social life, the relativity of human values and human "nature" and help him develop as a person who is more sensitive in his interaction with his environment. To the extent that this perspective is valid, it follows that students of humanities and social sciences should also be introduced to physical sciences : the Team concedes this point, but has not elaborated upon it since it lies outside the scope of its work.

A second objective is to make the student aware of the problems facing the country and the need to direct his effort to the attainment of national goals. This may also be looked upon as part of "general education". The goals of our society will be realized only when there is a coordinated effort to deal with the problems facing the country. The professional is in a key position to affect the course of development and of the solutions to the problems facing the country.

We feel that the graduate must be aware of the goals we have set for ourselves as a society so that he can work towards their realization in his professional capacity as well as in his daily life.

The two objectives referred to above are independent of the direct relevance of social sciences to a particular profession. The next set of objectives relates more closely to the specific contribution that the study of social sciences can make to the professional in fulfilling his professional role. The first among these is the need to make the student aware of the social environment in which he practises his profession.

There are at least three aspects to this. First, the student must be made aware in a general sense of the relation between science and society, how science and technology have affected social institutions and traditions and what changes can be expected in a society that is undergoing the process of modernization and change. The functioning of each profession influences life in society. The introduction of science and technology, for instance, brings with it a rational approach which can be generalized to other areas as well. Second, and more specifically, the student must understand the problems that the larger society faces and the role of his profession in dealing with these. Here, for instance, is the relationship between the problem of malnutrition and agricultural development or the relationship between unemployment and disease. Finally, the student must be made sensitive to the specific social situations he will individually encounter in his professional capacity. In each profession certain specific social relationships become particularly important. For the doctor, his relationships with the patient has implications for eliciting information and for ensuring that instructions are carried out. For the agricultural extension worker, his relationship with different members of the rural community and their interaction with one another can affect the success or failure of his programmes. Bringing the special features of such relationships to the awareness of the student will help him deal with them successfully in the course of his work.

All these aspects should make the student aware of the multiple facets of situations, and should help him develop his profession keeping in mind social conditions and needs.

The second "professionally relevant" contribution of social sciences is an extension of the last point made above, namely, that the study of social sciences can help the student deal with the specific situations he will encounter. Most graduates in each of these professions have to deal with situations where, as a result of their expertise, they assume leadership or hold administrative positions and have to deal with administrative or managerial situations. For instance, a large portion of the engineer's time is spent in dealing with workers and with designing job systems in which the workers have to spend their lives.

The extension agent, as part of his work, has to coordinate all the different aspects of the extension machinery and to develop a viable structure that would support the innovations he introduces. The doctor's administrative role lies in dealing with the other hospital personnel. The study of social sciences, through the introduction of appropriate courses, can equip the professional to deal with such situations when they arise in his work environment.

In each chapter of this report we have begun with a brief outline of the relationship between society and the profession, followed by a review of the status of social sciences in the education for each of the professions. Following this we have outlined the objectives of introducing social sciences in the particular category of educational institutions. The fourth section consists of a review of the social science courses presently taught. In this section we have also suggested courses that we feel cover the objectives outlined earlier. In the fifth section we have discussed the present status of social science teachers in professional institutions based on two studies conducted by the Team and have given suggestions for the role of social science teachers in professional institutions. Finally, we have raised some organizational and administrative issues that arise while introducing or strengthening a new discipline.

When dealing with the course content we found that besides the objectives, which are of course the main consideration, other factors had to be considered as well. For one thing social sciences are only a part of the total curriculum, and it is necessary to remember this when designing the courses. Care must be taken that the courses are not taught superficially on the one hand and that they do not dominate the curriculum on the other. A general guideline is to select those aspects of the different social science disciplines that would be most relevant to prepare the student for his future role in the profession. However, this raises the question whether complex concepts can be communicated without a prior basic knowledge of the discipline. Also, many of the students will have had little previous exposure to social sciences. One way of teaching social sciences within the above mentioned limitations is to design courses that are problem-oriented and which integrate concepts from the different social sciences. Several of the courses suggested, therefore, are not specifically discipline-based, but are general areas of concentration that the Study Team felt would be most useful to the student. Another method would be to expose students to the basic concepts and methods of relevant social sciences before giving professionally relevant courses going into sufficient depth. This would also give them the necessary background for tackling the diverse problems they may face in life. Examples of this have also been given. It should be mentioned that the courses suggested spell out only the general guidelines and not the outside limits. Institutions should adapt

the courses to suit their requirements as long as the basic objectives of teaching social sciences are met.

A related aspect is the question of whether a social science specialization should be encouraged within the framework of professional education. For several reasons the Study Team felt that such a specialization is highly desirable at the post-graduate level. It would (i) encourage students to develop the interface areas of the profession and society, (ii) it would develop the social sciences department by encouraging more studies and services connected to these areas and (iii) it would encourage more persons with a social science background to enter the field and develop their interests.

The special needs of professional education bring up the question of the kind of staff that would be most appropriate to recruit to join professional educational institutions. We feel that only persons who have a keen interest in the area and who are oriented to developing theory and application in the social sciences would be able to deal with the special needs of professional institutions. Analytical skills and creative abilities are necessary to develop a new field, and these must be sought and given primary emphasis in recruiting the staff. One issue that needs to be resolved is which disciplines should be represented. The educational institutions in each of the professions need persons with an interdisciplinary interest. Social scientists, however, are generally not trained as "composite" social scientists and institutions will have to develop a strategy based on the more important considerations of competence and potential interest in recruiting persons until such time as appropriate interdisciplinary areas develop.

Besides the contributions in teaching, we see other benefits in making social sciences more integral to professional education. The social scientist can help the institution as a whole to develop a focus by communicating to the students and to the staff the goals that would be appropriate for the institution to develop. He can use his expertise in contributing to institutional systems such as developing procedures for student selection, student evaluation, providing services for students and staff, etc. In each chapter we have suggested ways in which the social science teacher can expand his role in the institution and contribute to the system as a whole.

Finally, it is important to identify the administrative arrangements that would help develop social sciences as social sciences within institutions of professional education. So far social science units in most such institutions have been small and secondary to other departments. Their contributions have been seen largely as supportive and marginal. This has meant that social scientists have not had a secure identity in professional institutions, while simultaneously experiencing a certain amount of professional isolation from their own discipline. Part of this will be resolved when social scientists begin

to identify their own contributions and their own particular role in the profession. The social scientist must regard the situation as a challenge to his skills of communication and membership in a group. However, support will be needed from the institution itself in the form of departmental assistance and facilities for developing library and research facilities, appropriate salary scales and incentives, etc., so that competent social scientists are attracted to join professional institutions and contribute to developing the field.

As background material for this report the Study Team had sponsored a few surveys and visits to educational institutions in each of the three professions. We have referred to some of these in the course of our discussions in order to give a general idea of the current status of social sciences in educational institutions of each of these professions. However, since about 50 per cent of the social scientists approached did not reply to our questionnaire, we have not used the percentages quoted as a basis for our discussions. This report is based largely on our discussions which centred on experience of persons who attended the Conference organized in 1974 and on the experience of the Members of our Study Team who have taught social sciences in such institutions or administered them.

Another complexity which the Team had to face was the fact that even within any single profession there were several types of educational institutions with their own special problems. The needs of all-India institutions differ from the Regional and State-level institutions and all these from those that are rural-based, so that a blanket prescription for all these is not possible. Institutions will need to further examine how best they can incorporate the suggestions made in this report to suit their particular needs.

Those who read all the substantive chapters of this report will notice in places, a certain amount of repetition of ideas and approaches. We have consciously retained these because in view of the diversity of the types of educational programmes in agriculture, engineering and medicine, we anticipate that many of our readers will read only one or the other of these chapters. It might have been possible to deal with all the three fields analytically and in an integrated fashion, but we have felt that the mode of presentation that we have adopted is likely to be found more useful in the consideration of our recommendations by the various councils and other authorities concerned with education in these three fields.

AGRICULTURE EDUCATION

CHAPTER II

AGRICULTURE EDUCATION

More than ever before agriculture is recognized today as the key factor affecting the economic and social well-being of the country. The responsibilities of institutions of agricultural education have, therefore, also increased. Scientists in agriculture colleges must discover new ways of increasing food production and reducing avoidable loss of food grains. They must teach these techniques to the students in agriculture colleges and universities. Through these students and also directly through their own extension activities they must communicate these methods to the farmers and motivate them to adopt new practices to help achieve higher grain yields. But beyond this objective, agricultural education must become a means of bringing about a change and an all-round development of the rural areas.

I. SOCIAL SCIENCES AND AGRICULTURE

Increasing food production requires more than the development of new technological know-how. Increasing food production is dependent on among other things, the farmer being in a position to adopt and apply this new technology. This in turn is partly a function of the individual personality of the farmer and partly of the complex socio-economic structure of the villages. In the efforts made to disseminate the new technology that made the green revolution, for instance, it was found that communication of new technology was effective with farmers who already had the economic capacity to make investments whether in heavier doses of fertilizers or in adoption of intensive irrigation methods. The distribution of the new technology was thus affected by a precondition that in turn altered the social, political and economic structure in the region, sometimes creating more disparities than had existed before. Results such as the above and the interplay of factors that are psychological, social, technological and economic can be seen at all levels of the implementation of agricultural planning. A few examples will help illustrate how the study of social sciences can contribute to the agriculture graduate's training for his profession.

The agriculture graduate must understand the environment of national planning and the economic decision-making process, since many agriculture graduates are involved in the implementation of agricultural planning. Guaranteed support prices, special short-term credit facilities, subsidized agricultural inputs, crop insurance, etc., are some of the economic measures adopted by national planners to make agriculture economically viable and more productive. The agriculture graduate must have a close understanding of such measures used by

the government. At a more specific level, through the study of economics he must develop an understanding of market trends and demands and must know the basics of farm management and farm planning so as to be able to make the practice of agriculture profitable.

Simultaneously, the agriculture graduate must also be aware of how the introduction of scientific methods of agriculture is likely to affect social life. With the new possibility that even relatively small farms may yield higher profits, the availability of cheap agricultural labour may be affected and employment patterns may undergo change. This may affect the *jajmani* system in the village. Economic disparities arising out of unequal capacities to benefit by the technology of the green revolution have affected employment, political alignments and the chances of success or failure of land reforms. Capital farming and the implementation of the new methods of crop production have brought new agencies into the production process and into the rural areas. Scientists, businessmen and credit agents are now part of the agricultural organizational framework and this has affected traditional ways of conducting business and created new value systems and needs in the rural areas.

More specifically, the relevance of the social and psychological factors can be seen at several levels in the agriculture graduate's own work. The communication and diffusion process which characterizes agricultural extension work often requires the agriculture graduate to overcome attitudes, prejudices and value systems that would otherwise make the farmer resistant to change. He must be aware of local customs, traditions and habits and must learn to work with or through them: where he cannot reconcile the two, he must learn how to bring about a change in them. He must also know something of the social structure and hierarchy of which the farmer is a part, and which facilitates or prevents his adopting new practices in agriculture. Factors like local caste or kinship traditions, the size and the composition of the family, the load of personal and familial obligations, employment opportunities and low literacy levels can influence the farmer and his ability to change. Through such a sociological analysis, the extension worker must be able to identify communication channels to facilitate him in his work.

Much of the success or failure of the agriculture graduate's programmes will also depend on his own personal qualities and commitment. The agriculture graduate must, therefore, be sensitive to his own position in society, how he is viewed by the people with whom he works, his own prejudices, limitations, and orientations. Equally important are factors like his personal credibility, his ability to empathize with and accept the farmer and to understand the farmer's viewpoint.

Another general area where the agriculture student would gain

from a study of social sciences is in the area of management and organization. In a broad sense, the agricultural development officer needs to be able to create an efficient organizational structure that will support the goals of agricultural planning. The increasing complexities in society which are part of the process of modernization require that the technical expert also be able to evaluate the different factors that affect the implementation of his plans, not only at a national level but at the local level as well. He must be able to work out an organizational structure that will enable both the large and small farmer to participate in the economic production system and thus guard against the creation of economic inequalities. Much of this requires an understanding of the play of economic and social factors though, of course, geographical and regional factors are equally relevant.

The agricultural extension worker is also a direct helper and community organizer. Apart from communicating the technology to the farmer, he works with credit agents, village level workers, community development organizers, cultivators, landlords, industrialists, etc., to organize a situation such that he can ensure supply and distribution of the essential commodities required for his new techniques, maintain the acceptance of the new methods and finally create a situation where the farmer can take over some of the extension work himself.

Some of the students of agriculture may later become teachers or researchers in agriculture. Even in these roles of teacher or researcher they would find the knowledge of social sciences useful in that it would equip them to cope better with the organizational and human aspects of the work situation.

The incorporation of social sciences into agricultural education is not a new development. Agricultural economics was a part of the agricultural curriculum even in the 1920's when undergraduate courses were established. Extension education entered the undergraduate syllabus in the 1950's. Agricultural economics and extension are the two most important social science disciplines in agriculture. But more recently sociology and psychology have also tended to emerge as important related disciplines. The following is a resume of the incorporation and development of various social science disciplines in agricultural education.

Today six social science disciplines are incorporated in the agricultural education system. These are: agricultural economics, extension education, rural sociology, agricultural journalism, agricultural business management and social psychology. There is no formal course in social psychology but much of the subject is taught under sociology and extension education. Sociology as an independent department exists in only one agricultural university; this is also true of agricultural journalism and agricultural business management.

II. REVIEW OF SOCIAL SCIENCES IN AGRICULTURAL EDUCATION

Agricultural Economics

The first social science discipline to enter agricultural education was agricultural economics. The goals of changing the practice of agriculture from a level which provided for only subsistence for the farmer to a situation where farming could become profitable requires a comprehensive understanding of economics at the farm, the village and national levels. An important sub-discipline of agricultural economics is farm management. The Department of Agriculture had maintained a detailed account of crop and livestock production as far back as 1860, but the actual study of farm accounts was initiated by the Punjab Board of Economic Enquiry in 1923-24. In 1928-30 an extensive study of farm management was conducted in Poona and the first all-India study on cost returns of farmers' holdings was conducted by the Indian Council of Agricultural Research in 1933-36.

In 1964-65, the Food and Agriculture Organization conducted a survey of the teaching of farm management in agricultural colleges in Asia and the Far-East. Questionnaires were sent to 45 agricultural colleges in India. According to the survey report, out of 45 responding agricultural colleges, farm management was taught under agricultural economics in 12 colleges; in 21 colleges it was taught under the department of agriculture; and, in 11 colleges under the department of agronomy. In one college it was taught under the department of agricultural education. Till 1965, farm management was taught under the umbrella of different disciplines — agronomy, education or economics.

The first institution to start the teaching of farm management was the Agricultural College and Research Institute in Madras which started teaching farm management in 1924, followed by the Government Agricultural College, Kanpur, U.P. in 1934. Among the private institutions, Balwant Rajput College of U.P. introduced the course in 1940, followed a year later by the Allahabad Agricultural Institute. More than 50 per cent of both government and private agricultural colleges began to teach farm management only after 1961.

A significant development in the field of agricultural economics was the formation of the Indian Society of Agricultural Economics in 1940. Until 1945 the contributions of the members were published as the proceedings of the Society. Since 1946 the Society has been publishing *The Indian Journal of Agricultural Economics*.

The importance of agricultural economics has grown in recent years with the growing monetization of the rural economy and the need to develop further understanding of the economics of food production and distribution at the national level.

Extension Education

Except for agricultural economics all the other social science disciplines have entered the agriculture curriculum through extension education. The concept of transmitting the innovations in agricultural technology to the rural areas and to bring about their total development was experimented with by several dedicated and far sighted individuals. Tagore started his experiment at Sriniketan, Brayne at Gurgaon, Spencer Hatch at Marthandam, and so on. In all these schemes, there was a vision that an active and viable rural society could be developed through cooperative efforts of educated volunteers and farmers who could work for the all-round development of the rural area. The success of these schemes did not spread because they depended mainly on the initiative of a single individual and the spontaneous support he could mobilize. During the Second World War and immediately after Independence the country experimented with Grow More Food Campaigns. However, these campaigns did not yield the desired results. In 1953, the Indian Government initiated the Community Development Projects and in 1954 the National Extension Service. The NES provided for the employment of an agricultural extension officer in each block. The concept of "extension" by state-appointed agents was introduced, based on the practice as it existed in the USA. The concept of extension implies efforts at improving the conditions of the rural people through teaching them scientific methods of efficient farming and the mobilization of their own as well as community resources in solving immediate agricultural or animal husbandry problems. To achieve these goals, the extension worker needs not only substantive knowledge of agriculture, but also of rural society and of human relationships. He works with the farmer, the village level worker, the block development officer, the chief development officer and others who are all part of the extension organization. Although agricultural extension work started with the establishment of the Departments of Agriculture in 1860, the formal teaching of agricultural extension in agriculture colleges has a more recent history. At first the only training available in extension was a voluntary course conducted by the Agricultural Institute at Allahabad. In this course students were paid a modest stipend and were given training in the theory and practice of extension, including village-based training. The Allahabad Agricultural Institute also conducted short training programmes in extension for the teachers of agricultural colleges and other development personnel. The recommendation to include a paper on agricultural extension in the undergraduate agriculture curriculum was first made at the Hyderabad conference of principals of agriculture colleges.

Two or three factors can be identified as contributing to the

introduction of extension in the curriculum. One was the need for trained Indian personnel. Support for teaching extension was also given by the Government of India through the initiation of the Extension Wing Scheme which provided for the establishment of an extension wing in agriculture and veterinary colleges and also included a grant of Rs. 2-3 lakhs, and financial provision for a bus, a jeep, audio-visual equipment and three or four professional staff. Thus the need to introduce extension in the curriculum became imperative. Following the recommendation of the Hyderabad conference, most of the colleges started introducing agricultural extension in their undergraduate curricula. The first to introduce the subject was the Bihar Agricultural College at Sabour and the first batch which had studied agricultural extension on a formal basis graduated in 1955. By 1960, all agricultural and most veterinary colleges had introduced extension in their undergraduate curricula. Except for a few colleges, in the early days the subject of extension was taught either by economists or agriculturists. Many of the early professionals had undergone the one-month training course in extension at the Allahabad Agricultural Institute, but some had not received even this training. The situation has changed considerably since then.

The first full-scale Master's programme in extension education also started at the Bihar Agricultural College, Sabour, in 1955. There was a heavy emphasis on social sciences. Out of eight papers, two were in sociology, one was in social psychology, one in the philosophy of education and two were in agricultural economics.

Jabalpur started a Master's programme in extension two years later. During this period, the IARI had introduced extension as a branch of specialization in agronomy. An impetus was given to the development of extension at this time.

In mid-1961, social scientists were encouraged to join the Division of extension in the IARI. New goals were established which led to changes in the extension courses in India. Further developments in extension education were fast taking place. In 1965 the Punjab Agricultural University, Ludhiana, which hitherto had offered a Master's programme in extension, started a Doctoral programme as well. The doctoral degree in extension was also established at Jabalpur, Udaipur and Anand. Today a Ph.D. programme in extension education is offered at the IARI, New Delhi, Punjab Agricultural University, Ludhiana, Haryana Agricultural University, Hissar and Udaipur University, Udaipur. Approximately 30 institutions offer an M.Sc. in extension. In each department of extension there is a position for a rural sociologist. The incumbents are usually persons holding degrees in sociology or social work. The IARI has, in addition, a couple of faculty positions for psychologists.

III. THE OBJECTIVES OF SOCIAL SCIENCE TEACHING IN AGRICULTURAL EDUCATION

The basic underlying objective of introducing social sciences is to make the agricultural graduate sensitive and responsive to the social factors that affect agricultural development. These factors may be identified at the broad national level in the social-cultural tradition of the country or in the sphere of political decision-making or in many of the specific work situations that the agricultural graduate encounters.

A negligible number of agricultural graduates become farmers themselves. Most, however, take up jobs in government agricultural development departments, in banks, in planning departments or as teachers and researchers. In each of these institutions agriculture graduates will be required to draw upon their knowledge of social sciences. Extension agents, for instance, function largely as quasi-social scientists. As change agents they have to be aware of the psychological inhibitions to change, the effects of inducing change on existing economic and social institutions, and so on. For example, the effect of introducing irrigation in a former dry-farming area is seen not only in increased crop yield, but in increased disparities of income as well. Extension agents have to devise ways—in so far as they can—to ensure that this does not happen and that both large and small farmers are reached simultaneously. At different times agricultural extension workers assume the roles of counsellors, group leaders, administrators, teachers, depending on what the situation requires. While they must be knowledgeable in the technical subject matter, much of their actual functioning depends on their skills as organizers and their skills in working with several people simultaneously. It is also essential that extension workers understand the broader goals of rural development for which they are working and their implications at a local level, so that they can direct their efforts accordingly, and communicate these goals to the rural people to encourage their participation.

Those agriculture graduates who take up jobs in banks as credit agents or at different levels in agro-chemical industries also find it helpful to understand the farmer and the society with which they will be dealing. For publicizing loans, developing credit-rating techniques, organizing a system of distribution for seeds, fertilizers or other commodities, a knowledge of the traditions and habits of the community becomes necessary.

Some agriculture graduates take up jobs in universities as researchers or teachers. Even such teacher-researchers benefit from courses in social sciences since these courses give them an awareness of the social context in which their students have to work. The agricultural researchers too must know the economic, commercial and social structural factors that will limit or facilitate the adoption of the new techniques that they develop.

Finally, through the study of social sciences agriculture students can be introduced to concepts that would give them a more complete understanding of themselves as persons, and of the problems that mankind faces. This is especially necessary in institutions of professional education where students begin their specialization courses at an early stage of their education and so have little exposure to other disciplines besides their own.

The specific objectives of including social sciences in agricultural education, which arise from the above considerations, can be listed as follows :

1. To make the agriculture graduate aware and responsive to the needs of the national situation and his role as an agricultural scientist in relation to these needs

Agriculture graduates must gain a perspective of the national situation in which they work and of the problems the country faces so that they can respond to these needs. In addition they must understand the economic and social patterns in the country and how these affect the development of agriculture. Third, they must understand the relationship between total agricultural production, system of distribution and problems of poverty and malnutrition. Understanding these aspects should help the agriculture graduate clarify his role and set priorities for action.

2. To equip the student to understand and function in the social system made up by his work environment

Agriculture graduates must be shown the importance of recognizing local values, traditions and norms and working in line with these. They must be sensitized to factors such as role structure and stratification systems so that they become aware of the social dimensions and pressures that affect specific situations. Credit agents, for instance, must be able to understand the traditional role of the money lender in the society if a substitution is to be made and a modern system of financing introduced. Since approximately 70 per cent of agriculture graduates become extension workers, they must understand the role of the extension agent in human relations, planning, organization, counselling, working with rural leaders, teaching, evaluation and communication. They must be able to identify what social or economic factors systematically influence adoption of new practices and whether these factors give an advantage to one group over another. Such analyses provide clues for the agriculture graduates to modify their approaches to the problems of the area.

3. To make the student aware of his own psychological and sociological orientation

Understanding his own psychological and social orientation helps

the agriculture graduate to know what kind of a person he is, what his strengths and weaknesses are, his basic needs and motivations, prejudices and preferences. He must also be made aware of his own social orientation in terms of his class background, career ambitions, etc. By bringing these factors to his awareness, the agriculture student can be taught how to guard against allowing these factors to affect his work and interfere with implementing the goals of agricultural planning.

4. To provide research and analytical skills to encourage the agriculture graduate to carry out research projects in the areas where social factors are particularly relevant to the functioning of the profession

Some agriculture graduates may wish to specialize as applied social scientists in the areas of agriculture and in rural life. This should be encouraged as there is an acute shortage of material in the interface areas of social sciences and agriculture. By providing the agriculture graduate with the skills to carry out simple studies on his own, he can be encouraged to contribute to the field, as well as shown how to get the information he needs to deal with his own situation. Some areas that could be fruitfully explored are—the study of traditional practices, social organizations as related to methods of crop production, social effects of innovation, agricultural employment problems, agricultural prices policy and land legislation.

5. To encourage the student to develop himself as a person by gaining through the study of social sciences a deeper understanding of human nature and a greater degree of social awareness

Once the agriculture student enters his field of specialization he has little exposure to fields other than those directly related to agriculture. The study of social sciences together with the study of humanities should, therefore, aim to develop the analytical and creative abilities of students by introducing them to concepts of human society and human nature that would encourage them to think beyond their specific personal situation and would encourage them to develop themselves as individuals to the fullest potential.

IV. SOCIAL SCIENCE CONTENT

The Existing Situation

A study conducted by Chaturvedi gives an idea of the various social science disciplines taught in agricultural education. All agricultural universities were requested to send copies of their syllabi for content analysis. The following data are based on the information from 22 agricultural institutions that sent in their syllabi. The nature and extent of social sciences covered in each of these institutions vary

considerably. Four disciplines—economics, sociology, psychology and extension—are taught in the undergraduate agricultural curriculum. Economics dominates as 21 out of 22 institutions have provision for it. Sociology is taught in 14 institutions. Only one institution has provision for psychology at the undergraduate level, though a good deal of psychology is covered under extension education.¹

The social science content taught at present to agriculture students based on a study conducted by Gupta for the Study Team is given in Appendix I.

Considerations in Framing Course Content

A rough analysis of the present content taught in agriculture institutions indicates that they are discipline-based. Also, there is no emphasis on the social dimensions of the agricultural problem or on the role of agricultural technology as an instrument for achieving major national goals. We suggest that the following considerations be kept in mind when framing social science courses for agriculture students.

- (a) The objectives of teaching social sciences must be incorporated in the courses as far as possible. It is not necessary to design a course around each objective. For instance, to fulfil the "liberal education" function of social sciences, teachers may strive to give students a broader perspective of the application of social sciences beyond their specific application to agriculture.

It is relevant to mention here that in a study conducted by Atal², 40 per cent of the heads of agricultural institutions interviewed felt that social sciences are meant to serve the twin functions of liberalizing education as well as of contributing to the vocational training of the students.

- (b) We feel that it is preferable to integrate fundamental concepts from the different social sciences rather than to teach each social science discipline individually. In this way courses may be designed to focus on the problems as they are faced by agriculture graduates.
- (c) Time allocation : A minimum of 10 per cent of total curriculum is necessary to construct courses that would meet the above-mentioned objectives. The following system of course organization is one example of how the curriculum could be

¹ Chaturvedi, H.R., "Social Sciences in Education for Professionals : Overview of Curriculum Contents", in *Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

² Atal, Yogesh, "Administrators of Technical Institutions : Views on Social Sciences", *Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

organized. Each institution should work out its own systems according to its needs.

Agricultural sciences	52 per cent (inclusive of farm practice)
Basic sciences	28 per cent
Social sciences	11 per cent
Languages	7 per cent
Other	2 per cent

100 Total Curricula Time

In the above calculation only the credit hours pertaining to extension education, sociology and economics have been considered under "social sciences". In addition to these, 20 credit hours can be provided for electives. Out of the electives, one can be a social science course.

- (d) Allocation of marks : This is a related aspect as the allocation of marks often determines how the course is viewed by the students. We feel that marks should be allotted on par with other agricultural science subjects. Thus, if an average paper in agricultural sciences is of 100 marks, a social science paper should also be of 100 marks. Passing marks in social science courses should also be the same as for the other courses. Credit should be given for practical training which is part of the course in extension. Fifty-three per cent of the 197 social science teachers in agricultural colleges covered by the survey conducted by the Study Team said that the present allocation of marks to social sciences was not satisfactory.

Illustrative Contents

Based on the above considerations a set of core courses are proposed. These are just illustrative. These courses would normally take up 25 credit hours of the trimester systems, i.e. approximately 350 hours in the total undergraduate programme. The contents may also be adapted to fit into the semester system or the traditional system. Under the traditional system they can be made to fit into three parts. The underlying emphasis in the teaching of the courses should be on the problems of the small farmers and the weaker sections of society so that the student is encouraged to think of ways to raise their standard of living. The courses given below should be viewed as guidelines only. Institutions may design additional courses based on the following :

(i) *The Farmer and His Environment :*

The farmer as a person : his needs, motives, beliefs, etc. His

physical, psycho-social, institutional environment. Rural social dynamics : socialization, social interaction, social control and influences, conflict, cooperation and social change, and their impact on the farmer.

(ii) *Socio-economic Problems of Indian Agriculture :*

Role of agriculture in Indian economy, contribution to national income, comparison with other countries, relative position in different states. Important socio-economic problems of Indian agriculture, their extent and magnitude in different parts of the country and different parts of the state, including the remedial steps taken in relation to : (a) agriculture in dry and only rainfed regions; (b) fragmented holdings; (c) insecure tenure; (d) indebtedness and poor credit-worthiness of small farmers; (e) low capital formation; (f) low risk-taking capacity; (g) low management ability; (h) underemployment on farm; (i) low organizational ability for joint action; (j) illiteracy; (k) large family size; (l) low social status; (m) agricultural credit at the local level; (n) distribution of farm inputs; (o) landless agricultural labourers; (p) marketing of agricultural produce; (q) small and marginal farmers in the era of change; and (r) isolated agricultural groups like nomadic cattle breeders, shepherds and fishermen.

(iii) *Extension Education and Community Development :*

Need to change agricultural practices, early efforts, principles and process of extension education. Essentials and accelerators of agriculture development and role of extension education in these.

(iv) *Community Development :*

Concept of community development, its meaning and objectives in the Indian context. Extension education in community development, its organizational set up at different levels. Extension work in foreign countries : USA, Denmark, Japan and the Netherlands.

(v) *Integrated Area Development :*

Concept and principles, distinction between community development and integrated area development, functional and spatial integration. Economic viability of integrated activities; planning units and growth centres.

(vi) *Programme Development and Extension Methods :*

Critical understanding of the philosophy, objectives and principles of programme planning. Applied theory of programme development: establishing rapport, appraising the situation, identifying problems and needs, assigning priorities for possible alternative actions, developing a plan of action, securing participation, involvement and

consensus. Role of voluntary organization, officials and non-officials in programme development. Discussion of current agricultural development schemes in the state and country.

(vii) *Project Formulation and Appraisal :*

Main ingredients, cost and benefit, economic and social viability of projects, social cost and benefit analysis.

(viii) *Extension Methods :*

Characteristics of the teaching and learning process in extension. Basic principles of learning particularly of adult learning. Extension teaching methods: their type and classification, relative effectiveness of different extension teaching methods, factors effecting choice and use of extension teaching methods. Practice in use of extension teaching methods. Evaluation : Purpose, characteristics, steps and methods of extension evaluation.

(ix) *Agents of Change :*

Getting equipped for a change agent's role : heightened self awareness, strengths and weaknesses, basic needs and motivations, aspirations, leadership orientation, career orientation, class background, etc. Stresses and strains in change agent's role, coping with stresses and strains. Intervention strategy. Dynamics of agent-client relationship problems, rewards and opportunities of change agent, self improvement plan for excelling as a change agent, self training and preparing as credit agent. Building and working on a task-team, involving and inspiring role relatives. Management of differences and conflicts and help seeking, building vertical and horizontal creature-task relationships and management of frustration on the job. Identifying driving and resistant forces in a situation. Role of extension agent in the context of major national problems.

(x) *Agricultural Economics :*

The scarcity problem; demand for agricultural products; elasticity of demand; critical variables in production; production functions; law of returns; land reforms; agricultural wages and agricultural taxes; co-operative farming.

(xi) *Farm Management :*

Its meaning, scope and importance, peculiar characteristics of farm management and its relation with other sciences. Economic principles related to farm management. Farm business : its income and requirements, farm planning and budgeting, enterprise budgets, steps in farm planning. Farm records : nature and objectives of farm records and

accounts, types of records, farm inventory, methods of valuation and depreciation, output records, input records. Practicals : study of alternative choices in farm management. Exercises in preparing layout maps, application of basic farm management principles, enterprise budgets, labour and power budgets and farm record analysis.

Post-graduate Specialization

We feel that a post-graduate specialization in social sciences is desirable and necessary for several reasons.

First, as has been mentioned earlier, there is a dearth of knowledge in the areas where society and agriculture interact and an urgency to develop these areas. A social science specialization would enable students to conduct studies in such areas so that a base of knowledge could gradually be built up.

Second, such studies may also be conducted with reference to situations faced by the institution in its interaction with the community. This would enable the institution to develop services more closely related to the needs of the community and help the technical departments understand the client-system they will be serving.

Third, a social science specialization would also encourage more social scientists to join agriculture institutions. As has been mentioned earlier, recruiting well qualified social scientists to join agriculture institutions has been difficult not only because few social scientists are aware of the applications of social sciences in agriculture, but also because the social science courses taught are usually of an elementary level and well qualified social scientists find it monotonous to teach such courses year in and year out. A post-graduate specialization would provide social scientists with the stimulation and challenge they need to maintain a dynamic interest in the field of agriculture. The lack of a post-graduate specialization in social sciences was also mentioned by some of the administrators of technical institutions as a problem faced by social scientists in such institutions.

In agriculture institutions a social science specialization should be encouraged in areas related to agriculture. We have not listed specific areas of specialization as these will differ according to the interests and disciplines represented in each institution.

Teaching Methods

At present, lectures are the major teaching tool used in most colleges of agriculture. In some of them, additionally, reading assignments, group discussions and some audio-visuais are being used as teaching aids. Students also take up some planning exercises in the course in farm management and extension programme planning. However, the only practical experience they gain is in the two-week practical training programme.

It is important to encourage innovation and experimentation in teaching social sciences to professionals. The conference held by the ICSSR in September 1974 recommended: "The teaching of social sciences in agriculture universities must be inter-disciplinary and problem-oriented. The student must be thoroughly equipped to identify problems, find different alternatives to its solutions in the context of the goal and the multi-dimensional character of the problems and to derive and implement a line of action ... the methodology for the teaching of social sciences in agricultural universities has to be different from the conventional teaching methods followed in other universities. It has to be less information-oriented and more experimental ..."

Few teachers are at present engaged in evolving teaching methods. Appropriate steps should be taken to arouse interest in this area. It may be useful for instance to form small regional groups of teachers who can meet and share their experiences. Professional journals can also be encouraged to devote a section to this area.

V. THE SOCIAL SCIENCE TEACHER

His Present Status

The position of the social science teacher in a professional institution differs from that of his colleagues in other colleges and universities in several respects. First, he is in an "alien" atmosphere in that the others in the institution are not from the same discipline as he is. Second, he is in a minority as the major focus of the institution is different to that of his discipline. Related to this is the fact that his discipline is also not one in which the students are primarily interested. This is a situation common to all social science teachers in institutions of professional education and cannot be substantially altered.

These features give rise to certain problems for the social science teachers. However, the position is not quite as bleak as it is often thought to be. Two studies^{3, 4} conducted by the ICSSR Study Team provide some information on the current status of social scientists in professional institutions. The following data are based on the responses of 197 social scientists (60 per cent of all approached) from 59 agricultural institutions.

(a) Working Conditions :

The study showed that on an average there were six social science teachers per institution. About half of the respondents were between the ages of 26-35. Only 21 per cent had basic degrees in

³ *Ibid.*

⁴ Atal, Yogesh, "Social Scientists in Technical Institutions", *Social Science in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

agricultural sciences. Most of them (76%) had studied in India. In terms of rank, the majority (61%) were Lecturers — only eight per cent were Professors or Associate Professors.

The average teaching load is somewhat lighter for social science teachers in agricultural institutions compared to social science teachers in other universities. In the non-agricultural universities, on an average, a Professor teaches a minimum of eight hours, a Reader 12 hours and a Lecturer 16 hours per week. In agricultural institutions the teaching load is as follows :

Professor	7 hours per week
Reader	9 hours per week
Lecturer	10 hours per week
Junior Lecturer	11 hours per week
Instructor	9 hours per week
Research Officer	3 hours per week

(b) *Assessment of Own Status :*

One would have expected that social scientists in technical institutions feel they are out of place, and given the opportunity, would move to general or liberal arts colleges. According to the survey report, only 26 per cent of teachers in all professional institutions felt they were wrongly placed in teaching institutions. In fact 47 per cent felt there was no difference between working in liberal arts colleges and technical institutions and 19 per cent said they were better placed, where they were. The pattern in agricultural institutions is the same. This indicates that the situation is better than it is generally assumed to be. When compared with their colleagues within the institution, only 8 per cent of the respondents said they were placed "lower", the others felt that their position was equal or higher.

Forty-eight per cent of respondents from all professional institutions felt they were deeply involved in the work of the institution. Seven per cent said they were not at all involved. In agricultural institutions the largest number of respondents said they were "deeply involved". Regarding the effect of being employed in technical institutions on their career as social scientists, approximately 16 per cent of the teachers felt that working in technical institutions would have a negative effect on their professional lives as social scientists. However, 38 per cent disagreed with this and 15 per cent were uncertain of their feelings.

Another index of their impression of their positions in technical institutions is with regard to their mobility in the past and with regard to their future plans. Fifty-eight per cent of the social scientists had not changed jobs. Compared to engineering and medical institutions this percentage is the highest. Regarding their future plans, five per cent said they planned to quit as soon as possible and 30 per cent said

they planned to quit in the near future.

The majority of social scientists in agricultural institutions seem ambivalent about their status. Only 12 per cent said they were contented. Five per cent said they were frustrated. The rest are neither fully content nor frustrated.

(c) *Acceptance of Social Scientists by Other Colleagues, Administrators and Students.*

Since the growth of the social science department depends largely on the acceptance of social scientists by the administrators, it is important to assess the attitudes of the administrators toward social scientists. Administrators of 25 institutions responded to the questionnaire sent by the ICSSR Study Team. One of the questions they were asked was to evaluate how social scientists compare with other teachers in the institution with regard to their contribution to teaching, research and extra-curricular activities. The data show that the administrators regarded the social scientists as being on par or better than other teachers in the institution in teaching and extra-curricular activities. For research, four of the 25 administrators said the social scientists were worse than the other teachers while 14 said they were as good as or better than the other teachers. However, in response to another question, 11 of the 25 administrators said that the usefulness of social sciences in agricultural colleges had to be demonstrated.

Despite the open, if not favourable, attitude of the administrators and the social science teacher's own satisfaction with his place in the agricultural college, one significant problem that is brought out by the above study is that most social scientists think that their non-social science colleagues are either hostile or indifferent in their attitude toward social scientists. Of the 197 respondents, 47 per cent felt that their colleagues were indifferent to them, 24 per cent felt they were hostile and only 26 per cent felt that they were hospitable. Irrespective of what the actual attitudes of others are towards social scientists, if the latter perceive the social environment around them as either hostile or indifferent it can be a source of frustration and maladjustment. Half the social scientists also saw the administrators' attitude towards them as being indifferent. A somewhat relieving feature of this environmental perception is that the majority — 55 per cent — of the social scientists thought the students' attitudes towards them was "hospitable".

In our view many of these problems of attitudes and attitude perception arise because the role of social scientists in agricultural institutions is not yet clearly defined. Social scientists must accept this as a challenge and regard it as an opportunity to contribute as

well as to communicate the usefulness of their contribution to colleagues and institutional heads.

Role of Social Scientists in Agricultural Colleges

(a) *As a teacher :*

The primary responsibility of the social science teacher is to provide the social science inputs in the undergraduate curriculum by selecting contents that are consistent with the objectives discussed above and by using teaching methods that can arouse the students' interests and stimulate them to further study. Para-academic programmes such as the Rural Service Club and the Speech Clinic at the Haryana Agricultural University are examples of programmes that meet the recreational as well as the learning needs of students. These programmes help the students to master skills and gain experience they would not get in the class room. A Self Development Club may also be organized. Much of the content covered by this type of activity has been included in the course entitled "Agents of Change" in this report.

Another responsibility of the social scientist as a teacher is to illustrate the relevance of social sciences to agriculture. He must use language and illustrations that can be easily understood by the agriculture students and give examples from job situations that agriculture graduates are likely to experience in the future.

His teaching must be broad-based. While discussing a problem he should draw upon concepts from education, psychology, sociology and economics so that a comprehensive picture of the problems is presented to the students. For example, while discussing the factors relating to human personality and technology, the teacher may have to deal with psychological factors that affect the dissemination of knowledge from the point of its origin to its target recipient.

Available teaching materials must be collected and new ones developed to suit the needs of the individual institutions. Some teaching materials such as films and case studies are readily available. Others may have to be developed. Social science teachers must develop cases, incidents, field manuals, self-reading guides, exercises, games, models, etc., that can be used for teaching. To do this, social science teachers will have to select a theme, collect the relevant materials and test their suitability for a particular group. It will also be necessary for them to keep in close touch with training techniques that are being developed elsewhere.

While there is no dearth of social science literature, there is a dearth of materials that are adapted to the needs of agriculture students, especially in the field of agricultural management, extension and rural sociology. More books like *Getting Agriculture Moving* and

Its companion volumes which are published by the Agriculture Development Council are needed. These books are designed to illustrate a particular concept, a problem and its solution.

(b) *As a researcher :*

The social scientist should conduct research in areas where the interaction of agriculture and society is particularly relevant. Even teachers will find out that engaging in research studies will be helpful to supplement their teaching. The research conducted should focus on problems that would help clarify the social dimensions of the practice of agriculture. Research should also aim to contribute to the development of social sciences in general. A few research areas that social scientists could concentrate on are given below.

Farmers and farming problems : Research in this area could be conducted with a view to understanding the rationale behind different agricultural practices and whether tradition is an impediment to progress. The tools, techniques and approaches of social sciences could also be used to provide information on the socio-economic dimensions of agriculture in different regions, the socio-economic-cultural factors that impede development in a particular area and to throw light on factors that influence the farmer's actions or factors that might be harmful to agriculture crop production and livestock rearing.

Promotion strategy : Analysis of communication channels used by agricultural scientists to disseminate their findings can be made with reference to : the dynamics of planned change, development approaches and methods of change, indentifying communication channels, planning and evaluating communication strategy, locating the blocks and facilities to development, reasons for acceptance and non-acceptance of a given technology, identifying the characteristics of adopters and non-adopters of new technology, developing strategies of input delivery systems, developing extension programmes, identifying future needs of agriculture, identifying marketing problems, identifying organizational communication and service components of different technologies.

Change agents and change agencies : In this area studies may be conducted on the structure and organization of the service agencies that are organized to help farmers improve farming practice, the methods of keeping the extension service in high productivity, selection, training, reframing, evaluation, motivation of personnel, job specification of change agents of different categories, methods of simplifying bureaucratic and time-consuming procedures. Studies may also be aimed at evaluating extension services and providing information on building sound extension programmes.

Agricultural policy legislation : The effects of legislations related to agriculture, the implementation and effectiveness of such legislations, etc. Such information may be useful to policy makers in decision making.

Agricultural scientists and students : The social scientists can help the agricultural researcher set up priorities for research in terms of their social relevance. Modern research requires the cooperation of a team of workers. The social scientist can help team-building in research and help the researcher appreciate his role as a change agent.

Development of technology : Identification of locality specific problems related to technology development and use. A social scientist could be involved while the technology is still at the preliminary stage of field experimentation in order to study the reactions of farmers or to conduct operations research to identify blocks in the local social system that could affect the adoption and use of that technology.

Agricultural production functions : Assessing the impact of agricultural inputs such as irrigation, improved seeds and fertilizers on raising farm productivity under different climatic and soil conditions. Effect of size of holding under farm productivity. Economics of dry farming. A detailed analysis of crop substitution and optional cropping pattern for different areas. Economic viability analysis of schemes of land reclamation. Location of warehouses.

Organization for agricultural production and marketing : Detailed analysis of different organizational forms under specific technological, economic and social factors prevailing in particular localities for determining the best-suited organizational form.

(c) *As a member of the social science department :*

Social scientists must contribute to developing the department as a service department which can provide social science inputs to the institution as a whole and to the different departments in particular.

The social science department as a whole must develop itself as an active, socially committed, action-oriented department engaged in research, teaching and extension activities. Thus the social science department can : (i) help other departments set up research priorities in terms of their social relevance, (ii) help other departments identify problems and define their dimensions; for example, it can help assess attitudes and reactions to particular types of technology developed in other departments and so provide clues for their success or failure in a particular area, and (iii) develop institutional services for the community by designing and conducting courses and programmes for farmers and

other members of the rural community.

(d) *Extension role of teachers :*

Social scientists in agricultural institutions can also play an extension role. Their audience may not be farmers, but other extension workers, administrators, legislators, etc. The channel used would not be the common extension methods used for farmers, but may take the form of targeted communication programmes, consultancies, training programmes, organizing workshops and writing "call attention" reports to draw the attention of administrators to aspects where a perspective of social factors is necessary. The social scientist could also conduct evaluation, studies to provide feedback to the programme administrators on the various programmes being conducted by the organization.

(e) *As part of the organization :*

The social science teacher can contribute to the smooth functioning of the institution by analyzing the institution as a social organization and providing inputs to the administrators for developing a personnel policy, improving the resident instruction programme, devising procedures for student evaluation developing student services such as counselling and placement programmes, clarifying the goals of the institution and working out procedures for the smooth running of the institution. Where, however, such responsibilities are required to be shouldered by the social scientists routinely, the concerned department may have to be provided additional staff.

VI. ORGANIZATIONAL AND ADMINISTRATIVE ISSUES

Aside from the problems mentioned above, other issues must also be resolved before social sciences can be properly established in agricultural institutions. Some of these are administrative problems that may require some reorganization of the department, others may be resolved more easily.

It must be mentioned that though 64 per cent of the administrators approached by the Study Team said that social scientists do not face any problems in their institutions, a few problems were identified by them. They mentioned the absence of a social science specialization at the under-graduate level, the lack of library facilities and the lack of communication with other co-professionals as factors which may impede the effective functioning of social scientists. Beside these, attention should be paid to the following issues.

Faculty and Organization of Department

In some institutions problems arise on account of the single professor system. In the past, small agricultural institutions have often

employed only one or two persons to teach integrated courses in social sciences. This causes problems regarding the work load and often gives rise to feelings of insecurity and professional isolation for the social scientists. Forty-four per cent of the administrators of technical institutions felt that the number of social scientists on their staff was inadequate. In the short run the problem may not be easy to solve. However, ways should be found to involve more persons in the social science departments in agricultural institutions. One such system is that of a "core" and an "adjunct" faculty. The "core" faculty should be made up of agriculture-based social scientists and pure social scientists who would be permanently attached to the institution. Posts for "adjunct" faculty should also be created. Each department may select a few prominent social scientists, outside a given university who could be associated for short periods of time with the social science programmes of the university. The system should be 'flexible' enough to permit a diverse pattern of linkages. The details of such an arrangement may be worked out by each institution.

Another system that may also be explored is that of employing two or three social scientists from different disciplines. Each discipline may then be gradually developed into a unit as more resources become available.

Recruitment

A related issue is that of recruitment. While recruiting, it is important that the specific job and the challenges that the person has to face on the job be made clear to him. His expectations from the job should also be assessed. Excessive reliance should not be placed on selecting candidates only from those who respond to advertisements or on those who sent in their bio-data from overseas. Where necessary agricultural institutions should reach out to qualified persons in the field. Emphasis should be on recruiting social scientists who indicate a strong interest in agriculture and who have shown evidence of their ability to adapt social sciences in a technological culture.

Work-load

A word must be mentioned regarding the work load. The teaching responsibilities of social science teachers must be appropriately adjusted according to the extra work they are allotted. The workshop of agricultural universities of India held from February 16 to 19, 1965 at Ludhiana recommended that a post-graduate teacher should devote three credit hours (or four to six contact hours) for each M.Sc. student and three to four credit hours (or four to eight contact hours) for a Ph. D. student. For practicals, one teacher should be in charge of a group of 12 to 15 students.

Promotion Opportunities

Promotion opportunities for social scientists in agricultural colleges are often not the same as for other agriculture science departments. The problem of promotion opportunities may, however, be partially overcome when the Agriculture Research Service comes into force. Social scientists working in agricultural institutions should also be considered eligible for this service. However, the scope of this service is restricted to institutions under the control of the ICAR. At this point perhaps all that can be done is to provide promotional opportunities on par with other disciplines and to adopt a system of personal promotions related to the academic output of an individual scholar.

Facilities for the Development of Professional Interest

Facilities should be provided to the social scientists for developing their professional interests. Institutions should aim to provide all facilities to the social science staff as are available to other departments according to their financial abilities. Secretarial staff, proper office accommodation and equipment and other facilities that help the social scientist in his professional work should be provided.

In most institutions there is a tendency to neglect social science books and journals since the readership is restricted to a few interested persons. Since agriculture science books are shared by several departments, libraries tend to feel it more worthwhile to subscribe to these rather than to social science journals. The problem of lack of adequate library facilities was also identified by the administrators of technical institutions as a problem affecting social scientists in their institutions. Every effort should be made to build up the social science sections of the library and adequate grants should be provided for this purpose.

Adequate encouragement should be given to research in social sciences as related to agriculture. In general, low priority is given to social science research in institutions of agricultural education. Till recently even the ICAR had no provision for research in social sciences. With the formation of the joint panel of the ICAR and ICSSR we hope that there will be more encouragement of social science research in the future. Important areas like operations research cannot be developed without adequate collaboration between social scientists and agricultural scientists. Recently, agricultural economics has received more attention as about 90 per cent of the expenditure on social research is spent on this subject. We feel that as a policy, institutions should set aside at least 3 per cent of the total research funds available to them for social science research other than in economics.

Some institutions have removed social scientists from their foreign training list on the assumption that sufficient opportunities for training are available in India. We feel that this would be an invidious policy

and besides, much may be gained through exposure and training abroad. Persons who wish to go abroad for further study in social sciences should not be discouraged from doing so.

The ICSSR should make a special effort to encourage social science research in institutions of agriculture education. For instance, the inclusion of research topics related to agriculture and extension in its list of research priorities will help encourage agricultural social scientists to send in proposals for grants.

Communication with Other Professionals

One problem identified by the administrators as affecting social scientists is that the social scientists in technical institutions have little opportunity to communicate with their colleagues. This along with other factors contributes to a feeling of "professional isolation" for the social scientists. Many social science departments are small and cannot afford to send their members to participate in outside conferences and seminars. Visiting faculty is also limited. Besides, many of the agricultural universities tend not to employ external examiners. All these factors have limited the contact of social scientists in agricultural institutions with other social scientists.

As far as possible agriculture-based social scientists should be encouraged to participate in seminars and meetings where they would be likely to meet other scientists and discuss problems related to agriculture. Agricultural institutions could also host such meetings and invite social scientists to their institutions to interest them in problems related to agriculture. Programmes encouraging institutional collaboration should be encouraged. Research funding agencies may develop systems where persons from agricultural institutions could work with social scientists on problems of agricultural concerns.

Interdisciplinary Focus

Some problems arise from the fact that social sciences in agricultural institutions must essentially be interdisciplinary. For instance, courses such as the "Diffusion of Innovations" may be claimed both by sociology and economics. Debates may arise between social scientists themselves when social scientists from different disciplines are expected to work together on a problem. Differences may also arise when projects are to be allocated through a research funding body, as for example projects relating to the small farmer. Should such projects come under extension education, economics or sociology? Some decisions must be made regarding where the marginal courses should be allocated. This problem is not unique to the social sciences. It has been experienced by different agricultural science departments as well.

There is some variation between institutions regarding the interaction between different departments also. At one institution, each department gets the economics of specific recommendations worked out by the department of agricultural economics. At another, a project on the economics of livestock production would be handled by the Department of Livestock Production and Management rather than by the Department of Economics. Sometimes departments may be required to perform certain service functions—for example, the extension department may be able to help other departments develop teaching aids. Where the department of extension is also responsible for extension work in an area, the other subject matter departments may use it to highlight their findings.

CONCLUDING REMARKS

It is important that each institution be clear on what the introduction of social sciences in the agriculture curriculum can accomplish. Based on this, each institution can work out what the social science programme in the institution may be able to do, depending on institutional objectives and facilities. We have reviewed in the foregoing sections the contributions that social science teachers can make to the institution and the administrative and organizational factors that would be conducive to the growth of social sciences in institutions of agricultural education. We have spelled out ways that social scientists can contribute not only to the field of agriculture but also to the entire agriculture education system. We hope that our effort at defining the range of contributions that social sciences can make will help social sciences become an intrinsic part of the agriculture education curriculum and will help social scientists respond to the challenge of agriculture and rural development.

APPENDIX-I

PRESENT COURSE CONTENT TAUGHT IN UNIVERSITIES AND AGRICULTURAL COLLEGES

ECONOMICS

- (a) Basic concepts : Definition and scope, its relation with other social sciences, consumption, production, exchange and distribution, wants, demand, supply, capital, labour, wages, credit, money, values, prices, rent, interest, public finance, taxation, banking, foreign exchange and international trade.
- (b) Agricultural economics : Planning of economic activity, state and agriculture, agricultural cooperation, agricultural capital, agricultural finance, agricultural labour, agricultural problems of India, irrigation, problems of land, land tenures and land taxation, population growth and density, agricultural prices, food problem.
- (c) Economics of production : Nature of production, factors of production, law of production, types of productive organization, production function, stages of production and resource allocation, principles of localization of industries, role of the state in the development of Indian industry.
- (d) Farm management : Scope and principles of farm management, characteristics of farm management, function of farm management, farm business, factors affecting farm progress, system of farming and types of farming, choice of crops and livestock, farm planning and budgeting and farm accounting, steps in farm planning, farm profit, farm appraisal.
- (e) Marketing : Definition and scope of agricultural marketing, conditions of the market, role of government in the improvement of agricultural marketing, marketing functions, marketing cost, defects of marketing, general and agricultural marketing, classification and types of market, marketing agencies, problems in marketing legislation, the concept of equilibrium and competitive market.

EXTENSION EDUCATION

- (a) Concepts : Meaning, scope and importance of extension education, history and development, rural youth movements in India and abroad, role and quality of extension workers, extension teaching methods, teaching aids for extension work, meaning, nature and importance of communications,

programme planning and evaluation.

- (b) Rural society : Structure of Indian rural society, concept of community life, characteristics of rural society and religion, family life in India, caste system, folkways and mores, types and classification of villages, play group, neighbourhood, social institutions, social stratification and social change, factors of social change, rural leadership, community development and panchayati raj, five-year plans, village organization, administration, sampling, organization of crop campaign, programmes of extension, contacting the farmers, agriculture depot and its function, organization and staff.

SOCIOLOGY

- (a) Concepts : Definition and scope of sociology, its relation with other social sciences, characteristics and functions of society, groups, associations and institutions, culture, civilization, personality, social change, cooperation, competition and conflict, accommodation and assimilation, social disorganization, juvenile delinquency, crime, beggary and poverty, meaning, nature and elements of social system, mechanisms of social control, social stratification, social mobility, family, marriage, state and local-self-government, heredity and environment.
- (b) Rural sociology : Definition and scope, importance of rural sociology in extension education, characteristics of rural society, rural and urban differences, rural health, family planning and applied nutrition, impact of urbanization, various aspects of rural family, role of various social, economic, political, educational and other institutions of rural society in India, objectives and methods of community development, panchayati raj, rural leadership, social welfare and welfare organization, and tribal society.

PSYCHOLOGY

Definition, methods and fields of psychology, basic concepts of behaviour, instincts, drives, attitudes, specialization, interests, sentiments, heredity and environment, learning, intelligence and creativity measurement and development of personality, emotions, perception, meaning and scope of educational psychology.

ENGINEERING EDUCATION

CHAPTER III

ENGINEERING EDUCATION

Today the main challenge facing schools of engineering is the need to provide the technology and the personnel it requires for economic development. Industrialization has been achieved in the past largely through importing technology developed in Western and more developed countries. Now there is a realization that long-term solutions to our problems will come only through necessary local adaptations and through the development of indigenous technologies. The challenge facing engineers today is to develop such technologies using designs and equipment that take into account existing socio-economic conditions and local needs whether at village or national level. Engineering institutions must produce specialists who are able to respond to the goals of planning and who can contribute to the all-round development of the country through providing the technological base for further social and economic development. Additionally, engineering schools must provide a continuing stream of trained manpower of requisite skills for the most efficient running of development projects in different economic sectors.

I. SOCIAL SCIENCES AND ENGINEERING

In every society the introduction of science and technology has been accompanied by a change in the economic, social and political structure in the country. In a developing society such as ours, science and technology are visualized essentially as agents of change, whose contribution is intrinsic to the process of socio-economic development. The relationship between the engineer and the society is, therefore, a significant one and must be so understood so that the contributions of the engineer as an agent of social change can be more precisely related to the needs of the country.

In a broad sense there are at least three factors that the engineer has to be aware of in the context of the close relationship between society, science and technology. The technology developed must first of all be suited to the economic, political, cultural and social structure of the country. This ensures that the technology is consonant with the needs and resources of the country—whether human or material—and that its introduction does not cause undesirable disruptions in other sectors. Such analyses have led, for instance, to the overall preference for labour-intensive technologies over capital intensive technologies, the preference for the development of technologies that use local raw materials, or technologies that are suited

to small-scale enterprises. At a more local level the effect of conceptualizing technology in relation to local needs has led to changes in machinery designs and production methods to suit local needs and traditions. A basic understanding of the economic and social situation and processes is thus necessary to understand how a technology may be judged as "appropriate" or "inappropriate".

Second, the effect of introducing technology in a society can be seen in social and economic changes. While the standard of living increases, often other problems arise. Industrialization brings with it some dislocation as more people are attracted by additional job prospects and higher wages. Urbanization, changes in family structure, new ideas that change value systems, etc., are some of the consequences of such change. On a larger scale there are effects on the socio-political structure of the country. Many of the problems in the economic and social structure that have arisen in Indian society today can be related to the uneven distribution of the benefits of industrialization in the country. While the reasons for this maldistribution may again be rooted in the economic and social structure, the effects have implications for political affiliations and may express themselves in social tensions based on caste, religion, region, or language differences or economic groups. These far-reaching economic and social implications of technological changes must be well understood and taken into account by the engineers.

In the foregoing paragraphs we have described how society is affected by the introduction of science and technology. The development of science and technology, however, is in turn affected by the society and its demands and needs. In societies characterized by inequality, for instance, the effective demands of the affluent minority tend to determine the kinds of commodities and services that are developed. This development may not always serve the interests of the majority who are poor. In India this has led to a situation where the demand for particular types of commodities has led to the import and development of a technology which was oriented to the production of consumer goods for 20 per cent of the urban population and not related to the needs of the traditional, largely rural sector of our economy and society.

The conceptualizing of such relationships can help the engineer identify the problems he must address himself to and to set priorities that take into account social factors and development.

In his actual work situation much of the graduate engineer's time may be spent in management and supervision of skilled, semi-skilled and unskilled personnel, especially as he rises in the organizational hierarchy. Here the engineer will have to deal with persons whose values, goals and commitments are different and often even opposed to his own. The techniques of managing organizations have to be adapted

to the workers and their level of competence and adjustment. The engineer may have to develop an understanding of management techniques, organizational functioning and human behaviour so that he can be more effective in running the industrial system.

The study of social sciences should also help the engineer develop a perspective on human behaviour and society and a philosophy of life for himself. The exposure of engineers to courses in humanities and social sciences should help them gain an understanding of the world beyond their professional interests, make them familiar with the manifold problems that they face as citizens.

II. REVIEW OF SOCIAL SCIENCES IN ENGINEERING EDUCATION

Two current approaches to the incorporation of social sciences in engineering education can be identified. In the State level engineering colleges (which constitute most of the engineering institutions in the country) the social science courses have consisted of courses such as economics and management that are closely related to the professional functions of engineers. One or two courses in economics were part of the curriculum of several of these colleges even in their early days. Their contents included topics such as costs, wages, industrial organization, etc., and were regarded as essential for professional competence. There seems to have been little expansion of the social science faculty and teaching in these institutions though with time some of these colleges have introduced a few other subjects such as industrial psychology and industrial management and have established a separate department of humanities which included social sciences.

The other pattern, which is different from the foregoing quantitatively as well as qualitatively, is provided by the 15 Regional Colleges of Engineering most of which were established during 1959-64 and the five Indian Institutes of Technology that were established through the IIT Act during the last twenty years or so. The IIT Act makes a specific provision for a department of humanities and social sciences for teaching these subjects, though it does not provide any details about the number and type of social science faculty or the social science curriculum. This was left to be determined by each institution separately. As a result, there is no uniformity in the social science curriculum followed by these various institutions at the national level. Nor is there any comparability in the social science curricula of the Regional Colleges. Both these differ from the old established engineering college at the State level in that they provide a larger and more varied content of social sciences and have a competent social science faculty probably with better facilities. The first steps in this respect were taken by IIT Kharagpur. Following its example several other engineering institutions have also strengthened their social

science inputs. During the mid-sixties the Indian Institute of Technology, Kanpur, started improving its social science faculty to the extent that it has now become one of the leading centres of social science education and research in the country. Here the study of social sciences is included for the contribution to the "liberal" education of the students as well as for their professional relevance to their major discipline. Depending upon their options, students can be exposed to a minimum of four social science courses. In addition, there is provision for a Ph.D. programme for about 20 students in economics, psychology and sociology consisting of both course work and dissertation. The courses are taught by a competent social science faculty, almost all of whom have got a Ph.D. degree and are themselves involved in active research. The example of IIT, Kanpur, has set a new model for the development of social sciences in engineering institutions giving it a broader base and is indicative of a greater acceptance of social sciences in engineering education.

Today, the main social science disciplines taught in engineering colleges are economics and management. Sociology and cultural anthropology, political science and psychology are also taught in a few colleges. This is in line with the experience of other countries. According to a UNESCO survey¹, of all the social science disciplines, economics is the most thoroughly entrenched and most widely taught in engineering institutions.

III. THE OBJECTIVES OF SOCIAL SCIENCE TEACHING IN ENGINEERING EDUCATION

Social science teaching in engineering institutions seems to be aimed basically at increasing the professional competence of the engineer. On graduation, engineers opt for career opportunities in any one of the following positions: (a) teaching and/or research, (b) positions in government departments like the PWD, Irrigation, Public Health Engineering, State Electricity Board, Town Planning, Housing, etc., (c) positions in industrial enterprises—both public and private sector—small and large scale, (d) positions in consultancy firms. A small number start off on their own as entrepreneurs.

The functions performed by the engineer and the usefulness for him of social sciences depends on the type of job he holds and the position he occupies. The person whose job is mainly operating and maintaining machinery, for instance, will hardly come in contact with situations where social sciences are directly relevant. This task is usually performed by a mechanic rather than an engineer. Most engineering graduates go in for jobs involving supervision and decision-making where a knowledge of social sciences becomes directly

¹ *Social Sciences and Humanities in Engineering Education*, the UNESCO Press, Paris, 1974.

relevant and useful. Even engineering graduates who become teachers or researchers, for example, will find knowledge of social sciences useful in relating their teaching to situations that engineering graduates will encounter and the problems they will face. Besides, some supervision and managerial skills are useful for teachers and researchers also, since with the new organizational procedures of rotating headships and democratic functioning of departments more teachers now take on administrative duties as part of their work. Researchers too will find social sciences useful to identify problems that they must address themselves to and to administer large research projects involving several persons. Their awareness of techniques of project planning and appraisal, of social and economic implications of different technological alternatives, economics of different designs, products, processes and locations will help them in gaining insights into the "appropriateness" of their research endeavours in search of new technologies. It is very necessary for engineers working in Research and Development (R&D) organizations to be familiar with the social, economic and political framework in which technologies function. Engineers in general design products and processes and they should be aware of the economics of their designs and the social conditions in which these will be utilized.

Engineering graduates who join maintenance or operation departments are usually given charge of a section and have several mechanics working under them. Development of appropriate forms of work organization and supervision becomes an important part of their responsibility. Much of their success depends on their ability to manage men and organizations. A knowledge of social science topics such as interpersonal relations and group dynamics, human motivations, organizational behaviour, administrative procedures, labour laws and functioning of trade unions, to give a few examples, would help them in performing their task more efficiently.

Most graduates from engineering colleges take up jobs in industry and government that require competence in more than the technical aspects of machinery and equipment. These are areas such as project planning, information processing, monitoring control systems, costing, budgeting, sales promotion, etc. With reference to those graduates who become entrepreneurs or managers, the proportion of time spent on non-technical aspects increases still further.

Apart from the directly professional goals that social sciences may subserve, the teaching of social sciences should also aim at giving the student as an individual a more complete understanding of himself and of the world in which he lives. He should have an insight into the problems that mankind faces, whether these problems are related to material technology or to the stage of human development.

In view of the above considerations we recommend that the

introduction of social sciences in engineering education should have the following objectives :

1. To increase the engineering student's awareness of the economic, social, and political situation in the country and to promote the development of technology appropriate to these conditions

Unless an engineer has a fair understanding of the economic and social forces under which he has to live and work, he may not be in a position to make the maximum contribution to social growth and development. He should also be aware of social values and the likely direction of social and economic change. This is an objective which should be taken into account by non-social science courses also. The engineering courses, for example, can point out social and economic implications of particular technological alternatives. However, it is fairly obvious that this task can be performed better by social science courses such as those dealing with the social, economic and political framework. These courses may also give indications as to the type of technology needed to fulfil social aspirations. For example, the need to provide employment to large masses of people may obviate the need for producing labour saving equipment at least in the short run; at any rate, it would call for a careful weighing of costs and benefits of new technological innovations. An appreciation of the fact that there are large numbers of small farmers who need assistance in augmenting agricultural production might help in producing farming machinery and equipment more suited to their needs. Economy, technology and society are interlinked with each other and a knowledge of this interlinkage in the national context should be imparted to engineers and scientists so that they may contribute to the solution of such problems.

The engineering student must also be made aware of local factors that should be considered when designing and developing technology. These are factors such as the habits of people who will be using particular equipment. Such an awareness will help the engineering student create designs that appeal to client tastes and meet client needs.

2. To equip students to cope with administrative and managerial demands of their work environment

The engineering graduate spends about 70 per cent of his time dealing with skilled, unskilled or semi-skilled labour or administrative personnel within the framework of the organization. Courses in management and labour organization and an understanding of the principles and factors involved in management would help the engineering graduate function effectively in this context.

3. To promote the development of knowledge in the interface areas of technology and society and to develop social sciences especially those of their sub-branches that interact with physical sciences and technical education

By providing students with the analytical concepts of social sciences they can be encouraged to identify and study areas where science and society interact and influence one another. This would contribute to the development of social sciences as well, especially in relation to the changing environment of a society in transition. At least three benefits may be derived through this emphasis.

- (a) This would provide ground for a cross-fertilization of technology and social sciences. This is a promising area of academic activity and has already led to the emergence of several powerful techniques such as computer simulations of social systems, information processing and control network approach to project planning, econometric applications in water management and other similar studies which have proved useful to technologists and social scientists in dealing with the complexities of modern industrial civilization.
- (b) Such programmes would attract competent social scientists and would give them a degree of job satisfaction. This in turn would raise the standard of social science courses to a level comparable to that in other reputed institutions. The quality of teaching would improve also because of the growth in research activities.
- (c) Engineering students who find that they have more aptitude for pursuing a specialization in social sciences will be able to develop this interest. There is a growing need for persons with such dual interests. An executive in industry, for instance, if he is to be successful, has to be an "all-rounder" with a background in engineering, science, economics, sociology, costing, management, etc. Graduates in such "hybrid" courses would develop into sociologists or economists with a foundation in science and engineering.

4. To encourage the student to develop himself as a person by gaining through the study of social sciences a deeper understanding of human nature and a greater degree of social awareness

A broad general education should form an integral part of the education for a profession like engineering so as to provide a bridge between the two cultures mentioned by C. P. Snow—the scientific-technological and the socio-humanistic-literary. This is especially important in India where students opt for an engineering career at a

very young age and where bifurcation of the science and humanities streams takes place at an early stage in education.

The objectives listed above state what we consider to be the broad objectives that every institution should aim at. However, their relative importance for different types of institutions will vary depending on the interests, career opportunities and quality of students in an institution, the general standard of teaching in that institution, the availability, interests and professional competence of the social science faculty, etc. For example, the objectives of developing research and theory in the interface areas of science and society could be pursued only in institutions with strong social science as well as technology faculties while the objective of providing an awareness of the national situation and the social context could be regarded as common to all institutions.

IV. SOCIAL SCIENCE CONTENT

The Existing Situation

One of the most important instruments for realizing the objectives mentioned earlier is the set of social science courses offered to engineering students, the topics covered by them and the treatment of the subject matter by the faculty.

The Study Team collected information on the course content currently taught in engineering institutions. About 130 engineering institutions were requested to send their syllabi. Out of these, 31 responded.

The information supplied by them revealed that the most frequently taught social science courses are economics (27 institutions) and management (18). Sociology is taught in nine, psychology in six and political science in seven institutions².

The content analysis revealed that there was no clear-cut pattern regarding social science courses taught in different engineering institutions. Every institution follows its own scheme with respect to the number of social science courses, the disciplines to which they belong and their course contents. Thus, in economics, almost all the topics that come under the subject are taught somewhere or the other though certain topics such as the nature and scope of economics, basic concepts of economics, factors of production, laws of returns, exchange, cost, pricing, money, banking and finance, trade, forms of business organization, occur more frequently than others. As regards other disciplines like sociology and psychology, it is difficult to find any specific topic being taught at more than three or four institutions. How-

² Chaturvedi, H.R., "Social Sciences in Education for Professionals : Overview of Curriculum Contents", in *Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

ever, there is greater uniformity in the level of the social science courses taught at different institutions. The level is by and large elementary, as is found in the intermediate or B.A. Part I stage of Arts colleges. Few institutions teach the sub-specialities of a particular discipline in any depth. This has resulted in a lack of interest on the part of students and frustration on the part of faculty who get no job satisfaction in teaching only elementary level courses.

The social science content taught at present to engineering students based on a study conducted by Gupta for the Study Team is given in Appendix II.

Considerations in Framing Course Content

The confusion with respect to social science courses is due to one or both of the following factors : either the objectives of social science teaching have not been defined and understood in clear terms by the concerned institutions, or the institutions have not been able to frame appropriate courses in the light of the objectives. The social science faculty in these institutions have a strong tendency to copy the pattern of elementary social science courses in Arts colleges probably because of their past associations with Arts colleges. Also, the social science teachers in university departments, being senior members of the university, have an important say in determining the social science syllabus and setting questions at the examinations. These teachers are not always aware of the special requirements of engineering institutions. It is, therefore, necessary to have all-India or regional bodies made up of competent social scientists who have experience in teaching in engineering institutions along with engineers. The traditional university teachers are not in a position to appreciate the needs of engineering students. The responsibility of drafting the syllabus and setting examination questions should not be left to them. Certain considerations should be taken into account while framing the course structure.

- (a) The bulk of students will not specialize in any of the social science disciplines. Their interest in these courses is likely to remain peripheral. Therefore, care should be taken in designing the courses so that they arouse the interest of the students and stimulate them to acquire a deeper understanding of the subject matter in order to realize the objectives mentioned earlier.
- (b) There should be an Indian orientation to the social science courses. The use of examples from the Indian socio-economic context is likely to make the course lively and more meaningful to the students. It would be still better if such examples are drawn from areas pertaining to engineering fields such as industries and public utilities. In other words, teaching

of social sciences should be related to the actual experience of life and work of engineers in different occupational fields.

- (c) Students should be exposed to introductory basic courses at a very early stage so that they learn the language, concepts and frames of analysis of the concerned discipline. This will enable them to understand, appreciate and benefit from the advanced or professionally relevant courses they may take later on. For example, it would be desirable to expose students to the fundamentals of economics before giving them a course in industrial economics. It should be remembered, however, that unless properly handled, basic introductory courses can result in disinterest and boredom.

We believe that properly developed interdisciplinary courses are specially suited to meet the needs of students studying for the professions of agriculture, engineering and medicine. However, interdisciplinary courses are difficult to develop and teach. Certain problems may arise, particularly in Regional and State level institutions which do not have large social science departments. Non-availability of suitable faculty or a group of faculty, problems of coordination and administration in case more than one faculty is involved, the problem of maintaining unity in course design, structure and treatment, may make the teaching of such courses difficult. In such cases it may be advisable to offer good unidisciplinary courses than badly drafted and badly integrated interdisciplinary ones.

The surveys conducted by the Study Team also obtained the views of social science teachers and administrators of engineering institutions on the nature of the social science courses to be given to engineering students. The results indicate that opinion is more or less equally divided between discipline-based courses and interdisciplinary courses, with a slight bias in favour of the former. However, within the discipline-based courses, responses are clearly in favour of vocationally-oriented courses.

- (d) It is not necessary or practical to offer all introductory courses to all students. Different alternatives may be made available from which students may choose their own introductory courses. Exposure to two or three social science disciplines should be regarded as a reasonable norm. Of these, economics should be one because of its obvious importance to engineering students of all branches and because facilities for its teaching already exist. Students in civil engineering may find a course in sociology useful for formulating a general

base, and urban sociology useful as a specialization. Students going in for a career in industrial management may prefer a course in psychology. A course in public administration would be useful for those hoping to join government service.

- (e) The course structure should be so designed as to combine breadth with depth. Breadth should be provided by exposure to more than one introductory course in the first few years; closely followed by certain general courses on contemporary India, Indian civilization and culture, technology, economy and society, etc. Depth can be provided by advanced and sequential courses in a particular discipline or interdisciplinary area of the type mentioned earlier. This will enable students to acquire a deeper understanding and insight into the conceptual approach of a particular social science discipline. Professionally relevant courses should also belong to this category. In view of the diversity of interests and career plans of students, it is necessary to give options to students to select particular social science courses. For this purpose several alternative courses should be offered, depending upon the availability of faculty and on satisfying institutional norms regarding the size of a particular class. These courses should not be a repetition of courses usually offered in the social science faculty in universities, in view of the different professional needs of engineering students.
- (f) As mentioned earlier, the course chosen in each engineering institution will depend on the characteristics of the objectives of the institutions, etc. For instance, courses on science and technology policy or on decision-making or power economics may be of more professional relevance for students who are likely to take up positions in administration and of less relevance to graduates who are not associated with jobs requiring decision-making in complex engineering and industrial systems. However, there are certain core social science courses which would be common to most of the students in most of the engineering institutions. The contents of these courses should be determined in such a manner that their relevance to the professional training of the engineer becomes obvious. For example, a course in economics, specially production and distribution economic concepts in general, is an obvious choice.
- (g) Time allocation : One of the most difficult problems that the departments of humanities and social sciences in engineering institutions face is the question of marks and time. Even at the Massachusetts Institute of Technology, USA, where conditions are regarded as ideal, the proportion of time allotted

to humanities and social science courses is 20 per cent. In IIT, Kanpur, it is about 15 per cent, and in other engineering institutions it is much less. The actual time allotted to *social sciences* may be about half of the figures mentioned above because part of the allotted time is earmarked for teaching languages and humanities. The general pattern has been that a little more time is devoted to social sciences in the first two years and then there is a tapering off in the last two to three years. The present position in this respect has been regarded as satisfactory by a majority of the administrators and social science teachers working in engineering institutions. This is not surprising as most of them feel that social sciences play only a nominal role in the curriculum. The important role that social sciences should play in the education of an engineer has already been pointed out. The attainment of various objectives mentioned earlier would require a student to be exposed to a minimum of at least three to four social science courses. The number of such courses would be more in institutions of higher learning such as the IITs. It is necessary that adequate provision for lecture and tutorial hours should be made so that the various objectives mentioned above may be fulfilled. This would obviously require allotment of more marks and time to social science courses. It is very difficult to fix any uniform national norm in this respect because of the diversity in the types and levels of engineering institutions. As a rough guideline one can say that the time allotted may vary from 8 per cent for State colleges to 10 per cent for the Regional engineering colleges and 12 per cent for the IITs. Time should be provided in all the years or semesters. Sometimes an exception may be made for the last year or semester.

- (h) Allocation of marks : The weightage of social science and humanities courses should be the same as that of engineering and science courses in terms of contact hours and maximum marks. In other words, if engineering and science courses are of 100 marks and four contact hours per week, the same should be fixed for social science and humanities courses. Besides, the marks obtained by a student in these courses should be included when computing his division. Pass marks for social science and humanities courses should also be the same as for the engineering and physical science courses. This is not the case in many institutions. Such a parity between the two types of courses will ensure that students treat the social science and humanities courses with the same seriousness with which they treat professional

courses.

Illustrative Contents

We now give an illustrative list of courses and course contents after taking into account the objectives and the considerations mentioned above. Institutions may use these as guidelines for constructing more courses. The specific course-mix to be selected by them will depend on their requirements as judged by the interests and career opportunities of the students and the interests and professional competence of the available faculty. The courses can be grouped into the following four categories :

Group A :

Foundation courses aimed to expose students to the basic concepts and methods of a concerned social science discipline and to increase their insight into social problems and processes. They should be regarded as pre-requisite for all other courses in the concerned discipline. Courses Nos. (i) to (iii) [given below] belong to this category.

Group B :

Courses designed to provide an awareness of the social context in which engineers work as mentioned under the first objective. Courses Nos. (iv) to (ix) belong to this category.

Group C :

Professionally oriented courses to be taught at the undergraduate level at most of the engineering colleges. Courses Nos. (x) to (xv) belong to this category. They are designed to meet the second objective mentioned earlier.

Group D :

Professionally oriented courses to be taught to interested undergraduate students at an advanced level or to post-graduate students. These are designed to meet the third objective mentioned earlier. Courses Nos. (xvi) to (xxii) belong to this category. These should be handled jointly by social scientists and engineers. Additional courses such as on science policy, economics of transportation, resource economics, chemical process economics, can be developed on similar lines.

(i) *Introduction to Economic Analysis* : The nature of economic activities and economic problems. Scarcity and the need for optimization. Technology and economics. Some basic concepts of economics:

want, utility, value, income, capital and wealth. Micro and macro economics.

Theory of demand : derivation of downward sloping demand curve with the help of indifference curve, income effect and substitution effect, elasticity of demand.

Production and costs : factors of production, economic laws of production, types of changes in input combination and their effect on productivity, production functions, small scale versus large scale production, economic implications of such technical factors as capacity utilization, specialization, balancing of processes etc. Costs: types of costs, cost behaviour under different production conditions, cost accounting.

Exchange and pricing : determination of prices under different market conditions, marketing problems of small scale industries, revenue and profit. Problems of distribution with special reference to determination of wages.

(ii) *Introductory Psychology* : Basic principles and concepts in modern psychology—sensory and perceptual processes, motivation, learning, cognition, personality and individual differences. Measurement and psychological testing.

Critical analysis of processes involved in person-to-person, person-to-group, and group-to-group interaction, interpersonal attraction, impression formation, attribution, attitudes and attitude change, social influence, group norms and values, leadership, group dynamics, altruism, aggression and violence and environmental stress.

(iii) *Introductory Sociology* : A study of human and social evolution—bio-social and socio-cultural systems. Outline of sociological perspective and its distinctive character. The relationship between individual and society—community, associations and institutions—socialization, social structure—status and role, values and norms culture, social groups and forms of interactions, social stratification—caste and class. Population and human ecology. Impact of science and technology on society. Sociological problems of economic development and social change.

(iv) *Understanding an Economy* : The national income—its importance—constituents and determination. Aggregate supply and aggregate demand, problems of inflation and deflation. Full employment, underemployment and unemployment—factors determining employment—role of appropriate technology in employment. Growth and development of an economy.

Institutional framework of an economy—*laissez faire* vs. state intervention. Need for planning—types of planning—capitalism and socialism. Taxation—main principles and objectives—types of taxes—incidence and effect of taxes. Public expenditure—deficit financing—money and banking.

The influence of other countries on the economic activities—exports and imports—foreign exchanges—devaluation and over-valuation—policy of protection—customs duties and quotas—exchange control—trade agreements.

(v) *Economic Development and Planning* : Meaning of economic development—developed and underdeveloped countries—stages of development and growth—classical theories of economic development—neoclassical model of development—post-Keynesian models—factors responsible for economic development, land, labour, capital, technology. Principles of planning—process of planning and decision-making in India.

(vi) *The Economic Role of the Government* : The increasing role of the government in economic activity—size of the public sector—public production and resource use—public distribution system.

Fiscal functions and organizational features of the economy—provision for public wants—role of the budget in providing for the satisfaction of public wants, adjustment in the distribution of income and stabilization.

Government sector and economic development. Variation in the fiscal structure with economic development : share of public purchases of goods and services in GNP and the role of transfer payments. Tax structure development and debt finance variations.

(vii) *The Political Framework* : Political ideologies—democracy, dictatorship, liberalism, capitalism, socialism, communism, Gandhism.

Citizenship—rights and duties of a citizen.

State—its meaning and functions—types of states—State and sovereignty—technology and politics—technology and the formation of public opinion—role of technology in the formation of the State.

Government—central, state and local—salient features of the Indian Constitution.

Interaction between economic development and political development—relationship between social classes and political power.

(viii) *Contemporary India* : Introducing contemporary India—a brief reference to the main stages in the evolution of Indian society upto Independence—philosophical-cultural traditions and requirements of development—Indian attitude towards life.

Social structure and development—introduction to the dynamics of social change, tradition and modernization—social structure : family, caste, occupational structure and mobility—social forces : education, science, technology, mass communication—population as a factor of development; demographic transition, urbanization, migration and family planning.

Political institutions and development of parliamentary democracy in India. Institutions, their working and stability. Federation: centre-

state relations: constitutional, administrative, economic and political—competing political ideologies: Gandhism, Marxism, socialism, etc.—national integration.

Economic strategy and development—factors in economic development—the contemporary economic situation; poverty, unemployment, economic inequality—human and non-human resources of the country—the five year plans: their objectives, strategy and achievements—resource mobilization—agricultural reform and progress—industrialization: problems, priorities and opportunities—balance of payments and foreign aid—the price level and price policy.

Dimensions of development perspective : economic, psychological and social—change and continuity in Indian life.

(ix) *Technology, Economy and Society* : Science, techniques and technology, definitions and interrelationships.

Technology and its progress in various societies—a historical survey in which the relationships between technology and the economic, social, political, ethical and religious institutions of the society concerned are also explored and discussed.

Ancient Egypt, Greece, Rome, India, China.

The Industrial Revolution—the socio-cultural background of the Industrial Revolution, the consequences of the Industrial Revolution for society and technology.

The modern scene : the changed character of technology—its distinguishing features of speed, automation, self-regulation, etc.

Impact of technology on various aspects of modern society such as—

- (a) Economy : economic consequences of modern technology, impact of automation on employment, particularly alienation and human technological elites and the economic order, relation between labour and the elite. Impact on size of productive units.
- (b) Politics : technology and the centralization of power, the totalitarian state, public participation in decision-making, the technocrats and the ruling elites, etc.
- (c) Social organization : such as mass society and the mass man, effect on human groups—primary as well as secondary, technology and urbanization and modernization.
- (d) Ethical issues raised by advancing technology as by the new possibilities in biological technology such as genetic control and the new possibilities in changing the environment. Threat to the freedom and dignity of man. Social control and the individual.
- (e) Psychological issues : creativity and technology, privacy, urbanization and personality growth. Social-psychological analysis of aggression, violence and other social pathological

behaviour.

Alienation and the marketing orientation.

(x) *Industrial Economics* : Industrialization and economic development—relationship between industries and other sectors—evolution of industries—changes in industrial structure.

Identification of industrial opportunities—factors determining the size and location of an industry. Criteria for selection of an industrial project in the private and public sectors—commercial profitability vs. national economic profitability criteria—other criteria.

Meaning and measurement of industrial productivity. Industrial costs—main components—depreciation—cost accounting—factors affecting productivity and cost.

Profitability analysis—time pattern of receipts and payments—interest rate and present value consideration—present discount value and internal rate of return. Introduction to social cost and benefit analysis.

Industrial finance—industrial relations—problems of marketing—entrepreneurship—forums of business organization—market structure and industrial concentration.

The relationship between state and industries—industrial policy.

(xi) *Industrial and Organizational Psychology* : Role of human factors in industry.

Personnel selection and placement—social background of the worker—individual differences—tests of special abilities and personality assessment.

Work environment, man-machine systems and psycho-technology.

Personnel performance—factors affecting performance—morale and adjustment, job satisfaction, incentive schemes, attitude and attitude change, commitment of workers to their work roles.

(xii) *Industrial Sociology* : The Industrial Revolution—industry and community—basis of industrialization—sociological concomitants of industrialization—the structure and functions of work organization—factory as a social system—the formal and informal organization of industry—top, middle and frontline managerial roles—evolution of managerial philosophies—the nature and role of trade unions—problems of automation and alienation.

(xiii) *Urban Sociology* : Urbanism, suburbia and other processes—spatial and temporal pattern of cities—concepts of system, open and closed system and urban settlement as open system—urban social structure and the environment—urban social institutions and organizational structure—slums and community development—social and psychological aspects of urban housing—culture of cities and trends of urban growth in India—demographic aspects. Research methods for urban studies.

(xiv) *Industrial Management* : Definition of an organization—

formal and informal organizations—line and staff division—use of committee as a management tool—personnel management—selection and training of employees—personnel department, its functions and relationship with other departments—maintenance of personal records—manpower planning—labour welfare

Scientific management—motion and time study—fixing standards of performance for men and machines—production planning—job, batch and mass production—production control—production scheduling—inventory control—quality control and inspection—information processing and monitoring—budgeting and cost control—techniques of managerial coordination and control, management information system.

(xv) *Industrial Relations* : Management-union relation—industrial disputes—trade union movements—collective bargaining—labour legislation—systems of payment of wages—wage incentives—promotion and demotion policies—employees' participation in management—strikes and lockouts—grievance management.

(xvi) *Analysis and Management of Systems* : System perspective and the structure of problem situation—diagnostic and analytical approaches, formulation of dynamic system models, policy analysis and decisions in organizations, planning and control systems, values and the nature of a solution process. Problems to be drawn from industry, administration and public systems.

(xvii) *Project Economics* : Economics of project formulation and appraisal—techniques of profitability analysis, social costs and benefit approach, risk, uncertainty, and sensitivity analysis—Case studies.

(xviii) *Water Resources Engineering and Economics* : Water resources systems—objectives of water resources development—the process of water resources development planning, design, construction and operation. System demands. Availability of resources: geographic and geological aspects. Economic, social and political considerations in systems development. Benefits and costs, economic objectives. Mathematical and econometric principles in optimal system design. Numerical and digital computer methods in hydraulic and water resources engineering.

(xix) *Planning and Development of Water Resources Systems* : Water resources development—objectives, constraints, and criteria based on technical, economic, social and political factors. Economic and econometric principles in system planning and development. Project formulation, selection from multiple alternatives. Mathematical models. Application of management techniques in optimum water resources system design.

(xx) *Human Engineering* : Human factors in system development—design of man-machine system—monotony, fatigue and machine, allocation of functions—design of visual displays—types of coding

used in these displays—arrangement of displays—concepts of compatibility-spatial, stimulus-response and conceptual—design of controls, layout of controls, applied anthropometry—work measurement—work-space arrangement—layout of equipment—environmental factors: effect of noise, vibration, humidity, etc., on human performance—human factors in inspection and quality control.

(xxi) *Industrial Organization and Control*: Business organizations. Company promotion. Labour management. Marketing, forecasting, production planning and control. PERT and CPM. Quality control. Method of study and work measurement. Plant engineering and cost control. Economics of plant location and layout—factors affecting plant layout—information processing and decision-making in an organization.

(xxii) *Techno-Economic Study of Indian Ore Deposits*: Classification and distribution of Indian ore deposits, their origin and mineralogy; sampling and estimation of ore deposits, Indian deposits as industrial raw material, industrial specifications for all important metallic and non-metallic ores; mineral economic and its concept, mineral taxation and incentive measures; location, design and layout of processing plants, economic evaluation of a project, optimization studies in the evaluation of Indian mineral industry, contribution of Indian mineral industry to India's economic development.

Post-graduate Specialization

Facilities for post-graduate teaching and research guidance must be provided to competent teachers. This may take two forms. In institutions where there are large departments of social sciences, students should be enrolled for post-graduate courses and research in social sciences. In other places, arrangements should be made for competent social science teachers in engineering colleges to participate in programmes of post-graduate teaching and research conducted by university departments. Work done in this connection should form a part of their work load. Some research area can grow best in engineering institutions. For example, studies in the philosophy of science, studies in the mutual relationship of science and technology, studies of entrepreneurship, a wider application of systems analysis techniques to social systems, application of economic and econometric analysis to different engineering fields, etc., may find a very hospitable atmosphere for growth in engineering institutions.

Teaching Methods

Engineering students are good in mathematics, therefore, an attempt should be made to give a quantitative orientation to social science teaching. Class-room discussion should form an integral part of teaching

so that the students are stimulated to do home reading and develop an insight into the subject. Being scientists and technologists, they have enquiring minds, and they would feel interested if the emphasis in social science teaching is more on analysing social phenomena or processes rather than on their mere description. Students should be assigned reading and writing exercises on a regular basis so that the work load per social science course is comparable to courses in science and engineering. It may also be desirable to ask students to submit term papers from time to time on suitable topics. This would induce them to do extra reading on their own, look through different books and journals, learn how to apply principles of social sciences in understanding and analyzing specific problems and enable them to think for themselves. For these purposes, mere lecturing is not enough. There should be provision for tutorial and discussion groups.

The new type of courses being visualized will require text-books that are different from those usually available. In the past, little attention has been given to developing text-books especially for this purpose. It is recommended that special measures may be taken to encourage the publication of text-books that are suitable for teaching social sciences in engineering colleges. The University Grants Commission and the Ministry of Education should include the publication of a few social science text-books for engineering as a part of their large programme of text-book publication. They should set up teams of teachers drawn both from the engineering and non-engineering institutions.

V. THE SOCIAL SCIENCE TEACHER

His Present Status

In institutions other than the IITs., the departments of humanities and social sciences seem to occupy a somewhat secondary status, from the point of view of the organization, the number of personnel and the courses allotted to them. There is no separate department of social sciences or any of its disciplines in any engineering institution in the country. The general practice is to club both humanities (including languages) and social sciences in one department and call it the Department of Humanities or the Department of Humanities and Social Sciences. Even this does not exist in many institutions where humanities and social science teachers do not get the necessary organizational base for developing their professional identity. There are several institutions where a teacher in one subject, say English, is expected not only to teach his own subject, but to manage courses in economics, psychology, etc. In addition, there are teachers with degrees in one social science discipline who teach other social science disciplines.

Below are some descriptive details regarding the current status

of social sciences in engineering institutions on the basis of two studies³ conducted by the Study Team appointed by the ICSSR to investigate this issue. One study investigated the role of social scientists in technical institutions—agriculture, engineering and medicine. The other study focussed on the administrators of these institutions and their views on social sciences. For the first study 138 social scientists were approached from engineering institutions; out of which 67 responded. The following data are based on information obtained from their responses.

(a) *Working Conditions :*

Approximately 30 per cent of the teachers have Ph.D. degrees. Twenty-two per cent of the "social science" teachers do not have degrees in social sciences but have degrees in subjects like philosophy, English literature and engineering. The average number of social science teachers is 3 per institution. The faculty seems relatively young, the modal age is between 26 and 35. This includes about half the teachers. The next concentration is in the age group of 36-45, accounting for 30 per cent of the teachers. The average teaching load for engineering teachers is about 10 hours per week. This load is not heavy compared to university teaching loads where a Professor is required to teach a minimum of 8 hours, a Reader 12 hours, and a Lecturer 16 hours. In engineering institutions the average teaching load works out to :

Professor	9 hours per week
Reader	10 hours per week
Lecturer	11 hours per week
Junior Lecturer	7 hours per week

In addition to their regular work of teaching, most of the social science teachers said they were given extra assignments. These are jobs such as the wardenship of hostels, cultural activities, student welfare activities and so on. Forty per cent of the teachers said they had one extra assignment and 30 per cent said they had two.

(b) *Acceptance of Social Scientists by other Colleagues, Administrators and Students :*

Only 10 per cent of the social science teachers felt that social sciences were given a "very important" place in the curriculum while about 50 per cent felt that social sciences were given only a nominal place. An attitude of indifference is apparent among the teachers in other departments, students and administrators. This attitude

³ Atal, Yogesh, "Social Scientists in Technical Institutions" and "Administrators of Technical Institutions : Views on Social Sciences", in *Social Sciences in Professional Education — Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

is reported even in some of the IITs and Regional Colleges of Engineering despite the fact that departments of social sciences are fairly large in these institutions. The social science teachers are looked upon as "peripheral" to the real business of engineering institutions. It is this attitude that is responsible for not always attracting the best personnel to join technical institutions inspite of satisfactory emoluments and prospects for promotion. Thus, out of the 67 social scientists approached, about three-fifths said the attitude of their colleagues was neutral, though less than 15 per cent said it was actually hostile. The administrators seem to have a more hospitable attitude since a third of the teachers said that the attitude of administrators was "hospitable" and only 8 per cent said their attitude was hostile. Students are perceived as being more favourable—45 per cent said the attitude of students was hospitable and only 6 per cent said the attitude was hostile.

The administrators of engineering institutions were also asked to state how the social science teachers in their institutions compared with the other teachers. Fifty-three heads of engineering institutions were approached out of which 22 replied to the questionnaire asking this among other questions. Eight of the administrators felt that social scientists compared unfavourably with the other teachers in their contribution to research and seven felt they were equal to the other teachers. In extra-curricular activities, 14 said they were equal to the other teachers. Sixteen administrators said that in teaching social science teachers were as good as the other teachers.

(c) *Assessment of Own Status :*

The social science teachers were asked how they compared their own position with that of other teachers in the university. As stated earlier in Chapter II, for the three professions only 25 per cent of the teachers said they were wrongly placed, while 47 per cent said there was no difference between the two places and 19 per cent said they were actually better placed. The pattern in engineering institutions is the same. When compared with their colleagues in the same institutions but in other departments, 18 per cent of social science teachers from engineering colleges said they were placed in a similar position.

A problem that is faced by the social science teachers in engineering institutions is one of relative isolation from the mainstream of social sciences. Some of the IITs have gradually succeeded in reducing this isolation. But the social science teachers in other institutions suffer this isolation. They have little communication with other university departments and central bodies dealing with social science research like the UGC and the ICSSR. Many of the social science teachers in engineering institutions mention this drawback. Upto

41 per cent of the teachers said that the longer they worked in an engineering institution the further they would be from the mainstream of the profession.

Social science teachers were also asked whether or not they intended to continue in the institution. Eleven per cent said they planned to quit as soon as possible. Approximately 49 per cent also indicated that they had no permanent attachment to the institution as they said they would eventually quit or change to another institution if they got the chance.

Role of Social Scientists in Engineering Colleges

Some of the problems identified from the studies referred to above may be resolved if the role that social scientists can play in engineering institutions is clarified. We visualize that the social science teacher can make a contribution in the following ways :

(a) As a teacher :

The role of the social science teacher in professional institutions is unique in certain respects. Unlike social science teachers in liberal arts colleges, the social science teacher in professional institutions must work more at a level of practical application rather than at the level of theory. In engineering institutions it is important that the social science teacher be clear on the distinction between the level of basic knowledge as a prerequisite and the knowledge that is relevant for the engineer's professional needs. The balance is especially delicate since the two disciplines (social science and engineering) are so different that it is difficult for the student to immediately see the relevance of social sciences (with the exception of economics to a certain extent) to his profession. This may generate a situation where the student rejects social sciences on grounds of irrelevance before he develops a sufficiently advanced stage of knowledge to be able to draw inferences for himself and make the conceptual connections between the two disciplines. In the absence of adequate guidelines from an existing body of knowledge in the interface areas of social science and engineering the responsibility of choosing the social science content and determining the balance between the level of basic information and the professionally relevant material to be imparted, rests primarily with the social science teacher. The social science teacher must, therefore, be clear on the objectives of social science teaching, the relevant social science content and in addition, he must develop a clear understanding of the profession of engineering and its place in the broad socio-cultural framework of the country. This requires that the social science teacher in an engineering institution be a person with broad interests and the flexibility to adapt

knowledge of the social sciences to the needs of the engineering profession at a practical level.

As a teacher, therefore, the social scientist's responsibilities are to fulfil the social science teaching through selecting content that is relevant and through devising teaching methods that stimulate and maintain the interest of the students. The social science teacher may also help produce appropriate text-books geared to the needs of engineering students.

(b) *As a researcher :*

It is important to encourage social scientists to conduct research in the interface areas of science and society. The social scientist can make a contribution to developing a body of knowledge in the areas where science and society interact, as well as adding to the body of social science knowledge, especially in areas such as social change and modernization which are of important theoretical concern to social scientists today. Some areas where research would be especially useful are :

Urbanization : Research areas would include housing, different housing systems and patterns of town planning, development of townships related to industries and effects of these on social structure and interaction, development of urban centres as related to transport systems, effects of decentralization, urban social institutions, trends of urban growth.

Transportation : The economics of different transport systems, the relationship between transport and regional development (economic and social), conducting surveys to define transport needs and to collect relevant information, determining priorities and working out systems for implementation are some areas where social scientists can contribute.

Techno-economic studies : Studies on cost/benefit analyses related to alternative and intermediate technologies including social costs and benefits, effects of industrial pollution, costs of worker benefits such as accident insurance.

Project planning and appraisal : This may require first a development of a body of statistical data or information based on surveys and case studies in order to determine priorities and identify needs. Also with this, suitable parameters for evaluation should be developed, based on social and economic measures for judging the success of a given technology.

Industrial location and cost studies : Case studies of specific industries for determining factors influencing their location and costs. Determination of production and cost functions using firm-level data for different industries. Economics of plant layout.

(c) *As a member of the social science department :*

The social science department is seen as an active department performing several functions. Its primary activity is to equip students to interact creatively and sensitively with their environment as human beings and as technologists. The social science department must also strive to develop itself as a centre for the research and development of social sciences with reference to engineering. Finally the department must be a centre for students to follow up an interest in social sciences through taking up a social science specialization at the post-graduate level.

The social science teacher must involve himself in all these functions in order to make the social science department a viable and integral part of the institution.

(d) *As a member of the organization :*

The social science teacher can contribute to the smooth functioning of the institution by analyzing the institution as a social organization and providing inputs to the administration such as for developing a personnel policy, devising procedures for student evaluation, developing student services such as for counselling and placement programmes and working out procedures for the smooth running of the institution. Where, however, such responsibilities are required to be shouldered by the social scientists routinely, the concerned department may have to be provided additional staff.

VI. ORGANIZATIONAL AND ADMINISTRATIVE ISSUES

In addition to the problems mentioned above, other issues also must be faced and resolved if social sciences are to become established in their own right in engineering institutions.

Faculty and Organization of Department

We would like to emphasize that the current size of the social science faculty in most institutions is inadequate to serve any purpose. For any discipline or interdisciplinary area to make an impact on the students, a critical minimum size of faculty is necessary. Further, without such a basic core of persons in the field, competent social scientists will not be attracted to join engineering institutions. Five to eight persons in a homogeneous area can constitute a viable team that would allow for postgraduate studies and group research. This plan may be introduced in all engineering colleges where five to eight sanctioned posts are currently available. Apart from IITs., several engineering colleges could be brought in this category. More than one discipline or area can be developed in institutions that have more posts.

The conference organized by the UGC and ICSSR in September, 1974⁴ recommended a dual system of organizational structure. Discipline groups should be formed to take care of problems of teaching and research in their disciplines and interdisciplinary groups created for operating the programmes suggested above. Persons from engineering departments may also participate in these groups. The organizational structure should be flexible enough to permit and promote interaction and growth. Decisions regarding identification of programmes should be taken by all concerned faculty members rather than by one or two individuals.

An important question arises with respect to the discipline-mix of social sciences in those engineering institutions where there are several sanctioned posts to support several disciplines as in the IITs. The IIT Act establishing the engineering institutions does not provide any information on this. It simply envisages a department of humanities. Here the policy should be to provide for minimum number of faculty positions in a disciplinary or interdisciplinary area before starting new disciplines or areas even if it tends to reduce the variety of undergraduate courses. We are not in favour of a large number of disciplines each having only one or two faculty members. Among the social sciences, economics and management science are demanded most by both the engineering teachers and students. Psychology and sociology come next. At present we feel there is no need to add any more disciplines unless the subspeciality of that discipline can be integrated with the disciplines already existing or proposed above.

It may happen that faculty members are not released from their parent departments to participate in interdisciplinary programmes. A change in attitude is required in such cases. Institutions should explore the possibility of making joint appointments on a shared basis by two departments.

It has been found from our surveys that non-availability of faculty positions on account of budgetary constraints has been the most important reason for the inadequate size of the social science faculty in several engineering institutions, particularly, those financed by the State Governments. There is, therefore, need for a change in the policy of the Government.

In certain places, like Poona, Calcutta, Jaipur, Patna, Varanasi, where social scientists of requisite specialization and competence are available in university departments, an attempt may be made to take their help on a part-time basis by providing suitable incentives. The institutions may have two to three social science teachers in different disciplines forming the nucleus of social science teaching, determining the policy and content of social science courses and performing what

⁴See, *Role of Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

could be called coordination functions. They would have a link with social science teachers of university departments on the one hand and engineering departments of their institutions on the other.

There may be some remote places where an engineering college has no resources of its own to provide for a viable social science department and where social science departments in other institutions are not available. Problems of such institutions, which are very few, may be tackled on a different footing.

Efforts should be made to invite distinguished social scientists working elsewhere to engineering colleges even for a short period of time to work. They will serve as catalytic agents and may help channelize the academic growth of social sciences in well-defined areas.

Certain improvements can be brought about by an inter-institutional exchange of faculty. This mechanism has not been tried in our country. We recommend that a beginning be made in this direction.

Recruitment

Before making a fresh recruitment, the specific areas to be developed should be carefully identified so that persons of the requisite merit and specialization are recruited. A group of social scientists in one area would derive more job satisfaction and be more productive in terms of research and development.

Work-load

The suggested changes in the quality of teaching and the need for the involvement of social science teachers in research will require a reduction in the teaching load in those institutions where it is 12 to 18 hours per week. We recommend a teaching load norm of 8 to 12 hours per week. The exact hours should depend upon the research commitment. The greater the research involvement, the lower should be the teaching load. In addition, teachers should be given earned leave for one semester to be devoted exclusively to research and publications after they have carried a full load of teaching for five years continuously.

Promotion Opportunities

Opportunities for academic advancement are limited due to the lack of senior level posts. In most engineering institutions social science teachers are recruited to the positions of either a Lecturer or a Reader (Assistant Professor) without any opportunity for promotions to Professorship. Asked whether social scientists have adequate opportunities for advancement in their professional career, seven of the 22 administrators interviewed said that adequate opportunities were provided, four regarded these opportunities as somewhat adequate and eight

felt that social science teachers did not have much scope for their professional advancement.

With this assessment of the opportunities that social science teachers have in engineering colleges the administrators also believe that the social science teachers are not generally satisfied with their position. None of the administrators felt that the social science teachers were "highly satisfied". Ten regarded them as "somewhat satisfied" and only six said they were "quite satisfied". Three administrators clearly indicated that the social science teachers were dissatisfied.

Suitable steps should be taken to improve the situation.

Facilities for the Development of Professional Interest

All the facilities that are usually available to other departments should be made available to the Humanities and Social Science Department also. In this connection it may be pointed out that until recently the Quality Improvement Programme of the Ministry of Education and Social Welfare did not operate in the field of humanities and social sciences. We now learn that the programme has been extended to cover humanities and social sciences. The same policy should be adopted in any similar programme that may be developed hereafter to improve the quality of scholarship in a particular discipline.

A related aspect is the lack of a good library. With limited budgets, engineering institutions prefer to invest in engineering books which several departments can use rather than in social science books that are of relevance to a smaller number of persons. Since social sciences depend mostly on libraries for their growth, it is necessary to adopt a more liberal attitude while allocating funds for library development. When a new social science discipline or some interdisciplinary programme is introduced for the first time it may become necessary to provide capital grants to acquire books and back volumes of journals. The normal library grant may be inadequate for this purpose. In the absence of library facilities, social sciences in engineering institutions are not in a position to grow and they tend to acquire inferior status. Some of the facilities, especially with reference to the library, can be developed on a collaborative basis with some university departments wherever they exist in close proximity, such as at Delhi, Poona and Calcutta.

Apart from one or two of the IITs, there is very little research activity in the social science departments of engineering institutions. Facilities for research should, therefore, be created. This would entail a review of the teaching load of the faculty members and the creation of one or two posts of research assistants by outside funding agencies. The ICSSR can play an important role in this by devising special schemes for the promotion of research in these institutions along

similar lines to the schemes developed for affiliated colleges. Collaborative research between social scientists and engineers on topics such as urbanization, transportation, techno-economic studies, project planning, and appraisal, etc., described above should be encouraged as it would help establish social sciences in such institutions along with fulfilling an important research need.

Communication with Other Professionals

The fact that social science teachers have little communication with other social scientists was identified by some of the administrators as a difficulty that social science teachers experience when they join professional institutions. This professional "isolation" that occurs when social scientists join professional institutions puts them in the insecure position of not being clearly identified with either profession. They also lose contact with current developments in the field that would help them develop themselves further as social scientists. The small size of the social science faculty is also not conducive for professional interaction.

Social science teachers should be encouraged to take part in professional conferences and seminars. Engineering institutions should also be encouraged to host such seminars and conferences in order to break the academic isolation of social science teachers and to interest other social scientists in problems related to engineering.

It may also be fruitful to explore the possibilities of forming a professional association of social science teachers working in engineering colleges where common problems and issues may be discussed and resolved. These and other appropriate steps should be taken to reduce the feeling of "professional isolation".

Training of Faculty

Finally, to implement the above recommendations, we suggest the initiation of faculty development schemes by the Ministry of Education to ensure that the existing teachers are trained within a year or two to deal with the challenging tasks that lie ahead.

CONCLUDING REMARKS

In conclusion, we would like to emphasize that before embarking on a programme of social science education, the institution should be clear about its objectives, its capacity and the demand on its resources, the type of faculty required and the facilities it will have to provide to the social science teachers to maintain their status and competence in teaching. Without proper foresight and planning, offering such courses is a waste of good time and resources.

In the final analysis the responsibility for the development of a meaningful programme in the social sciences and humanities in

engineering institutions rests principally with the teachers of the disciplines working in engineering institutions.

The acceptance of the philosophy and objectives of social science teaching at the national level, supported by the coordinated action of various national educational councils and commissions, will go a long way toward building a favourable climate for the growth of social science teaching in engineering institutions.

The full potential of the growth of social sciences in engineering institutions in India has yet to be realized. The idea that an engineering institution can provide good scope for a high level of teaching and research in social sciences has yet to be firmly established in our country. Though a beginning has been made by the establishment of the Humanities and Social Science Department in the IITs, a breakthrough has yet to be achieved. Additional resources in terms of faculty positions and research funds are necessary for strengthening the social science departments. It may be useful to consider providing special funds to strengthen the social science departments of one or two IITs on the lines of the Advanced Centres established by the UGC for certain subjects in universities so that centres of excellence can emerge. The success of such institutions will demonstrate the potential of social sciences. Such institutions can provide facilities for the continuous improvement in the teaching of social sciences in engineering institutions by conducting short-term specialized courses for their teachers and by coordinating the production of text-books and reading materials. This will help produce social scientists specially trained to teach in engineering institutions. Above all, it would act as a morale booster to a large number of teachers in other engineering institutions.

APPENDIX-II

PRESENT COURSE CONTENT TAUGHT IN ENGINEERING COLLEGES

ECONOMICS

- (a) **Introductory Economics :** Nature and scope of economics, economics and technology, principles of economic theory as applied to production. Human wants, utility, value, law of scarcity, capitalism, socialism, mixed economy and communistic economic system.
- (b) **Production :** Meaning and factors affecting production, standardization and large-scale production, chief characteristics of modern system of production, specialization, use of machinery, causes of the existence of small-scale production and localization of industries, theory of production, increasing and diminishing returns, different forms of organization, the linear homogeneous function, Cobb Douglas production function. Equilibrium of a firm, the product engineer and the production function, sales manager and the best level of output.
- (c) **Labour :** Productive-unproductive, intellectual and physical, efficiency of labour, mobility of labour, labour laws, labour conditions of work, labour problems, labour payment, industrial labour, trade union, causes and settlement of industrial disputes and labour welfare, effects of introduction of machinery on labour.
- (d) **Capital :** Fixed, circulating, non-specialized and sunk, nature and function of capital in modern industry and commerce, different methods of financing firms and projects, demand and supply of capital and the market for capital.
- (e) **Cost :** Definition, object and functions. Classification of cost, fixed and variable costs, real and opportunity costs, methods of allocation of overhead costs book keeping and cost accounting, depreciation problems in distributing and allocating overhead cost, and element of costs, average and marginal cost, index number, law of comparative cost, purchasing, storing and ascertaining correct cost of material, linear, quadratic and envelope cost.
- (f) **Exchange :** Meaning and theory of exchange, barter system,

stock exchange and instruments of exchange, exchange different types of market.

- (g) Price : Role of price in economy, theory of price, monopoly price, market price and normal price, balance of trade and level of prices, pricing of commodities and market conditions, change of price overturn, demand and supply, competition and monopoly, equilibrium of a firm under perfect competition, monopoly and monopolistic competition, public policy to stabilize prices of material and inventory, wastage or spoilage of scrap and bye-products.
- (h) Distribution : Different aspects of wages, distinction between interest and profit, theories of interest, interest on capital and drawings.
- (i) Foreign Trade : Home trade and foreign trade, features of international trade, state trading, law of comparative cost, balance of trade, India's foreign exchange crisis, problems of international equilibrium.
- (j) Money : Definition and functions of money, Gresham's law, value of money, level of prices and index numbers, main constituents of Indian money market, inflation, deflation and their effect on production and employment, public debt, deficit-financing and foreign capital.
- (k) Taxation : Canons of taxation, direct and indirect, characteristics of a good tax system.
- (l) National Income : Computation and distribution of national income by goods flow and earning flow methods, difficulties in the calculation of national income in India.
- (m) Planning : General theory of economic planning, planned economy and techniques of planning for a country, based on the economic and social background, meaning of economic development, planning in India, five year plans and problems of Indian planning, advantages and limitations of free enterprise system, necessity and forms of state intervention, nationalization and employment exchange.
- (n) Resources : Economic resources of India including natural resources, human resources and world resources, Indian agriculture, its background and development. National and private wealth, human wants, utility, value, rent, law of scarcity, book-keeping and accounts, distribution, different aspects of wages, depreciation.
- (o) Modern industry : Features of modern industrialism, different forms of business organization, size and location of industrial unit, various aspects of industrial administration, business administration. Economic aspect of industries, industrial promotion and structure of growth of Indian industries.

- (p) Growth : Various aspects of growth, various models of growth, different theories of growth, problem of under-developed areas, input and output model of a closed economy in steady growth.

MANAGEMENT

Goals, objectives and functions of management, development of scientific management and its types, nationalization and scientific management, various aspects of personnel management such as selection, placement of technical and non-technical personnel, division of labour and specialization, labour welfare activities, working conditions, accidents and safety protection, social security, discipline and grievances, causes of industrial unrest, change in work assignment and hours of work, promotion, transfer, demotion and discharge, techniques of executive control, labour unions and their objectives, industrial law.

Types of organization, their merits and demerits, essentials of a good organization, organization charts, organization policies, factors in planning organization, modern tendencies in factory organization, approaches to organizational analysis.

Material management—organization of stores, purchase and sales, location and layout.

Productivity : meaning and measurement, effects of design on cost, factors affecting design, importance of standardization, simplification and interchangeability of parts.

Research organization and procedure and initiation of the projects, evaluation of projects, and report writing, patents rights, protection and trade-mark.

Consideration in product development, cost of development, organization of the research department and selection and control of research personnel.

Need for planning, organization of the production unit, control procedure, motion and time study, quality control and inspection, charting, trend curves, ratios, trend indices, budgeting and statistical methods in industry, various aspects of valuation, accounts and book-keeping.

Human relations in industry, industrial psychology, advantages and disadvantages of automation, leadership and supervisory behaviour, wages and incentives, market analysis and sales function and industrial economics, business statistics, index numbers.

SOCIOLOGY

- (a) Basic Concepts : Outline of sociological perspective, individual and society, prerequisites of a society, society and environment, community, groups association, institutions, meaning and process of social change in modern India. Sanskritization, modernization and secularization, social

stratification—caste and class, status and role, socialization biological, psychological and ethnological foundations of human behaviour, caste system, law of inheritance and succession and position of women in Indian society, heredity and environment, types of family, sociological significance of family, family problems of today, characteristics and problems of developing society with special reference to India, identity and conflict, scientific and technical revolution, consensus, conflict and polity, social evolution and change from primitive to civilized society.

Impact of science and technology on culture and civilization, society, personality and cultural development, conformity, deviation and social control and values.

- (b) **Urban Sociology :** Rural and urban life, folk-urban continuum, studies of urbanization, culture of cities and trends of urban growth, demographic aspects, planning in cities, social, psychological and other aspects of housing, research in urban society, spatial and temporal patterns of cities, sociology of development, its stratification, structure and process, study and analysis of data on Indian cities, open and closed system, urban settlement as open system.
- (c) **Industrial Sociology :** System of analysis, industrialization and industrial society, industrial and occupational structure, structure and function of work organization, leadership, morale and productivity, problems of Indian industry.

Social problems in India, sociological approaches to the study of social problems.

- (d) **Research Methodology :** Methodology of social sciences, nature and types of scientific explanation, concept formulation and definition, measurement, design of experiment, operational aspects of research, approaches to the study of social phenomena, evolutionary, historical, comparative, positivistic, integration and conflict stand point in social enquiry.

PSYCHOLOGY

- (a) **General :** Scope and method of psychology, basic principles and concepts in modern psychology, principles of psychology in human performance, learning, forgetting and remembering, attention and perception and intelligence.
- (b) **Social Psychology :** Definition and scope of social psychology, social practices, attitudes and opinions, social perception, group norms and values, group dynamics, leadership and inter-group conflict, psychological factors in mental health, human mind and behaviour.
- (c) **Industrial Management :** Organizational psychology, group

morale and motivation, supervision, communication, human relations in industry, physical environment, Taylorism and scientific management, human relations in organizations.

- (d) **Industrial Psychology :** Scope and subject matter of industrial psychology, social, psychological and economic foundations of industrial psychology, industrial societies and social factors in modern industry, maladjustment types, characteristics of leadership, methods of personnel selection and industrial training, public opinion and propaganda and accidents.

POLITICAL SCIENCE

Definition, subject and scope, utility of the subject matter in general and in technological institutions, political science and other sciences, political ideologies : democracy, liberalism, socialism, capitalism, individualism, communism, internationalism and rationalism, various aspects of citizenship and state, society, social organization, associations, communities, neighbourhood group, village, urban, religious and linguistic, various forms and functions of government, political parties of India, Indian parliament and state assemblies, political problems of modern India, national integration, various aspects of the Constitution of India, UNO, political socialization, political culture, modernization and social change.

MEDICAL EDUCATION

CHAPTER IV

MEDICAL EDUCATION

Medical education today is largely urban based and urban oriented. It also tends to emphasize individually oriented clinical medicine. There is a need to reorient it in such a way that apart from, and in addition to clinical services, it will also equip and motivate the medical student to work in areas of preventive, public and community health. There is also a need to intensify services in the rural areas and this may call for the adoption of a diagnostic and treatment technology which is not based on the ready availability of sophisticated equipment or the immediate support of a team of highly qualified specialists.

These changes will depend on and will have an impact on medical education as well as on the pattern of organization of medical services. Our task in this chapter is a limited one. It is to identify ways in which social sciences can contribute to medical education and help medical men to be continually aware of and responsive to the psycho-socio-economic dimensions of medical practice.

I. SOCIAL SCIENCES AND MEDICINE

The development of health care is dependent on a combination of factors that may be designated as economic, social, psychological, cultural and technical. The role of technical factors is usually more easily understood since it is our daily experience that advances in research lead to improved drugs or improved techniques and services. However, in the understanding of disease and the organization and delivery of health care services other factors also play an important part.

Many diseases are the result of an interplay of social and economic factors. Diseases caused by malnutrition, for example, when widely prevalent, may reflect the undeveloped state of the total economy. Low standards of living, lack of education, difficulties of access to basic facilities for cleanliness and hygiene such as water and sanitation are responsible for many of the health problems that developing countries face. Many such diseases, as for example, venereal disease, leprosy, tuberculosis, may become characteristic of particular population groups. Poor health reduces earning capacity and the resulting poverty of living conditions in turn promotes susceptibility to disease. Other factors that contribute to the health problems of

the community may be defined as primarily social. These may be identified in the traditional habits of dealing with child-birth, disposal of the dead, prejudices against inoculation and other habits that may not be conducive to promoting health.

Changes in patterns of living, such as migration to the cities from the rural areas are also reflected in new patterns of disease. Congested and unhygienic living conditions, the stresses of changing patterns of living as brought about by adjustments to automation, factory work, etc., can cause physical as well as mental problems. Thus, disease cannot be viewed simply as a problem of the organism but must be seen as a problem of the whole man in a total environment—physical, biological and social. In this chapter we will emphasize the “social” dimension.

While economic and social factors can determine health and disease, improvement in health care can in turn be related positively to the development of the community. Facilities for the population to improve its health can mean a corresponding increase in the productivity of the labour force which will again be reflected in changes in the economy. A healthier population is also a population that is more active, more ready to experiment and innovate, more psychologically confident. Improvements in health can thus be related to the all-round development of the community.

The effect of social and political factors can be sometimes seen even in the attention that a particular disease draws or fails to draw. Since some diseases can become characteristic of certain social groups due to heredity and patterns of inter-marriage or the socio-economic conditions mentioned earlier, it is possible that attention to a particular disease is neglected if the group is not a dominant one. This was seen to happen for instance regarding research in sickle cell anaemia in the USA. The study of social sciences may help to identify the subtle factors that enter into such forms of discrimination.

Besides these broad relationships between society and its health, an area of analysis where social sciences can make a contribution is in understanding the layman's reactions to modern medicine. At a conceptual level, for instance, there is considerable disparity between the doctor's and the layman's understanding of the causation of disease. Many of the villager's notions about disease are based on an assumption of the operation of super-natural forces or on ideas about the innate “qualities” of certain foods as being “hot” or “cold”, sexually exciting or debilitating and spiritually helpful or otherwise. These ideas are closely integrated into indigenous medicine but it is also necessary for the doctor trained in modern medicine to develop some understanding of these concepts since most of his patients carry these ideas in their minds to some degree or the other.

The individual doctor-patient relationship and the setting in which

treatment of disease takes place have also a definite socio-psychological significance. Here the capacity to understand and the capacity to communicate are important. Patients come to the doctor with differing attitudes, expectations, fears and needs. Much of the doctor's relationship and ability to deal with the patient and to elicit the necessary information depends on his sensitivity to the patient's need and his ability to communicate with the patient. His understanding of the role that the patient plays as a sick person is important in determining his ability to respond appropriately—sometimes permissive, sometimes regulative, sometimes supportive but always aware of the patient's needs and how his own behaviour affects the patient.

The doctor must also be sensitive to the patient's ability to utilize medical services. Aside from obvious factors such as financial constraints which determine whether the patient actually approaches the doctor, buys necessary drugs and undergoes prolonged treatment, other factors such as the attitude, responsibilities and demands made on the patient in the home or on the job also influence his ability to benefit by treatment.

This highlights the need for a doctor to understand his own role as a doctor. For many patients the doctor is a counsellor, guide, confidante and model. Especially in the Indian setting the doctor plays an important role for the entire family. With changing patterns of living, the role of the doctor may also undergo change. It would be valuable to understand the nature of this change. For the doctor himself understanding how he is viewed by the community and the expectations that the people of the community have of him would help him in meeting at least some of the demands made on him. The doctor must also be aware of his own psychological and sociological orientation so that he is conscious of his own attitudes and prejudices when dealing with his patients.

Doctors are part of a pervasive social system in the hospital and in this system the doctor is usually at the top of the hierarchy. The image they project and their attitude toward other hospital personnel has a lot to do with the working efficiency of the hospital and the effectiveness of the team approach to patient care. Often certain administrative duties are also left to them, as for instance, planning, organizing, controlling the inventories, ensuring the adequacy of medical supplies, the scouting and negotiating for funds, the devising and administering of personnel policies, and handling of grievances. In fulfilling these functions doctors would find familiarity with the knowledge of management science useful.

Some attention must also be given to the "culture" of the medical colleges which can have a profound effect on the medical graduate. Students spend five years in a medical college and especially at a young age, they are susceptible to a totality of influences and imbibe

the values, norms and behaviour as represented by the verbalized norms of the college, the role model provided by the teacher, the culture of their peer-group and the attitudinal stereotype of the generalized public with which they come into contact. Other factors such as parental expectation and pressures and the social and ideological framework of the society also affect the kind of commitment the doctor will ultimately develop.

Finally, an area where social sciences become especially relevant is in planning for health care. Today the focus in planning for health care is shifting from an emphasis on curative services to an emphasis on community health. This means first of all that the medical planner must have an intimate understanding of the traditions and beliefs of the community so that he can develop systems of health care that can be easily adopted by the community. But this is not a uni-directional process. It is not as though the doctor prepares a plan and gives it to the community. He must involve the community in the process of assessing its own needs and arriving at their solutions. This calls for special awareness and relational skills. Second, he must also understand how medical and health care facilities relate to the different sectors of the society and the economy. Under budgetary constraints, choices have to be made and priorities determined. The medical planner must be able to understand and make these choices—not alone but with the community. It may well be that the community does not value health. Organizing the diverse elements that affect the development and utilization of health care facilities requires also that imaginative and efficient administrative techniques be developed that are suited to the conditions and needs of the country. Organization development, operations research and management skills are thus a necessary part of planning for health care.

The need for the study of social sciences in medical education arises from the different areas of interaction mentioned above. The study of social sciences, however, has been generally subsumed under the study of preventive and social medicine, and other areas of contribution have not been given much emphasis. The following is a brief review of the growth of social sciences in medical education, after the introduction of the modern systems of medicine known as allopathic medicine.

II. REVIEW OF SOCIAL SCIENCES IN MEDICAL EDUCATION

Historically, the system for modern medical education in India followed the pattern laid down by the British. Prior to 1943 when the Health Survey and Development Committee (the Bhore Committee) was constituted to study medical education in India, there was little emphasis on social sciences in medical education. In its

report of 1946¹ the Bhore Committee recommended that the health programme must lay emphasis on preventive work from the very beginning. Health services should be placed as close as possible to the people in order to ensure that the maximum benefit accrued to the communities served. The doctor was visualized as a "social physician" protecting the people and guiding them to a healthier and happier life. To achieve this ideal of developing "social physicians" the Bhore Committee recommended the establishment of a department of preventive and social medicine in every medical college so as to give students an insight into social health problems through direct contacts with home and community life. Following this recommendation preventive and social medicine (PSM) departments came into existence in medical colleges. Through the PSM departments social science knowledge gained an indirect entry in modern medical education in India.

Since Independence there has been a conscious effort to relate medical education to the country's needs. Between 1946 and 1974 a number of conferences were held and committees appointed to review and upgrade medical education.² The need for emphasizing social factors and for relating the physician to the needs of the country was mentioned in several of these conferences. The First Conference of Medical Education (1955) reiterated the Bhore Committee's recommendation that each college should have a preventive and social medicine department with full time staff. They suggested that teachers should emphasize the social and psychological influences of illness. The Mudaliar Committee in 1961³ stated that medical education should fit in with the needs and conditions obtaining in the country and should enable the doctor to carry out his work among rural people. Speaking of post-graduate medical education, the Committee included "social medicine" as one of the areas in which graduates should develop proficiency. The Mudaliar Committee also emphasized the inter-relatedness of medical education and education in the related fields of nursing, public health and social medicine. The Mudaliar Committee, it should be noted, referred to the social overlay in medicine as "social medicine" rather than as "preventive and social medicine".

It may be mentioned that the trend of thought to bring in more social and behavioural sciences into the medical curriculum was apparent in the recommendations made on this subject by concerned

¹ India, Ministry of Health, *Report of the Health Survey and Development Committee* (Bhore Committee), Volumes I, II and III, New Delhi, 1946.

² See Chattopadhyay, Somnath, "Genesis of Social Sciences in Modern Medicine: A Chronological Survey", in *Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

³ India, Ministry of Health, *Report of the Health Survey and Planning Committee*, (Mudaliar Committee), Volume I, New Delhi, 1961.

authorities in other countries also. The GMC of Great Britain (1957), the Royal Commission on Medical Education (1965-68), the World Health Organisation (1961),⁴ the Association of American Medical Colleges and the American Psychiatry Association (1969),⁵ all emphasized social factors in health and the need for including instruction in psychological and social factors relevant to the study of man as a social organism.

In India, in 1969 at a conference on social sciences in medical education referred to as the Institute for Teachers of Social Sciences in Medical Colleges several statements were made by the participants regarding the objectives of medical education, such as, (i) to change the orientation from illness to health (Madan)⁶, (ii) to make the doctor-patient relationship transcend the illness episode (Madan)⁷, (iii) to provide 'a social orientation' in community health practices (Prasad)⁸, (iv) to make the interaction between man, medicine and society more understandable (King)⁹, (v) to rid medical education of educational colonialism (King)¹⁰, (vi) to humanize medicine (King)¹¹, (vii) to enable the doctor to focus on the whole man and not on diseased organs (Parvathamma)¹², (ix) to bring the ecological approach to bear upon the solution of health problems by focussing on the relationship between such factors as poverty, literacy, caste, class and domicile with disease (Rao)¹³, and (x) to make medical education a medium of bringing about social change and nation building (Rao)¹⁴.

Despite all these recommendations of various committees and individual experts, there has been no change in the social science

⁴ Lebovici, S., "The Teaching of Medical Psychology and Sociology", in *Teaching of Psychiatry and Mental Health*, Public Health Papers No. 9, Geneva, WHO, 1961.

⁵ Psychiatry and Medical Education II, *Report of a Conference on Psychiatry and Medical Education*, Washington, American Psychiatric Association, 1969.

⁶ & ⁷ Madan, T.N., "Doctors as a Modernizing Elite", in Background Papers of the Institute for Teaching of Social Sciences in Medical Colleges, New Delhi, 1969.

⁸ Prasad, B.G., "A Model of Introduction of Social Sciences through Teaching of Family Health Care Innovation in Lucknow", in Background Papers of the Institute for Teaching of Social Sciences in Medical Colleges, New Delhi, 1969.

⁹, ¹⁰ King, A.D., "Behavioural Sciences and the Social Role of the Physician", in & ¹¹ Background Papers of the Institute for Teaching of Social Sciences in Medical Colleges, New Delhi, 1969.

¹² Parvathamma, C., "Changing Needs in Undergraduate Teaching: The Need, for the Physician to Understand Human Behaviour for Diagnosis and Therapy", in Background Papers of the Institute for Teaching of Social Sciences in Medical Colleges, New Delhi, 1969.

¹³ & ¹⁴ Rao, K.N., "Changing Needs of Medical Education", in Background Papers of the Institute for Teaching Social Sciences in Medical Colleges, New Delhi, 1969.

curriculum in medical education since the recommendations made by the MCI in 1964 and repeated in 1971. Under these recommendations, only six sessions of elementary psychology and six sessions of elementary sociology are included in the medical curriculum.

The hope of the Bhore Committee to educate and develop social physicians still remains a dream. Teaching of preventive and social medicine or the emphasis on study tours or housemanship in rural areas have not produced the desired result. Goals cannot be achieved unless they are backed up by suitable intervention in the ongoing system of education. The goals set by the Bhore Committee were not defined clearly enough for operationalization so that there was little consensus on the goals themselves or the means to achieve them.

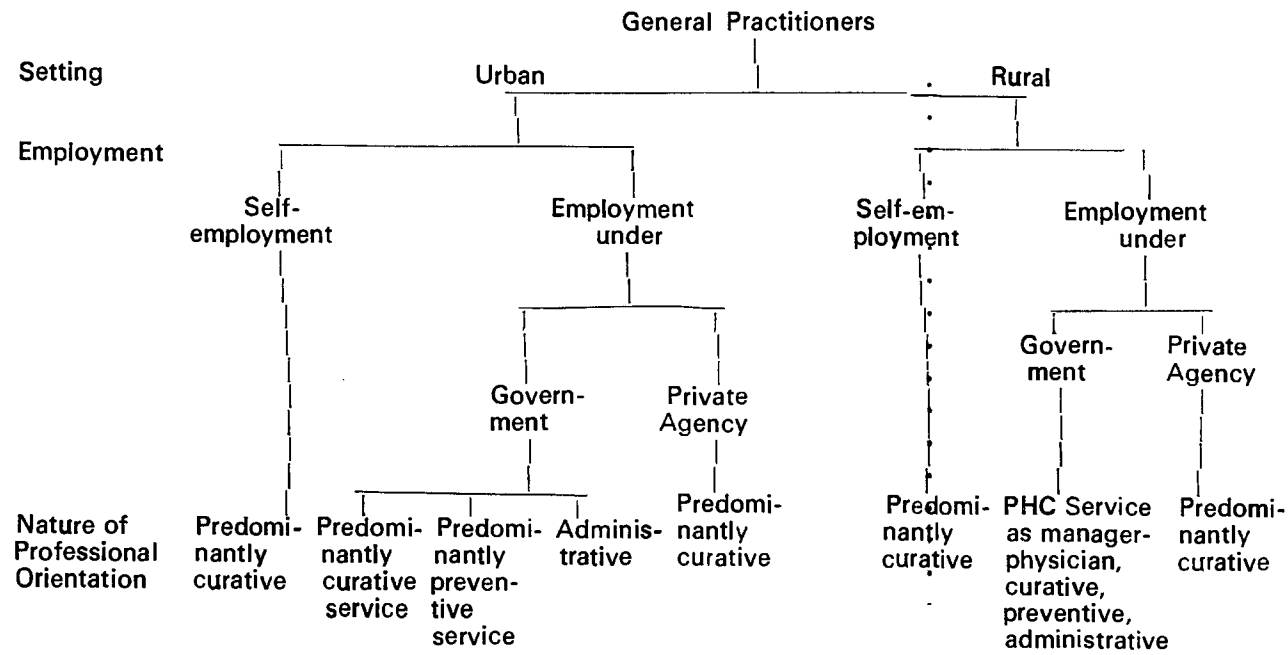
In the following pages we have enunciated certain goals for introducing social sciences in the medical education curriculum. We visualize that the goal of medical education is to train a "basic" doctor or "social physician" as recommended by the Bhore Committee and to equip him to work with the rural masses, as recommended by the Mudaliar Committee. Teaching of social sciences must be geared to the fulfilment of these basic aims. In this task, understanding the different roles that medical graduates take up in their professional work will be helpful in defining the specific objectives toward which social science curricula in medical education must be modified.

III. THE OBJECTIVES OF SOCIAL SCIENCE TEACHING IN MEDICAL EDUCATION

As has been described earlier, economic, social and cultural factors affect many aspects of health care. These factors are of relevance to the medical graduate as they can determine the utilization and adoption of health care practices. The teaching of social sciences should be aimed primarily at giving the student the knowledge base he requires to develop a sensitivity to those social and psychological factors that would help him in his professional and personal life. With the increasing specialization and discoveries of knowledge, there has been a tendency for doctors to concentrate on the disease rather than on the patient so that the practice of medicine today has become "de-humanized". It is partly this concern that has led to the need to introduce social sciences in the medical curriculum.

The Mudaliar Committee visualized four roles for the medical graduate: "The aim of medical education should be to provide general practitioners, specialists, teachers and research workers".

The majority of graduates become general practitioners, either as self-employed doctors, or in institutions where they may be employed by government or private agencies. For those who are involved in the direct practice of medicine, the relationship between the doctor and the patient must be well understood. Each patient that the doctor sees



comes with a variety of needs, expectations and problems. Often doctors come from vastly different backgrounds as compared with their patients in terms of education, social and economic status, work situations, etc. Communication and empathy are of paramount importance in the doctor's work and sensitivity to the different factors that affect the behaviour of persons from different backgrounds becomes an essential quality for the doctor.

The role of doctors who work in hospitals whether as honoraries or as employees must also be understood. Besides dealing with patients, these doctors are part of a social system where each member has specific assigned roles. Hospital personnel, including different types of medical, paramedical, auxiliary and non-medical staff, have their own roles and functions. To ensure the efficient running of the hospital, all these different persons must work as an efficient team. From this arises the necessity for the doctor to be aware of his own role as an administrator in dealing with the different elements of the hospital organization.

While this administrator-role is important within the hospital setting, the medical graduate who enters fields that are primarily concerned with developing health care facilities needs also to understand the principles of management in greater depth. Along with this he needs to develop a close understanding of the values and traditions of the people who are going to use the health care systems he develops.

It is important for the researchers also to develop a sensitivity to the social factors that condition health and disease. Problems of health and disease are closely linked to social factors as described earlier and a sensitivity to these will help the researcher identify problems and work out solutions.

Finally, the medical teacher is a role model for his students. Unless he develops an understanding of social factors he will not be able to communicate these adequately to the students to prepare them for their future roles as medical practitioners. In a Conference¹⁵ organized by the ICSSR and the UGC on the role of social sciences in professional education, the sectional group on medical education stated: "The objective of teaching of social sciences in medical education, therefore, is to enrich the quality of medical education in general, to produce a good basic doctor aware of his social responsibilities. The specific objective of social sciences in medicine is to shift the emphasis from an organismic, disease oriented approach to a holistic health oriented community approach". In addition to these recommendations, which we support, we would like to add that the study of social sciences should also be aimed at inculcating a sense of social responsibility in medical students. We would like to emphasize, however, that this

¹⁵See, *Role of Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

should not be the sole responsibility of social sciences. Based on the above considerations, the Study Team suggests the following set of objectives for the inclusion of social sciences in medical education.

1. To increase the effectiveness of the medical graduate to understand his patient and doctor-patient relationship

The teaching of social sciences should aim to give the medical graduate an understanding of the social factors that affect health and those that affect the relationship between the doctor and the patient. This objective may be broken down further as (i) to know the patient and not the disease alone : This will entail understanding the patient as a person—his family, his caste, his social setting, his socio-economic background, his status and role in the community, his identity and importance as a man in the society, his cultural background, the values, beliefs, attitudes that he holds regarding himself, his life and his ailments and disease. This will mean an effort on the part of the doctor to know his patient's cognitive, effective, rational and irrational behaviour; (ii) to know the sick role of a person; (iii) to know the types of morbidity and disturbances produced by the socio-cultural environment; and (iv) to understand the doctor-patient relationship with a special emphasis on the help giving and help receiving characteristics of that relationship.

2. To make the medical graduate aware of his own psychological and sociological orientation

The medical graduate must be aware of his own reactions, his own likes and dislikes to be able to deal effectively with other persons. Social sciences can help him : (i) to know how to develop a team, how to work effectively as a member and as a leader in a work team; (ii) to know about his own psychological orientation : what kind of a person he is, his strengths and weaknesses, his basic needs and motivations, his leadership orientation and proactivist tendencies and functions; (iii) to explore his reference group and the sources of influence to which he allows himself to be subjected; his ideological leanings, if any.

3. To increase his competence in the prevention of disease in the community and promotion of the concept of total community health

The development of disease is related to the economic, social, cultural conditions prevailing in the community. The current focus on prevention of disease requires that the medical graduate be sensitive to the different factors that affect the development of disease in the community, whether organic, physical or socio-psychological and to work out methods of combating these problems. This would also require an understanding of the inter-relationships between society and health so

that the medical student can identify different factors in the community that have implications for health. The doctor must, therefore, (i) know the society where he is to work. This will mean knowing the structure of the society, the institutions, the social norms, reference groups, influence of groups on individual behaviour; (ii) know how attitudes are formed and changed; (iii) know how to communicate effectively at the inter-personal level between the doctor and the patient and also at the mass level where the doctor is to communicate with the community; and (iv) know the dynamics of planned change, that is to say, how change takes place in individual behaviour and in society.

4. To equip the medical graduate to play his administrator role more effectively

Since doctors are part of a team they need to be aware of the factors that promote effective team work and efficient communication between the different members of the team. As a result of their special qualifications they are usually at the top of the hierarchy in the organization. They are responsible for proper utilization of inputs and for rendering efficient service to the community. Under the economic constraints that are likely to exist for some time, it is important for the administrator to know how to manage the hospital economically and maintain high morale, motivation, satisfaction of the staff and the productivity of the hospital. The study of social sciences should enable the doctor to become efficient in the different administrative requirements he is required to fulfil.

In order to strengthen his role as a manager-physician in the primary health centre, or in the state health service whether at the district or state level, or in the hospital, he has : (i) to know how the formal and informal network of communication works in a hospital or in a community; (ii) to understand how an organization, a hospital, a PHC, a family, a community are a conglomeration of technological, socio-technical and social systems, with different groups working with different motivations; he must know the functions of individuals, the division and integration of work, planning, organizing, supervising, coordinating, directing, reporting, controlling and evaluating; he must understand the intermeshing and conflicts of organizational needs and individual needs; (iii) to know how to develop a team, how to work effectively as a member and as a leader in a work team; (iv) to know how to inspire and involve other staff members (the paramedical or the non-medical for example) such that the commitments of all rise high.

5. To enable the medical graduate to be a person who is creative and who is aware of the social environment in which he functions as an individual

Last, but perhaps most important, is that the study of social sciences must aim to encourage students to develop themselves as

persons to their fullest potential. An insight into human behaviour and society should help broaden their outlook and motivate them to develop interests that are personally fulfilling.

Awareness of the different aspects of the functioning of society should also instill in the medical student a sense of social responsibility. For creating awareness at the national level, social sciences can help him think about : (i) the broad changes, socio-economic, political and cultural, that are appearing on the national scene; (ii) India's changing villages; (iii) different movements and the destiny of the nation.

IV. SOCIAL SCIENCE CONTENT

The Existing Situation

Since most medical colleges follow the February 1971 recommendations of the Medical Council of India (1971) for the undergraduate curriculum, it will be worthwhile to briefly review their suggestions and the course content as defined by them. It may be noted that in general the teaching of social sciences has been a subject included under the department of preventive and social medicine.

The MCI recommendations are that the teaching of PSM should take place throughout the teaching period; a minimum of 50 hours should be devoted to the teaching of PSM in the preclinical period, and 250 hours in the clinical period; emphasis should be laid equally on preventive and curative aspects of disease; joint programmes between PSM departments and other departments should be developed to give the student a comprehensive picture of man, his health and illness; and finally, stress should be laid on national programmes.

The MCI also recommends that separate examinations in social and preventive medicine should be undertaken in the second professional examination and questions on preventive and social aspects of disease should also be included in the clinical subjects at the final MBBS. In addition they say that:

- (a) In order to prepare the student for professional education and to foster in him the social concepts which are essential to the professional doctor as a citizen and as a practising physician in the community, the element of humanities which has been omitted, should be added in the pre-clinical years. Hence, it is imperative that the social aspects of medicine should be introduced as a separate subject along with other disciplines.
- (b) A minimum of 50 hours be devoted for social and preventive medicine in the pre-clinical period. The following subjects should form a part of the teaching in this discipline :
 - (i) Personal Hygiene
 - (ii) Bio-statistics and Vital Statistics
 - (iii) Human Ecology

- (iv) Elementary Psychology
- (v) Elementary Social Science
- (vi) Normal Growth and Development
- (vii) Nutrition and Dietetics
- (c) A number of these items should be undertaken in collaboration with the departments of physiology and bio-chemistry and should form an integral part of their teaching.
- (d) The teaching of social and preventive medicine should be undertaken by the Department of Social and Preventive Medicine in coordination with other departments.

It may be noted that only elementary psychology and elementary social sciences have been included in the curriculum.

In the three year clinical curriculum, the recommendation is that PSM should be taught in the first one and a half years before the second professional examination, during a minimum period of 250 hours. Except for six sessions on social medicine, however, the MCI's recommendation includes hardly any social science subject.

Further, though elementary psychology and elementary social sciences are taught in the pre-clinical phase, the student is not examined in these subjects in the first professional examination. Earlier the MCI had recommended a separate examination in PSM in the first professional examination but this recommendation has now been dropped. It is possible that with no examination on the subject its "importance" has decreased in the eyes of the students. As has been noted earlier, PSM is examined only in the second professional examination when no social sciences are taught. It can be concluded that very little emphasis is laid on the examination of social science subjects *per se*.

The curriculum recommended by the All India Institute of Medical Sciences (AIIMS) for PSM does not differ substantially from that of the MCI. This curriculum has also been examined in detail by Chattopadhyay in the companion volume entitled *Role of Social Sciences in Professional Education : Agriculture, Engineering and Medicine—Report of a Conference*¹⁶. Out of 140 direct sessions on PSM, only about 15 sessions have been allotted to the teaching of social science subjects.

The psychology and sociology contents of the PSM course as recommended by the MCI are given below :

Introduction to Psychology (six hours)

- Definition, scope, methods and branches of psychology
- Consciousness, mental development, intelligence, personality
- Abnormal mind
- Disintegration and diseases of personality, insanity, etc.

¹⁶ Chattopadhyay, *Op. Cit.*

Social psychology, socialization, interpersonal influence, role and role conflict, inter-group tensions and prejudices

Introduction to Sociology (six hours)

Definition of society, community, family, etc.

Social organization

Social institutions—courtship

Culture variability

Culture and health practices

Social change

In the clinical phase six sessions are devoted to social medicine. The sessions are distributed between teaching and the definition of social medicine, social aetiology, social pathology, social therapy and social rehabilitation. There is also a visit to a rehabilitation centre and an after-care home for women; eight hours are allotted for this.

Out of 50 hours in the pre-clinical period and 250 hours in the clinical period, (that is, a total of 300 hours of teaching time devoted to PSM) the time devoted to social sciences proper comes to hardly 20 hours. This constitutes about five to six per cent of the PSM course. The proportion is negligible when the entire medical curriculum is considered.

Analyzing these contents it would seem that the department has little justification to be called the department of preventive and social medicine. It may be called the department of preventive medicine or public health but not community health nor "social medicine". We also feel that nothing much will be accomplished by changing the topics alone. The new contents and the objectives of teaching of social sciences cannot be achieved if only 20 hours are allotted to the teaching of social sciences.

The survey of the present contents taught in medical institutions revealed a wide divergence in the actual teaching of social sciences by different medical colleges. Though the medical colleges are supposed to follow the MCI recommendation, there is little consistency in the implementation of these recommendations and no obvious rationale for the differences. Content analysis of the social science syllabi of 19 medical colleges showed that the social science content is largely covered in the PSM paper. All students have to take this course. Three disciplines—sociology, psychology and anthropology—are taught to the medical students.

However, the teaching of these subjects in medical colleges is largely peripheral. A critical look at the social science content as now taught to medical students¹⁷ shows that the teaching of social sciences in medical colleges is superficial and only elementary concepts are

¹⁷ The Social Science content as now taught to medical students as analysed by Gupta for the Study Team is given in Appendix III.

covered. Few institutions teach the sub-specialities of social sciences in any depth. The social science content is also not clearly related to the needs of medical students. As a result few medical students indicate a real interest and understanding of social sciences.

Considerations in Framing Course Content

These difficulties may be obviated by designing courses that are more closely related to the problems that medical students would face in their professional career. Below are suggested course outlines that cover the objectives we have set out for social science teaching. Medical institutions may use these as guidelines to design courses. Certain considerations have been kept in mind in designing the syllabi and course content.

- (a) The objectives of teaching social sciences and the varied roles of medical graduates should be kept in mind while framing the courses so that the objectives permeate the entire curriculum and the courses designed are relevant to the jobs of medical graduates. Teachers should also be aware of the objectives, so that a coordinated effort is made to fulfil them. In a study conducted by Atal¹⁸ on social scientists working in the professional institutions, 84.42 per cent of the social scientists felt that the aim of social sciences was to add to the professional training of the students. Only 40 per cent felt that the aim was also to add to the liberal education of students. This shows that even within social scientists some consensus must be achieved.
- (b) Time allocation : Adequate time should be allotted to the teaching of social sciences in medical colleges. As has been described above the time allotted to the actual teaching of social sciences is less than five per cent of the total curriculum. This is clearly inadequate.

At the undergraduate level the courses recommended below should be continued during the entire 4½ year academic period from the date of commencement of study to the date of completion of the final examination, followed by one year's compulsory rotating internship. This would ensure that the teaching of social sciences is reinforced consistently and the student learns to regard social sciences as intrinsic to the medical curriculum. It is presumed that some of the teaching of social sciences would be integrated with the teaching of clinical subjects and in addition appropriate time would be allotted for the teaching of social

¹⁸ Atal, Yogesh, "Social Scientists in Technical Institutions," in *Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

sciences. This would work out to an approximate average of 200 hours. For the curriculum suggested below to be workable, a large proportion of the time devoted to PSM courses will have to be given to the teaching of social sciences. Additionally time can be found from some of the other courses as, for example, from paediatrics to teach social aspects of paediatrics and from obstetrics to teach social aspects of obstetrics.

- (c) Medical graduates are not primarily interested in social sciences and are not going to become social scientists. It is, therefore, not necessary to teach elementary psychology or sociology to these students. The courses designed should be interdisciplinary and problem oriented.
- (d) Allocation of marks : Students tend to assess the importance of a subject according to the marks that are allotted. We feel that weight should be given to cases, records, reports of field visits, field books and seminars in allotting marks. Appropriate systems for examination of the content will need to be developed.

Illustrative Contents

The following courses have been designed keeping in mind the considerations and role requirements of the jobs that medical graduates take up. The social science content covered in the courses recommended below, we feel, is the minimum required to meet the objectives which have been outlined earlier.

(i) *Orientation to the Patient, the Community, and the Culture*

Man in society
 Family
 Class and caste
 Socio-economic status
 Status and role
 Perception
 Person perception

(ii) *The Sick Role of a Person*

Opinions, beliefs, attitudes, attitude formation and change of attitudes, with special reference to health including disease, its cure, prevention and promotion of health.

(iii) *Foundation of Individual Behaviour*

Cognitive
 Affective
 Conative
 Rational and irrational behaviour

(iv) *Emotion and Perception Base of Health and Disease; Psychosomatic Diseases*

Learning and Motivation in Health and Disease Communication : Inter-personal communication; organizational communication; mass communication; sociology of communication in villages; barriers and gateways of communication in villages and organizations,

(v) *Society and Community*

Societal structure

Institutions

Norms, mores and ethos

Reference groups

Influence of groups on individual behaviour

Power and authority—its distribution and pattern in social systems, in families, in village communities.

Decision making process in individual, in family, in community

Sociology of change—dynamics of planned change in individual behaviour and in society

Adoption of innovation in health practices

Helping relationship, the role of a helper, the technology of helping and consultancy

Social correlates of poverty

Socio-cultural environment—types of morbidity and disturbance produced by the cultural environment

Disease defined by cultural beliefs, at variance with medical definition

Cultural beliefs affecting different symptoms

Cultural beliefs and modern medical treatment

Adoption of modern medical treatment to the culture

Confronting and coping with the psychological processes around death and dying, malignancies and pain from the point of view of the patient, his family and the physician himself.

(vi) *Psychology and Sociology of Profession*

The student's own psychological and social orientation

A few psychological tests for his own feed back

on his own strengths and weaknesses

on his own basic needs and motivation

on his own leadership orientation

on his own proactivist function

on his attitude towards rural/urban life

on his life goals, aspirations and ambitions, fears and apprehensions

His class background
 class character
 career ambition
 socialization in medical colleges, alienation from the society
 The "basic" doctor as a concept
 Professional and social aspirations
 Absorption, employment/unemployment, brain-drain
 Professionalization and professional ethics

(vii) *Orientation to Organizational Behaviour*

Organizations as systems—definition and illustration in
 hospital, PHC, family, community setting
 Technological, socio-technological and social systems in
 organizations
 Work groups and their identification
 Inter-relationship and interdependency in organizations
 Jobs, functions and roles
 Fractionation, differentiation and integration of work—its
 desirability and undesirability and impact on health
 Job redesigning
 Planning
 Organizing
 Supervizing
 Co-ordinating
 Directing
 Reporting
 Evaluating
 Work motivation
 Job satisfaction
 Administrative leadership
 Individual need and organizational need
 How to develop a team, effective member role and leader
 role
 Involvement and commitment in work
 Problem solving behaviour in organizations
 Management of change
 Management of differences and conflicts
 Cost benefits
 Cost effectiveness
 Resource utilization and reduction of wastage

(viii) *Orientation to Broad National Trends*

Broad changes, social, economic, political and cultural
 For example :
 Science and society
 Economic growth and development

Industrialization
 Agrarian society and Industrialization
 India's changing village
 Poverty
 Labour movement
 Different movements and the destiny of the nation, political
 . . . ideology, etc. . .

(ix) *Orientation to International Scene*

Models of the roles and functions of doctors in the health care system in :
 China
 USSR
 North Vietnam
 Yugoslavia
 UK, and
 USA

Post-graduate Specialization

The Mudaliar Committee (1961) made two significant recommendations regarding post-graduate training in health sciences. It stated that higher training in the school of public health should provide both for MD and PhD degrees and that there is scope for a degree in public health being instituted in a university for non-medical personnel. The medical students may work at the post-graduate level for the degree of MD in social medicine, psychological medicine, anthropological medicine, etc. The non-medical students can work for their PhD in medical sociology, medical psychology, medical anthropology, etc.

The Study Team endorses the inclusion of non-medical students for post-graduate degrees in the health sciences. Social scientists can make a valuable contribution in several areas of primary interest to the medical scientist. Enrolling non-medical students for social science post-graduate degrees in the medical colleges would orientate the social scientist to the problems of health faced by the community, to the problems of the health care delivery systems and to the requirements of preventive medicine. It will enable them to gain insight into the prospects and problems of applying modern medical knowledge in a traditional society with limited material resources. Non-medical students will thus be in a position to contribute towards enriching the particular social science discipline in which they have taken their degree, through the pursuit of studies and research in medical colleges.

Thus it is envisaged that there will be two types of post-graduate degrees, an MD for medical students and a PhD for non-medical students. The duration of the post-graduate curriculum should be at

least two years. The course should be basically research oriented. Students should be required to prepare a thesis of sufficiently high quality in partial fulfilment of the requirements of the degree.

In addition to the thesis the student must take exhaustive course work. Medical students should be required to take :

- (i) Courses on the theoretical foundations of social science issues.
- (ii) Courses on foundations of sociology, psychology, communication, anthropology, and economics as relevant in the health context.
- (iii) Course work in management and organizational behaviour including communication skills with special reference to public health administration.
- (iv) Thorough course work on research methodology
- (v) Intensive course work on statistics, to the extent that students need to conduct research.
- (vi) Course work on the economics of health
- (vii) A dissertation in the interface area of health and social sciences.

For social science students working for the PhD in subjects like medical psychology or sociology, they should have :

- (i) Intensive course work in the applied aspects of one particular social science specialization in the context of health.
- (ii) Courses in the other basic social sciences as applied to health.
- (iii) Course work in preventive health.
- (iv) Participation in the conferences organized in collaboration with different departments.
- (v) Participation in seminars which require him to understand in depth the social-psychological aspects of medicine. For this he should also have a broad orientation to the clinical and paraclinical subjects that are taught in medical colleges.
- (vi) Intensive training in research methodology.
- (vii) A dissertation in the interface area of health and social sciences.

We envisage that the student will require two years or more to complete this post-graduate course. We feel that it is not necessary to have any rigid stipulation regarding the sequencing of courses. As a general guideline we suggest that in the first year the student should develop proficiency in research methodology and statistics and should take foundation courses in the areas mentioned above. By the end of the first year he should be in a position to make the initial formulation of his thesis topic. In the second year more time should be devoted to the research topic and the student may take courses to develop a theoretical and interdisciplinary orientation. Seminars and conferences

may be organized at this time.

Teaching Methods

In the Conference sponsored by the ICSSR and the UGC on the role of social sciences in professional education, the sectional group for medicine recommended that in addition to the teaching methods used at present in medical colleges, methods like clinical, psycho-social case conferences and socio-medical case studies should be used. Meaningful practical illustrations should be given and social science concepts may be elucidated through the use of cases, games, simulations and exercises.

We agree with the Mudaliar Committee's emphasis on the need for integrated teaching with a minimum of class lectures. There should be lectures based on clinics and demonstrations with audio-visual aids wherever possible. Besides this, clinico-pathological conferences should be held regularly. Suitable units should be developed in tehsils and districts for giving opportunities for training medical students in preventive health. The last year of the course should be devoted to the study of medicine, surgery, obstetrics and gynaecology and applied aspects of preventive medicine.

We are also of the opinion that through the implementation of the above recommendations the focus in teaching should be to develop in the student an understanding of the processes involved in any social situation. Cases, on-the-spot visits, and other applied methods may be used to increase the student's conceptualization of social science applications.

V. THE SOCIAL SCIENCE TEACHER

His Present Status

Certain problems such as that of professional insecurity and isolation that social scientists in medical institutions face, may be related to the peculiarities of their situation, namely, that of being in a "minority" in professional institutions. Medical colleges are essentially and understandably dominated by medical men. This tends to create a "medical culture" where social scientists are likely to feel like "aliens". The reasons for this lie partly in the structure of the organization which does not allow social scientists to be well integrated into the system and partly in the social scientists themselves who also have not identified themselves with the basic goals of the broader organization. Sometimes social scientists isolate themselves by confining themselves to their own specialization. For instance, social scientists who prefer a theoretical-conceptual approach to their discipline and try to maintain close contacts with the university and the "mother culture" of their specialization will not find it easy to integrate their discipline with medicine.

Two studies conducted by Atal¹⁹, ²⁰ provide information on the current status of social science teachers in medical institutions. The following data are based on responses from 122 teachers in 53 institutions and 26 administrators of medical institutions.

The studies showed that on an average there were five "social science" teachers in each institution. Out of the 122 teachers, 42 per cent had basic degrees in social sciences, the others had basic degrees in medicine or nursing. The teachers are also a relatively young group, since 44 per cent of them were in the age group of 26-35. Thirty-one per cent were between 36 and 45. Twenty-six per cent of social science teachers in medical institutions were at the level of Professor or Associate Professor, compared to 76 per cent in agricultural institutions and 18 per cent in engineering institutions. Sixty-three per cent had studied in India. A high percentage of social science teachers (57 per cent) did not have any research work to their credit.

(a) *Working Conditions*

The average teaching load for social science teachers in medical institutions is low—7.27 hours per week. In liberal arts colleges and departments, Professors have to teach a minimum of eight hours, Readers 12 hours and Lecturers 16 hours. In medical institutions, the distribution disclosed by the study is:

Professor	7	hours per week
Reader	6	"
Lecturer	7	"
Junior Lecturer	8	"
Instructor	6	"
Research Officer	8	"

(b) *Acceptance of Social Scientists by other Colleagues, Administrators and Students*

In general social scientists in medical institutions feel that the attitude of their colleagues towards them is neutral or indifferent (46%). Forty-eight per cent said the administrators were indifferent and 46 per cent said the students were indifferent. Only 32 per cent said their colleagues were hospitable and about 15 per cent said their colleagues were hostile. Thirteen per cent of the social scientists said that the administrators were hostile. Students were generally perceived as being 'indifferent' (46%).

(c) *Assessment of Own Status*

The studies also investigated to what extent social scientists have

¹⁹ *Ibid.*

²⁰ Atal, Yogesh, "Administrators in Technical Institutions: Views on Social Sciences", *Social Sciences in Professional Education—Agriculture, Engineering and Medicine*, Report of a Conference, ICSSR, New Delhi, 1975.

identified themselves with the institution where they work. On the whole it was found that social scientists are ambivalent regarding their identification with the institution. Comparing themselves with their colleagues in other university departments, about half the teachers said they saw no difference between working in liberal arts colleges and technical institutions. However, about one in four said they were "wrongly placed". They also felt that they were placed "lower" in comparison with other members of the teaching staff.

A high percentage of social science teachers from medical colleges said they were deeply involved in the work of the institution. The social science teachers were also asked if they felt that being employed in technical institutions would have a negative effect on their professional careers as social scientists. Only 15 per cent of them felt that working in medical institutions would adversely affect them, while approximately 36 per cent felt that it would not. Twenty-nine per cent were ambivalent.

It is necessary to know how the social science teachers are evaluated by the administrators of medical institutions. Administrators of 26 medical institutions responded to the questionnaire sent by the ICSSR Study Team. One of the questions asked was to evaluate how social scientists compare with the other teachers in the institution with regard to their contribution to teaching, research and to extra-curricular activities. The data showed that 50 per cent of the administrators felt that social scientists were as good as the other teachers, and 12 per cent felt they were better. However, a large percentage did not reply (35 per cent).

Role of Social Scientists in Medical Colleges

(a) As a teacher :

The teacher bears the main responsibility of carrying out the objectives of introducing social sciences in professional institutions. His role as a teacher means, therefore, that he must develop in himself certain qualities which would help to fulfil these objectives.

An important determinant of the social scientists' role in a medical college is the fact that most social science departments cannot have a large staff for teaching the different social science disciplines. This means that the social scientist must move beyond his own specialization and become a social scientist with an interdisciplinary orientation and capability. He must make a comprehensive study of all the social sciences as no one branch will provide him with the base he needs to conduct interdisciplinary courses.

A related aspect is the necessity to orient the teaching of social sciences to applications in the field of medicine, rather than to orient the teaching to theory. As a teacher he must, therefore, be able to move out into the realities of life and not confine himself to text books.

The social scientist must also aim to make his teaching acceptable to medical students since the social sciences are not their primary interest. He can do this by consistently illustrating the relevance of social sciences in a medical context and by using language and illustrations that are easily understood by them.

To develop adequate teaching material the social scientist can collect material through observations, episodes and cases taken from the field. He should also develop teaching material which will be of help to the other departments. He should use different teaching methods and help teachers of other departments to use different teaching methods.

The social scientist must also try to establish close relationships with the other departments so that there is mutual gain. For instance, he must be actively involved in community visits and in the internship programmes. He can provide analysis of these programmes from a social science view point in faculty seminars. He can contribute to the whole faculty by organizing guest lectures and seminars on broad social issues.

Teachers should prepare relevant teaching materials like cases, simulation and role play exercises and audio-visual aids, along with their other duties. Besides publishing research articles and books, they should also write social science text books for medical students.

(b) *As a researcher :*

As a researcher the social scientist's contribution can be two fold. Since there is a dearth of basic knowledge that is useful for teaching social sciences, the researcher can try to develop material to reinforce his teaching. He can also move beyond this and engage in research that contributes to the interface areas of social sciences and medicine. Some areas he could concentrate on are :

Research in community : This can include areas such as the poor and their health; cultural beliefs, taboos in health; health needs of the community; study of existing culture patterns in facing pain, disease and death; various customs and practices associated with various diseases; adoption of modern health practices; the status of health education, of systems of medicine and differential preferences of the community; research in communities with regard to health and nutrition surveys.

Research in health and medicine : This should essentially deal with the human and social aspects of health and modern medicine, like social aspects of paediatrics, geriatrics, maternity and child health, family planning, new drugs, new practices.

Research on doctors and students : This will deal with the psychology and sociology of the medical students and medical practitioners. Topics such as their psychological orientation, aspirations,

values, beliefs, attitudes, personality profiles, motivations, leadership orientation, aptitudes, intelligence, differential abilities, study habits, etc., would be valuable to administrators and teachers to understand the persons they are dealing with. Their class background, class characteristics, career ambitions, socialization process, reference grouping, alienation, commitments, employment, brain drain, professionalisation, ideological pre-disposition, should also be studied.

Research on health delivery system : This will include taking a critical look at how the health care is being provided. Researchers in this area may seek the answer to questions like : Is health care reaching the poor ? Is it effective ? What are the alternatives ? The researcher may also investigate the management and organization aspect of the health care delivery system.

Research on the college system : This will include a number of research areas, some of which may be action researches as well. Broadly this may be organizational research, educational research, research on student life and teacher life.

Research on the hospital system : This will mainly be organizational research. In addition to the organizational research, many researches could be conducted on patients and their relatives visiting the teaching hospital and on the social distribution of particular diseases.

Research in educational methodology : The aim here is to develop new teaching methods for teaching social sciences. Studies may be made on the effectiveness of lectures, case presentations, seminars, etc., for teaching social sciences. Ways to increase the students' inter-action with the community and the use of such practical experiences as a pedagogical tool may be investigated. Additional teaching aims may be developed

(c) *As a member of the social science department :*

The social scientist must contribute to the development of a multidisciplinary approach in the social science department. Here his relationship with social scientists and others in the organization is of utmost importance. All the members of the social science department should try to work as a team, and should aim to develop a total social science orientation, so that their knowledge, skill and understanding is complementary to that of their colleagues in the institution where they work. Ease of communication between social scientists and medical personnel is essential, so that all efforts are directed to the fulfilment of common aims. The social scientists can help other teachers to incorporate the "human" or "social" element in their own discipline. It is necessary for the social scientists also to keep in close touch with the other faculty members in order to maintain a two-way

channel of research to ensure that the social implications of diagnostic and service delivery systems are taken into account by researchers in the medical sciences. To do this he can take up research projects in collaboration with experts from other departments, invite colleagues from other departments for lectures and seminars, for his students. He can also develop materials to be communicated to the community on the latest and important discoveries in medicine. The social scientist must take active part in developing new and joint projects with the other teachers, as for instance, in the internship programme or the practical training programme in the later phase of the clinical year when families are allocated to students.

(d) *As a member of the college :*

He must seek active collaboration with the various members of the other departments in his efforts for organizational change and organizational development of the college system, hospital system and health delivery system as described below :

(i) Contribution to the college system :

It is not enough for the social scientist to undertake research in the college system. He can provide feed back to the administrators and by using his skills in planned change help to introduce changes and improvement in matters relating to student welfare.

Similarly, the same skills of organization development and operations research can be utilized for introducing planned change in the hospitals which are attached to all medical colleges.

(ii) Consultant to the health care delivery system :

Since he and his department have the expertise in organizational behaviour, it can be utilized in improving the organization of the health care delivery system, particularly at the district and PHC level. He can advise on the clarity of the roles of different categories of staff employed in programme planning, etc. He can organize extension lectures and training courses in a planned manner for the staff of the health care delivery system. The training courses can be organized (a) to keep up their linkage with medical persons and medical developments, and (b) to provide the necessary orientation to non-medical staff, specially Block Extension staff in problems of health and medicine

(e) *As a link between the community and the college :*

A medical college can be viewed as a social institution. In order to fulfil this function, the college has to keep close contact with the community. The social scientist may act as an extension agent to

form a two way channel between the college and the community. He can bring the health problems of the community for research/investigation into the college and take the research findings of the college to the community. He can also be of help in improving the health education of the community. He can organize extension lectures, seminars, etc., with the help of his colleagues in other departments, and strive to project the image of the college in the community.

The discussion in the foregoing paragraphs may give the impression that we consider the social scientist to be all-knowing and multi-dexterous. This impression is likely to be created because we are using the generic term "social scientist" to represent a multiplicity of disciplines. We believe that in course of time medical colleges should progressively work toward a situation wherein they will have every major social science discipline represented on their academic staff. The multiple roles outlined for the social scientist have to be viewed in this perspective. At present the social science content is marginal and often taught by persons who are primarily teachers of preventive medicine.

VI. ORGANIZATIONAL AND ADMINISTRATIVE ISSUES

Faculty and Organization of Department

In the present situation we feel that recruiting more social scientists in the existing departments (including PSM) of medical colleges will not serve any purpose. A prerequisite for developing the social science component will be to create a separate department of social sciences. This would be the necessary structure on which the social sciences can be built up in medical colleges.

The disciplines to be represented should be psychology, sociology, social work and management. The total complement of faculty should include at least one person with an interest in organizational behaviour. The staffing pattern should be such that there are at least one or two posts at the level of Professor or Associate Professor. The department should also have the usual ancillary staff consisting of stenographer, clerk, etc.

Recruitment

We strongly recommend that persons who are specially qualified in social sciences be recruited to teach social sciences in medical institutions. The contribution that social scientists can make in terms of their ability to grasp and apply the concepts of their discipline to medicine and health care should form the major consideration in allocating funds and posts for employing social scientists.

Even persons who have graduated with a Master's degree or an MD in community health with just an introductory course or two in social sciences would not be able to contribute to the teaching of social

sciences in the same way that social scientists can. However, professionals with an MBBS degree who have later done substantial post-graduate work in social sciences could be considered qualified to teach social sciences.

It would be beneficial to recruit persons who have the ability and the inclination to experiment with new ideas and theories and who would enjoy the application of knowledge of social sciences to the field of medicine. Persons who are innovative rather than those who prefer "traditional" applications of the discipline would be better able to contribute to the field.

Salary and Emoluments

In many medical institutions the salary scales for social scientists are lower than those for the other teachers. This practice should be discontinued. The salary scales of the social scientists should be on par with similar positions in other departments. Medical teachers receive a "Non-Practising Allowance" (merged or unmerged) with their pay. This may be given to the social science teachers as "Incentive Allowance" (though it need not be termed as such). This will ultimately mean equal pay for equal jobs which is what the Bhore Committee strongly recommended.

The social scientist should be provided with the same perquisites and facilities as are given to teachers in other departments without discrimination in his working condition.

Facilities for the Development of Professional Interest

Research in the social sciences related to problems of disease and health should be encouraged. With the knowledge that this is a new field which needs extra care and nurturance, both the ICMR and the ICSSR should provide adequate support for research.

A significant contribution to the development of professional interest will be made when the department of social sciences starts to enrol students for post-graduate degrees. This itself will require social scientists and students in medical colleges, to keep abreast of current developments elsewhere, especially in the universities. The gap in communication between university social science departments and social science departments in medical colleges will then gradually lessen.

Social scientists in medical institutions must be encouraged to publish books. Though there is no dearth of professional journals to publish scientific papers, the publication of books presents a problem. The problem has become more acute in recent years. The fact that the potential market for books in social sciences in medicine and health is very limited, makes commercial publishers reluctant to invest money in publishing such books. The ICSSR, ICMR and Government

should provide adequate grants-in-aid to publish books of relevance to social sciences and medicine as long as they fulfil the requirements of standard and quality. It is hardly necessary to point out that the development of a branch of science in a new field is indirectly related to the number of publications in that field.

In the initial stages it will also be necessary to provide opportunities to social scientists for gaining experience both from within and outside the country. For example, it will be necessary to study how the health system is managed in the high altitude regions of the Himalayas which are virtually cut off from the rest of the world, or in the tribal areas of Chhota Nagpur or NEFA. It may also be necessary to study how the health care delivery system is managed by populous countries like China or in the developing countries in Asia, Africa and Latin America. Adequate financial support should be given to such endeavours.

Communication with Other Professionals

The lack of adequate communication with other professional colleagues on the part of social scientists in medical colleges was identified as one of the problems by the administrators interviewed in Atal's study.

Social scientists in medical colleges must establish contacts with other social scientists through various channels, such as inviting external social scientists for guest lectures, seminars, conferences, etc., inviting others in consultation work, involving others in some way in research projects, going out and delivering talks, taking part in seminars and conferences organized outside the colleges, becoming active members in professional organizations, presenting research papers and articles in conferences and publishing them in professional journals.

CONCLUDING REMARKS

In the foregoing sections we have made suggestions on how social sciences may be incorporated into the medical educational curriculum. In conclusion we would like to mention that in the initial stages it may be necessary for the social scientist in a medical institution to regard himself primarily as a "learner", aiming to imbibe all that is taking place around him and learning to analyze the norms, strengths and weaknesses of his new "culture". Through teaching, research and other activities he can gradually establish his identity and his contributions. A primary motivating factor for social scientists is to find jobs that are satisfying and challenging. Medical institutions must aim to provide such situations, so that competent social scientists will be motivated to join and participate in the challenging tasks lying ahead.

APPENDIX-III

PRESENT COURSE CONTENT TAUGHT IN MEDICAL COLLEGES

SOCIOLOGY

Society, community, social organization and institutions, culture, family and marriage, social change, social control, socialization.

Aims and objectives of medical sociology, groups, kinship, magic and religion, social stratification, status and role, responsibility of the physician to society.

DEMOGRAPHY

National demography, population of India and world population.

PSYCHOLOGY

Normal psychology : Definition, scope and method of normal psychology, relation between mind and body, personality, sense organs, images, perception, attention, memory, learning, thoughts and language, instincts, feelings, emotions, moods and unconscious and mental process.

Definition, scope and methods of psychology, branches of psychology, disintegration and diseases of personality, socialization, interpersonal influences, role and role conflict, inter-group tensions and prejudices and development of the organism.

ANTHROPOLOGY

Cultural, social and medical anthropology, attitude and behaviour patterns in different parts of India with reference to health and illness, the role of the physician in medical health.

FAMILY PLANNING

Scope and need for family planning, national family planning programme, contraceptive methods and family planning as an integral part of comprehensive health care programme.

SOCIAL WORK

The details of the topics covered under this heading are not available.

SOCIAL SCIENCE

Concept, social sciences and behavioural science, social sciences and medicine.

BIostatISTICS

Statistical methods, tabulation, groups, spot-maps, average rate, mean, median and mode, normal curve, common errors in collection, analysis and interpretation of rates.

SUMMARY OF RECOMMENDATIONS

CHAPTER V

A GENERALIZED SUMMARY OF RECOMMENDATIONS

OBJECTIVES

Every institution must define for itself the objectives of introducing social sciences in line with its overall professional goals. We have suggested the following generalized set of objectives for the contributions that social sciences can make in each of the three professions ;

- (a) To give the student a perspective from which to understand human behaviour and culture.
- (b) To make the student aware of the social environment in which he functions and of the problems facing the country and the need to direct his efforts to the attainment of national goals.
- (c) To make the student aware of his own psychological and sociological orientation.
- (d) To equip the professional to play his administrator-manager role more effectively.

COURSES

No specific list of courses has been given for each of the professions. Instead, we have provided an illustrative list of courses which institutions may use as guidelines in constructing courses that would be suitable for their needs.

Considerations in Framing Course Contents

Courses may be designed on the following principles :

- (i) Courses whether unidisciplinary or interdisciplinary should be framed with reference to the objectives above. Some of the courses should be problem-oriented courses related to the field appropriate for each of the professions. However, teachers may experience some difficulty in devising such courses since it requires close familiarity with the profession. A basic grounding in all the social science disciplines is also necessary before such courses can be well designed by teachers or well understood by students. Therefore, basic disciplines will have to be introduced before problem-oriented courses can be taught. Where it is not possible to introduce the disciplines along with giving the course an interdisciplinary focus, straight unidisciplinary courses may be

necessary at the initial stage.

- (ii) The objectives of introducing social sciences should form the main guiding principle in devising the courses. Along with giving profession-related courses, the objective of broadening the vision of the student should not be lost. Therefore, courses such as on the philosophy of science, growth of civilization, culture and society will also be useful and should be included in the curriculum.
- (iii) Courses should be oriented to the Indian context in order to make the courses more relevant to the student.
- (iv) Institutions that have the facilities should try to develop a programme of post-graduate specialization in the social sciences. This would contribute to the development of knowledge in the interface areas of society and the profession as well as to the development of social science applications in areas especially related to development. Teachers too have more opportunity to develop themselves and maintain their contact with their discipline.

Time Allocation

More time should be allotted to social sciences than is the current practice. For agriculture institutions a minimum of 10 percent of the total curriculum should be allotted to social sciences. A blanket prescription is not possible for engineering institutions because of the diverse types of institutions—All India, Regional and State sponsored. To deal with the special needs of each of these, we feel that 8 per cent of the total curriculum for State level colleges, 10 per cent for the Regional Institutes and 12 per cent for the IITs would be appropriate. For medical colleges, at least 200 hours of teaching time should be provided for social sciences out of the total time available for instruction. This may come largely out of the time allocated for preventive and social medicine, but it may also be drawn from the time allotted to other subjects like paediatrics and obstetrics for training in social paediatrics and social obstetrics.

Allocation of Marks

In general, since students tend to judge the value of a course by the marks allotted to it, courses in social sciences should be allotted marks proportionate to the time spent on these courses. Also, the percentage of marks required for passing in social sciences should be the same as for other subjects. If the social science courses occupy 10 per cent of the curricula time, they should be allotted 10 per cent of the total marks.

Teaching Methods

Institutions should try to adopt new methods that would arouse the students' interest in social sciences. Seminars, case studies, etc., would be more appropriate to teach social sciences rather than the lecture method since the content of these courses often requires discussion between students and teachers.

THE SOCIAL SCIENCE TEACHER

The social scientist's contribution in professional institutions should cover the following aspects :

As a Teacher

His main responsibility should be to teach social science as part of an integrated educational programme to help meet the objectives mentioned earlier. To do this he may have to develop new teaching materials such as collecting case studies, or evolving audio-visual and other teaching aids which would help illustrate social science concepts to the students.

As a Researcher

Social scientists should be encouraged to conduct research studies in areas where an understanding of social factors is particularly necessary for the practice of his profession. Knowledge developed through such studies would add to the development of the social sciences in relation to that profession.

As a Member of the Social Science Department

The social science department should be developed as an active department which can assist other technical departments dealing with issues where an understanding of social factors becomes necessary. Undertaking cost/benefit analyses, provision of case counselling services, etc., are ways in which social science teachers can involve themselves in the work of an institution.

As a Member of the Organization

If the administrative head so desires, social scientists can also study and analyze the institution as a social system and work out ways of increasing its efficiency. In addition, social scientists may help in developing student welfare activities, staff activities, systems for student selection and evaluation, improvement of personnel practices, etc.

ORGANIZATIONAL ISSUES

(a) Faculty and Organization of Department

Institutions should aim to develop separate social science departments wherever possible. Institutions may investigate methods of faculty organization that would enable them to involve more social

scientists in professional institutions. A dual system of organization where a "core" of faculty members may be permanently attached to the institution, while "adjunct" faculty from other institutions may be invited to join for specified periods or on a part-time basis should be investigated.

(b) Recruitment of Staff

Social scientists or other professionals specialized in social sciences should be recruited to teach social sciences in professional institutions. Persons to be selected to teach should show evidence of their interest and ability to adapt social sciences in a technological "culture".

(c) Work-load

The teaching load must be adjusted according to any extra duties that may be allotted to social scientists and should provide sufficient time for research activities.

(d) Promotion, Salary and Emoluments

Suitable opportunities must be provided for social scientists to advance in their career. Some thought may be given to establishing posts in higher grades for social scientists as an incentive for them to join professional institutions. In any case, their salaries must be commensurate with those of other staff members in comparable positions.

(e) Facilities for the Development of Professional Interest

Institutions should provide facilities and equipment necessary for the development of such departments, e.g. separate offices, equipment, ancillary staff such as secretarial staff, etc. Particular attention should be given to increasing the number of library books and providing appropriate facilities for research. A portion of the grants-in-aid given to professional institutions may be reserved for these purposes.

(f) Contact with other Social Scientists

Special efforts must be made to encourage communication and interaction with other social scientists. This may be done through organizing seminars, discussions, visiting lectureships, etc. where social scientists can meet and exchange ideas with social scientists from similar institutions, or even general or liberal arts institutions. Social scientists in professional institutions should also be encouraged to participate in seminars and meetings organized by other bodies. Associations may be created of social scientists working in professional

Institutions where issues and problems of common interest can be discussed.

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