

# UNIVERSITY GRANTS COMMISSION

## AGENDA AND PROCEEDINGS

PART-2

NO-181

19<sup>TH</sup> JULY 1976

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

MINUTES OF THE 181ST MEETING OF THE UNIVERSITY GRANTS  
COMMISSION HELD ON JULY 19, 1976.

...

The following were present:

Professor Satish Chandra	-	Chairman
Professor B. Ramachandra Rao	-	Vice-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 Magbool Ahmed	-	Member
Professor B.M. Udgaonkar	-	Member
Dr. Chandran D.S. Devanesen	-	Member
Shri R.K. Chhabra	-	Secretary

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  
Dr. T.N. Hajela  
Shri Y.D. Sharma

---

Director (SRC)

Dr. Jagdish Shankar

Finance Officer

Shri R.P. Bhattacharjee

p.t.o.

Item No. 1 : To receive the minutes of the meeting of the Commission held on 3rd & 4th June, 1976.

The minutes of the 180th meeting of the University Grants Commission held on June 3-4, 1976 were confirmed subject to the following modifications:

Appendix VII to Item No.43

Sub-para 8 - The last sentence may read as follows:

The guidelines along with the suggestions made by the Panels would then be considered by the Commission.

Sub-para 11(a) - The first sentence may read as follows:

The Government of India had since created a special fund of Rs.2 crores for purposes of funding research projects. Accordingly, it may not be necessary for a large number of projects to seek support from outside sources such as PL-480 Fund, etc. unless scientific collaboration with foreign countries was considered absolutely necessary for taking up such research projects.

Arising out of the minutes, it was agreed that :

(a) Item No.7(ix) - a list of research journals which may be prepared by the Panels and which may be subscribed to by the postgraduate departments be circulated to the colleges.

(b) Item No.43(3) - in the case of national associations for visits by persons to industries, the duration of the visit may extend upto six months.

---

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 3rd & 4th June, 1976.

The Commission approved the grants released after the last meeting of the Commission held on June 3-4, 1976 (Appendix II\*).

---

Item No. 4 : To receive the statement of expenditure incurred by the U.G.C. during 1976-77 upto 31st May 1976.

This was noted.

---

Item No. 5 : To consider the report of the Visiting Committee appointed by the Commission to assess the Fifth Plan development proposals of Kanpur University.

The Commission noted the observations made by the Visiting Committee which assessed the Fifth Plan proposals of the Kanpur University. The Commission desired (as in the case of Agra University) that the question of organisation of teaching and research in the Kanpur University may be examined further by a Committee of experts. The Commission could not agree to any of the Colleges of Kanpur University starting M.Phil. courses until such time the concept of academic centres and the question of initiating teaching in the University has been considered by the committee referred to above.

...

Item No. 6 : To consider the report of the Visiting Committee appointed by the Commission to assess the Fifth Plan development proposals of Banaras Hindu University.

The Commission considered the report of the Visiting Committee appointed to assess the Fifth Plan requirements of the Banaras Hindu University and generally accepted the recommendations subject to the following :

1. The Commission strongly supports the recommendation of the Committee that the Banaras Hindu University should concentrate its efforts and resources mainly on honours and

postgraduate courses and research. All India character of the University should be reflected both in enrolment in these courses and the academic staff of the University. The University should work out a phased programme of stabilising enrolment in all the faculties at about 10,000 students.

2. An expert committee may examine in details the reorganisation of the Library system and the services to be provided in the light of the suggestions of the visiting committee.

3. For the recruitment of the technical personnel recommended for various disciplines, the University should prescribe the proper technical training and qualifications as required for the job to be done.

4. With regard to the appointment of Heads of Departments the attention of the Banaras Hindu University may be invited to the relevant recommendations contained in the Report of the Committee on Governance of Universities and Colleges - Part I Governance of Universities.

5. The Commission could not agree to the suggestion that vocational/professional subjects/papers may be introduced as optional at the undergraduate stage. The University may, if it so desires, consider the desirability of starting separate certificate/diploma courses in vocational/professional/secretarial courses.

6. The general policy regarding the institution of scholarships in various disciplines/areas in the Central Universities may be reviewed so as to enable them to function as all-India institutions.

7. Provision may be made for joint appointment and visiting fellowships for which funds are being provided.

8. The Commission agreed to the award of a total number of 40 fellowships at a time for pursuing research in university-teaching departments. The awards may be distributed as under :

- (a) Ten fellowships for candidates belonging to scheduled castes and scheduled tribes.
- (b) Ten fellowships reserved for candidates belonging to weaker and backward sections of society, students belonging to Manipur, Nagaland and other backward and under-developed regions in the country.
- (c) Twenty fellowships to be awarded on all-India basis, at least 50% of which are awarded to candidates from the universities in States other than Uttar Pradesh.

9. The Commission reiterated the importance of coordination of the programmes of the departments of (i) art and architecture (ii) history and (iii) ancient Indian history, culture and archaeology, (iv) Indo-Sumerian Studies and desired that the University takes concrete steps to set up a school/faculty of historical studies incorporating these departments. This may be reviewed after some time.

10. The Department of Philosophy needs to be strengthened in the field of modern analytical philosophy. This need may be taken into account whenever a senior vacancy arises in the department.

11. One Lecturer for teaching Vyakarna may be provided under second priority to the Department of Sanskrit and Pali.

12. The Professor of Indian Art History in the department of art and architecture may function as ex-officio Director of the Bharat Kala Bhavan. To assist him in the administration of the Bharat Kala Bhavan, the Commission agreed to provide one post each of Deputy Director and Deputy Keeper, in place of one post each of Reader-cum-Deputy Director and Lecturer-cum-Deputy Keeper as recommended by the Visiting Committee. They may however assist the Director in running the proposed course on art appreciation as recommended by the Committee. There may not be a separate Department of Museology, but the facilities for teaching museology may be provided in the Department of History of Art.

13. The Commission could not agree to the post of Professor recommended by the Committee under first priority for the Department of History. Instead, it agreed to provide one post of Reader for teaching non-Indian history in the Department.

14. The post of Professor for teaching ancient Indian political thought recommended by the Committee under second priority for the Department of Political Science was not accepted. Such courses could be provided in collaboration with the Department of Ancient Indian History, Culture and Archaeology.

15. The amount for the purchase of equipment and tapes in the faculty of music and fine arts may be raised from Rs.20,000 to Rs.30,000 in the first priority.

16. The Commission could not agree to the recommendation of the Committee that the amount of Rs.13 lakhs spent on the purchase of mass spectrometer may be charged to the funds earmarked for the development of engineering and technology. This amount will remain a charge on the general development allocation of the University and the mass spectrometer will be used as a central facility to be utilised by the faculties of science, technology, medicine and agriculture.

17. The allocation of Rs.10 lakhs recommended by the committee under the first priority for the purchase of ESR spectrometer as the central facility may be shifted to second priority to be considered in due course.

18. The Commission has since made separate grants for the purchase of an ultracentrifuge as part of a research project in the department of zoology.

19. Out of the allocation of Rs.1.50 lakhs recommended for purchase of equipment under first priority in the Mahila Mahavidyalaya, a sum of Rs.50,000 may be earmarked for the purchase of equipment required for the department of home science. The department of home science in the Mahila Mahavidyalaya may be further strengthened and its requirements examined.

20. The question of providing basic minimum facilities and equipment to new members of the teaching faculty in science departments may be examined in consultation with the Science Research Council and the Committee of Conveners of the Panels in Humanities and Social Sciences.

21. The needs of the science departments in respect of chemicals, consumables etc. as part of maintenance grant may be assessed by the Committee appointed to determine the block grant of the University.

22. The general question of the organisation of bio-chemistry programmes, avoiding duplication in various departments may be considered in consultation with relevant subject panels.

23. The recommendations of the Committee as accepted by the Commission are given in Appendix III.

---

Item No. 7 : To consider the recommendations of the Committee of Conveners of the Panels in the Humanities and Social Sciences made at their meeting held on April 20, 1976 on certain suggestions made by Prof. Daya Krishna, Department of Philosophy, Rajasthan University with regard to implementation of short term projects.

The Commission agreed that :

(1) requests for grants for publication of research projects may not be entertained under this scheme and the candidates should be informed accordingly and in advance;

(2) the scholars may be requested to send a list of books purchased by them through their guides and heads of departments as and when they buy books for the purpose of their research work approved by the Commission;

(3) whenever travel is necessary for purpose of research, the scholar should clearly indicate as to why it is necessary.

---

Item No. 8 : To consider the recommendations made by the Committee of the Conveners of the Panels in the Humanities and Social Sciences at their meeting held on April 20, 1976, regarding the selection of a few university departments for the participation in the University Leadership Project under College Humanities & Social Sciences Improvement Programme (COHSIP).

The Commission desired that the Economics Department of Panjab University and the Philosophy Department of Rajasthan University may be invited to participate in the University Leadership Project for Humanities and Social Sciences in Colleges.

The Commission also desired that other departments recommended by the Panels may be requested to indicate their willingness to participate in this programme and to send concrete proposals in this regard for the Commission's consideration.

---

Item No. 9 : To consider the recommendations of the Committee of Conveners of the Panels in the Humanities & Social Sciences made at their meeting held on April 20, 1976, regarding review of the policy laid down by the Commission for financial assistance to teachers under the scheme of Support for Advanced Research.

The Commission accepted the recommendation that normally a teacher receiving research support from the Commission should not be working at any given time for more than three research projects supported by the U.G.C. and other grant-giving agencies. This may also be brought to the attention of the Panels in Social Sciences, Humanities and Sciences.

---

Item No. 10 : To consider the Report of the Visiting Committee appointed by the U.G.C. for assessing the proposal of the Cochin University for the introduction of an undergraduate course in Naval Architecture/Ship Technology during the Fifth Plan.

The Commission while accepting in principle the recommendations of the Visiting Committee which examined the proposals of the Cochin University for the introduction of an undergraduate course in Naval Architecture/Ship Technology desired that the report may be sent to the University and the State Government for their views with regard to specific suggestions made therein for implementing the scheme during the V Plan. While finalising the grant that may be payable to the University, provision may also be made for visiting faculty.

---

Item No. 11 : To consider the report of the Committee appointed by the Commission to review the working of the correspondence courses at the Meerut University.

The Commission accepted the suggestions and recommendations made by the Committee with regard to the correspondence courses at Meerut University and agreed to provide assistance for the following for consolidating the undergraduate correspondence courses :

- i) A Reader each in History, Economics, Political Science and Sociology.
- ii) Improvement of instructional materials. Rs. 39,000
- iii) Personal contact programmes Rs. 75,000
- iv) Study Centres Rs. 1,20,000

The above grants will be on condition that the University implements the UGC guidelines on correspondence course and the recommendations made by the Committee.

In this connection, the Commission desired that the universities be informed that the income from organisation of correspondence courses should be utilized by them for further development and improvement of correspondence courses. This income should not be utilised by the universities as a source of general revenue.

---

Item No. 12 : To consider the report of the Committee regarding utilisation of the amounts realised from Sale of Books and other materials produced under COSIP- University Leadership Projects.

The Commission accepted the recommendations made by the Committee with regard to utilization of the amount realised on the sale of books, equipment and other material produced under the COSIP-U.L.P. as indicated in Appendix IV.

Item No. 13 : To consider the minutes of the meeting of the Committee appointed to consider the recommendations made at the Joint meeting of the U.G.C. and the Standing Committee of the Association of Indian Universities regarding the rules to be framed to review the cases of retirement of employees of the Universities at the age of 50 and 55 as proposed by the Government of Orissa.

The Commission accepted the views expressed by the Committee with regard to reviewing the cases of retirement of employees of the Universities at the age of 50 and 55 years, as given below:

- "1. The Committee was not in favour of the suggestion that rules may be framed for reviewing the cases of retirement of the teachers at the age of 50 in the first instance and at the age of 55 for a second term.
2. However, in exceptional cases, if a teacher cannot function as he is expected to do, his case for premature retirement could be considered. It was agreed that in such cases it will not be only necessary to provide for the right of defence and appeal to appropriate authorities but also provision for giving terminal benefits to those who are compulsorily retired may also have to be provided for. The procedure to be prescribed should be such that there should not be any scope for victimisation. Such review committees should consist of academicians including experts from outside the State and the academic grounds on which premature retirement can be made, should be clearly laid down."

It was also desired that the views of the Committee as accepted by the Commission may be communicated to the Government of Orissa.

It was further suggested that the recommendation No.2 may also be referred to the Committee appointed to consider the code of conduct prepared by the Universities and the State Governments.

Item No. 14 : To consider the minutes of the Standing Committee on Computer Development meeting held on 12th March, 1976.

This was noted.

---

Item No. 15 : To consider a proposal received from Prof. S. Shukla, Professor of Education, Jamia Millia Islamia, New Delhi, regarding provision of travel grant to scholars for collecting research material from abroad.

The Commission considered the suggestions made by Prof. Shukla with regard to providing travel grant to scholars for collecting research material from Nepal and Ceylon and agreed that in specific cases where such visits to immediate neighbouring countries were considered essential in the interest of research work, an additional contingent grant may be given to the scholar to enable the scholar to visit the country/ countries concerned.

---

Item No. 16 : To consider further the question of number of answer books, expected to be examined by the teachers.

It was agreed that normally no teacher may be expected to evaluate more than 300 scripts for undergraduate students and 150 scripts of postgraduate students at the annual or the semester examination. The same norms may be prescribed for examination of the scripts in respect of correspondence course and private candidates.

As regards the practical examination for private candidates, the Commission desired that further details may be obtained and the matter brought up before the Commission.

---

Item No. 17 : To consider further a note on the implementation of the scheme for development of undergraduate education in colleges.

This was withdrawn.

---

Item No. 18 : To consider the revised Fifth Plan development proposals of Meerut University.

The Chairman reported that he had further discussed this with the Vice-Chancellor, Meerut University. The University has accepted the concept of Schools of Physical Sciences and Life Sciences for which it is necessary to set up the Department of Zoology, as suggested by the Visiting Committee, as part of the School of Life Sciences.

The University is also agreeable to continue post-graduate courses in Mathematics, Psychology, Sociology, etc., and to provide specialised and innovative courses at the postgraduate stage.

The Chairman was authorised to finalise in consultation with the Vice-Chancellor the schemes to be accepted for implementation in the V Plan.

---

Item No. 19 : To consider the proposal of the Aligarh Muslim University for additional staff for library.

The Commission considered the proposal of the Aligarh Muslim University for additional staff for the Library and agreed that pending the detailed examination of the proposal with the help of a committee, the University may be assisted to provide for a post of a Deputy Librarian and 3 Assistant Librarians.

---

Item No. 20 : To consider the proposal of the Nagpur University for a grant on the occasion of its Golden Jubilee.

The Commission agreed to provide a grant of Rs.10 lakhs to the Nagpur University on the occasion of its Golden Jubilee celebration. It was noted that the Maharashtra Government had agreed to make available a grant of Rs.20 lakhs to the University on this occasion. It was further noted that a total grant of Rs.30 lakhs thus available would be utilised by the University for setting up the Department of Cellulose Technology, Department of Microbiology, Department of Statistics and introduction of Elective Postgraduate course at the M.Sc. level in Geology or Applied Geology and also for construction of "Suvarna Mahotsva Bhavan".

---

Item No. 21 : To consider the proposal of the Poona University (Deccan College Postgraduate and Research Institute) for further excavations at Inamgaon and Somnath.

The Commission accepted the proposal of the Deccan College Post-graduate & Research Institute (Poona University) for further excavations at Inamgaon and agreed to provide a grant of Rs.60,000 per annum for a period of five years. The Commission further desired that the Deccan College be requested to ensure that the reports of the work already done are published at an early date.

---

Item No. 22 : To consider further the proposal of the Utkal University for Change in the Specialisations for the post of Readers approved for the Fifth Plan period.

Consideration of this item was postponed to the next meeting, since information from the Vice-Chancellor, Utkal University, was still awaited.

---

Item No. 23 : To consider the proposal of Kohima Science College, Kohima, for financial assistance under Rs.5.00 lakh scheme in relaxation of eligibility condition of minimum enrolment in degree classes.

The Commission, as a very special case, agreed that the Kohima Science College, Kohima, may be assisted for purchase of books and equipment as given below by waiving the minimum enrolment condition prescribed for the purpose.

			<u>Commission's share</u>
Library books	Rs. 1 lakh		75,000
Equipment	Rs. 1.6 lakhs		1,20,000

---

Item No.24: To consider certain establishment matters of the University Grants Commission.

Applicability of the provisions of Fundamental Rule 56 in so far as these relate to review of cases of Government servants attaining the age of 50/55 years or completing 30 years of service to the employees of the University Grants Commission.

The Commission considered the references received from the Ministry of Education & Social Welfare and decided that the provisions of Fundamental Rule 56 in so far as these related to the review of cases of government servants attaining the age of 50/55 years or completing 30 years of service as well as the orders issued by the Government of India in this regard from time to time may also be made applicable to the employees of the University Grants Commission.

---  
Item No. 25 : 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 August 23, 1976 in Delhi.

---  
Item No. 26 : To consider further the Scheme of appointment of Professor of Eminence in Universities.

The Commission considered the views of the Jawaharlal Nehru University regarding the scheme of appointment of Professor of Eminence in universities but regretted that it could not accept the suggestions made by the University. In this connection it was noted that it was open to any university, to refrain from suggesting any names for consideration under this scheme.

---  
Item No. 27 : To consider the recommendations of the Committee appointed by the University Grants Commission to examine the proposal of Punjabi University, Patiala, for the continuation of Scholarships for post-M.Sc./B.E. Diploma Courses in Electronics & Television Engineering & Space Sciences.

The Commission desired that the recommendations of the Committee may be examined further in the light of observations made by the committee and necessary action taken.

Item No. 28 : To consider a proposal on Teachers Training Programme in English.

The Commission accepted in principle the suggestion made by the C.I.E.F.L., Hyderabad, to collaborate with other universities for organising teachers training programme in English language. It was further agreed that the details of the requirement for implementation of this scheme may be worked out with the help of a committee and brought before the Commission.

---

Item No. 29: To consider the proposal of the department of Ancient History, Culture and Archaeology of the Allahabad University for participation in the Programme of Centres of Advanced Study/Departments of Special Assistance.

..... The Commission considered the recommendations of the committee to assist the Department of Ancient History, Culture and Archaeology of the Allahabad University under the scheme of Special Assistance to selected Departments and desired that the Department may be provided support under the Scheme of Departmental Support in the first instance subject to the University accepting the following conditions :

- (1) The Commission's assistance will be made available only after the syllabi at the undergraduate and postgraduate levels are revised keeping in view the guidelines provided by the Commission's panel on History in this regard.
- (2) The Commission's support may be provided only if the University agrees to drastically reduce the enrolment at both the undergraduate and postgraduate levels so that the teacher-pupil ratio which is 1:101 is improved considerably.

Specific items for which assistance may be provided to the Department may be determined after the University accepts the suggestions made above. The question of participation of the Department in the Special Assistance Programme will be considered later.

---

Item No. 30 : To consider the proposal of the Department of History of the M.S. University of Baroda for participation in the programme of Centres of Advanced Study/Departments of Special Assistance.

The Commission desired that the Department of History, M.S. University of Baroda, may be provided support under the Scheme of Departmental Support in the first instance and the question of its participation in the Programme of Special Assistance to selected Departments may be considered later. The specific items for which assistance may be provided to the University may be accordingly determined.

---

Item No. 31 : To consider the proposal of the Psychology Department of the Utkal University for participation in the programme of Centres of Advanced Study/Departments of Special Assistance.

The Commission considered the proposal of the Department of Psychology, Utkal University, for participation in the programme of CAS/DSA and agreed to provide assistance to the Department under the scheme of Special Assistance to selected Departments as given in the Appendix V.

---

Item No. 32 : To consider the report of the Fifth Plan Visiting Committee for the University of Jabalpur.

The Commission considered the report of the V Plan visiting committee for the University of Jabalpur and agreed to provide grants as given in the Appendix VI. It was further agreed that the University would be advised not to start any new department unless it is in a position to provide full complement of staff which has been recommended by the visiting committee. In this connection, it was suggested that the University and the State Government be requested to determine early the exact nature of the relationship and coordination between the university departments and the Government Arts & Science College located in the vicinity of the University.

---

Item No. 33 : To consider the recommendations of the Committee for the development of the Postgraduate Centre, Goa, in Fifth Plan.

The Commission generally accepted the recommendations of the Committee for the development of the Post-graduate Centre, Goa, during V Plan and agreed to provide grants as given in the Appendix VII.

In this connection, the Commission desired that a committee be appointed to work out the details for providing facilities for studies in Marine Sciences in Goa in collaboration with the National Institute of Oceanography, Goa.

---

Item No. 34 : To consider further the report of the Committee appointed by the Commission to examine the proposal of Andhra University for the organisation of a course in Space Science and Research.

The Commission accepted the report of the committee appointed to examine the proposal of the Andhra University for the organisation of a course in Space Sciences and Technology, keeping in view the consultations made with the Indian Space Organisation. The Commission further desired that the Physics Department of Andhra University, which would have a major responsibility in organisation of this course, may coordinate the programme in consultation with other participating departments in the University and Indian Space Research Organisation.

The Commission further agreed to provide the following assistance to the University for this purpose for a period of three years in the first instance after which the Commission may review the position.

I. Non-Recurring:

a) Additional Lab. equipment	Rs. 1,00,000
b) Development of fabrication of equipment in the areas of Rocket Pay Loads and Telemetry.	Rs. 1,00,000
c) Two additional rooms at Field Station.	Rs. 30,000
Total:	<u>Rs. 2,30,000</u>

II. Recurring

a) TA/DA for students and staff for travel.	Rs. 10,000 p.a.
b) Materials for Student Projects	Rs. 5,000 p.a.
c) Contingencies	Rs. 5,000 p.a.
d) 10 Studentships @ Rs.250/-p.m. for 12 months.	Rs. 30,000 p.a.
e) Guest Lectures.	Rs. 5,000 p.a.
	<u>Rs. 55,000 p.a.</u>

Staff

f) 2 Readers, 1 Lecturer, 1 Electronics Engineer and 1 Electronics Technician.

The appointment of staff however should be made on a permanent basis on the usual sharing basis and the University be requested to take over the expenditure on the staff after the assistance from the Commission ceases for this purpose.

---

Item No. 35 : To consider the report of the Review Committee appointed by the Gujarat University for the Survey of Facilities and organisation of Post-graduate teaching in its affiliated colleges.

This was noted. It was noted that the Gujarat University had accepted the recommendations of the review committee with regard to organisation of postgraduate studies in the colleges of Gujarat University and accordingly most of the postgraduate classes will be discontinued w.e.f. 1976-77 in the "postgraduate centres" located in the affiliated colleges. The Commission however felt that the assets created out of the grants given to the colleges by the University Grants Commission in the earlier years for the postgraduate courses may be retained by the colleges concerned and used for improvement of teaching and research programmes.

---

Item No. 36 : To consider the recommendations of the Standing Advisory Committee for Centres of Advanced Study in the Humanities and Social Sciences in regard to selection of university departments to which visiting committees may be sent to ascertain their suitability for participation in the CAS Programme.

The Commission accepted the recommendations of the CAS/DSA Advisory Committee that visiting committees may be sent to the following departments for assessing their suitability for participation in the Programme of Special Assistance to Selected Departments:

Psychology	- Allahabad	History	- Delhi
Sociology	- Panjab	Economics	- Andhra, Calcutta
Anthropology	- Ranchi		and Punjabi
Philosophy	- Rajasthan & Jadavpur.	Linguistics	- Osmania

The Commission desired that similar action may be taken in respect of departments suggested by Science Panels in consultation with the Standing Committee on CAS/DSA in Science subjects and brought up before the Commission.

R.K. Chhabra  
Secretary

Satish Chandra  
Chairman

Appendix III to Item No. 6

BANARAS HINDU UNIVERSITY

Approved allocation Fifth Plan Period

a) Ist Charge

Spill over	-	Rs. 24,98,560	Annexure I
Basic Grants	-	Rs. 12,50,000	Annexure III
Schemes already approved	-	Rs. 17,84,900	Annexure III

b) New Allocations:

Books	-	Rs. 14,40,000	Annexure IV
Equipment	-	Rs. 25,50,000	Annexure IV
Building	-	Rs. 36,65,000	Annexure V
Miscellaneous	-	Rs. 5,65,000	Annexure VI

c) Recurring

i) Addl. Staff Prof. 14, Readers 29 Annexure VII  
Lecturers 32 and others 44

ii) 40 Junior Research Fellowships.

- a) 10 Fellowships may be reserved for candidates belonging to scheduled Castes, scheduled tribes.
- b) 10 Fellowships reserved for candidates belonging to backward and weaker sections of society, students from border States such as Manipur, Nagaland and other backward and under developed States of the country.
- c) 20 fellowships to be awarded on all India basis, at least 50% of which are awarded to candidates belonging to universities in the States other than U.P.

---.---.---

\*SLK\*

Annexure I

UNIVERSITY GRANTS COMMISSION

Schemes approved during the Fourth Plan Period or earlier and which are required to be completed during the Fifth Plan period and including the grants released for the purpose subsequent to 31.3.1974 by the University Grants Commission.

.....

BANARAS HINDU UNIVERSITY

S.No.	Scheme/Department	Amount payable as on 1.4.1974 Rs.	Reference U.G.C. letter No. & date
1	2	3	4
<u>STAFF</u>			
1.	12 Million Dollar Loan Programme	36,904.20	F.22-1/73(Sc.I)/D2-a)
2.	Field Training work in Geology	7,788.23	F.31-16/66(S) dated 5.9.1966.
3.	Mahila Mahavidyalaya(Humanities)	14,487.80	F.1-3/70(H-I/D2-a)
4.	Faculty of Law	1,706.64	F.1-3/70(H-I/D2-a)
5.	Historical Grammar of Hindi Language	960.96	F.1-7/65(H-I/D2-a)
6.	General Education	35,536.67	F.68-6/61(C) dated 7.1.1965.
7.	Introduction of Diploma Course in Journalism	29,872.72	F.6-3/72(H-I/D-2-a)
8.	Bharat Kala Bhavan	2,009.21	F.1-9/63(H-I/D-2(a)
9.	Employment of Training Coaches	18,064.79	F.6-17/70(SA-I/D-2(a)
10.	Evening College	13,520.90	F.46-8/71(HL)/D2-a)
11.	Development Officer	292.47	F.20-1/69(CD/D-2(a)
12.	Faculty of Education	4,53,291.00	F.25-2/70(H-II/TE/ D-2(a) F.3-11/75(D-2(a)
Total -		<u>6,11,441.59</u>	

Appendix III to Item No. 6

BANARAS HINDU UNIVERSITY

Approved allocation Fifth Plan Period

a) Ist Charge

Spill over	-	Rs. 24,98,560	Annexure I
Basic Grants	-	Rs. 12,50,000	Annexure II
Schemes already approved	-	Rs. 17,84,900	Annexure III

b) New Allocations:

Books	-	Rs. 14,40,000	Annexure IV
Equipment	-	Rs. 25,50,000	Annexure IV
Building	-	Rs. 36,65,000	Annexure V
Miscellaneous	-	Rs. 5,65,000	Annexure VI

c) Recurring

i) <u>Addl. Staff</u>	Prof. 14, Readers 29 Lecturers 32 and others 44	Annexure VII
-----------------------	--	--------------

ii) 40 Junior Research Fellowships.

- a) 10 Fellowships may be reserved for candidates belonging to scheduled Castes, scheduled tribes.
- b) 10 Fellowships reserved for candidates belonging to backward and weaker sections of society, students from border States such as Manipur, Nagaland and other backward and under developed States of the country.
- c) 20 fellowships to be awarded on all India basis, at least 50% of which are awarded to candidates belonging to universities in the States other than U.P.

---.---.---

Annexure I

UNIVERSITY GRANTS COMMISSION

Schemes approved during the Fourth Plan Period or earlier and which are required to be completed during the Fifth Plan period and including the grants released for the purpose subsequent to 31.3.1974 by the University Grants Commission.

.....

BANARAS HINDU UNIVERSITY

S.No.	Scheme/Department	Amount payable as on 1.4.1974 Rs.	Reference U.G.C. letter No. & date
1	2	3	4
<u>STAFF</u>			
1.	12 Million Dollar Loan Programme	36,904.20	F.22-1/73(Sc.I)/D2-a)
2.	Field Training work in Geology	7,788.23	F.31-16/66(S) dated 5.9.1966.
3.	Mahila Mahavidyalaya(Humanities)	14,487.80	F.1-3/70(H-I/D2-a)
4.	Faculty of Law	1,706.64	F.1-3/70(H-I/D2-a)
5.	Historical Grammer of Hindi Language	960.96	F.1-7/65(H-I/D2-a)
6.	General Education	35,536.67	F.68-6/61(C) dated 7.1.1965.
7.	Introduction of Diploma Course in Journalism	29,872.72	F.6-3/72(H-I/D-2-a)
8.	Bharat Kala Bhavan	2,009.21	F.1-9/63(H-I/D-2(a)
9.	Employment of Training Coaches	18,064.79	F.6-17/70(SA-I/D-2(a)
10.	Evening College	13,520.90	F.46-8/71(HL)/D2-a)
11.	Development Officer	292.47	F.20-1/69(CD/D-2(a)
12.	Faculty of Education	4,50,291.00	F.25-2/70(H-II/TE/ D-2(a) F.3-11/75(D-2(a)
Total -		<u>6,11,441.59</u>	

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
<u>II BUILDING</u>				
13. Physics		60,000.00		F. 21-6/71(Sc.I/D2(a)
14. Geology		1,128.64		F. 21-1/68(Sc.I/D2(a)
15. Psychology		30,000.00		F. 6-2/72(H-I/D2(a)
16. Law		1,91,150.00		F. 1-2/69(H-I/D2(a)
17. Vocal Music/Instrumental Music/Musicology		5,025.43		F. 32-3/65(H/D2(a)
18. Mahila Mahavidyalaya		2,345.67		F. 21-17/63(Sc.I/D2(a) F. 6-3/64(H-1/D-2(a)
19. International House		7,169.37		F. 51-38/59(CU-I/D2(a)
20. 212 Seated Hostel including 2 Warden Quarters		47,000.00		F. 61-9/70(CU-I/D2(a)
21. 48 Teachers Hostel		7,90,000.00		F. 33-5/72(CU-I/D2(a)
22. Non- Teaching Staff Quarters				
a. 10 Quarters for Class IVth Staff.		67,500.00		F. 32-6/71(CU-I/D2(a)
b. 22 Quarters for Ministerial Staff		3,27,800.00		F. 31-3/71(CU-I/D2(a)
c. 4 Quarters for Supdt.		22,000.00		F. 31-2/71(CU-I/D2(a)
23. Hostel for 24 Postgraduate Students Faculty of Education		2,50,000.00		F. 25-2/70(H-II/TE/D-2(a)
24. US Million Dollar Loan Scheme Department of Botany				
a. Air Conditioned Room for Growth Chamber.		26,000.00		F. 22-1/73(Sc.I/D2(a)
b. Isotope Laboratory building Department of Zoology		50,000.00		F. 22-1/73(Sc.I/D2(a)
		<u>Total Rs. 18,77,110.11</u>		'B'

III Others

25. Furniture for Education Department.		10,000.00		F. 25-2/70(H-II/TE/D-2(a)
		<u>Total Rs. 10,000.00</u>		'C'

Grand Total (A+B+C = Rs. 24,98,560.70

Annexure II

University Grants Commission

Basic Grants approved to the Banaras Hindu University by the Commission in the beginning of the Fifth Plan for the purchase of (i) Scientific Equipment, and (ii) Books and Journals.

-----

<u>Purpose</u>	<u>Amount</u>	<u>UGC Reference</u>
Basic Grant for the purchase of		
a) Scientific equipment	7,50,000	F.3-3/74(D2a)
b) Books and Journals	5,00,000	F.3-2/74(D2a)
Total	----- 12,50,000 -----	

-----

\*SLK\*

Appendix III to Item No. 6

BANARAS HINDU UNIVERSITY

Approved allocation Fifth Plan Period

a) Ist Charge

Spill over	-	Rs. 24,98,560	Annexure I
Basic Grants	-	Rs. 12,50,000	Annexure II
Schemes already approved	-	Rs. 17,84,900	Annexure III

b) New Allocations:

Books	-	Rs. 14,40,000	Annexure IV
Equipment	-	Rs. 25,50,000	Annexure IV
Building	-	Rs. 36,65,000	Annexure V
Miscellaneous	-	Rs. 5,65,000	Annexure VI

c) Recurring

i) Addl. Staff Prof. 14, Readers 29 Annexure VII  
Lecturers 32 and others 44

ii) 40 Junior Research Fellowships.

- 10 Fellowships may be reserved for candidates belonging to scheduled Castes, scheduled tribes.
- 10 Fellowships reserved for candidates belonging to backward and weaker sections of society, students from border States such as Manipur, Nagaland and other backward and under developed States of the country.
- 20 fellowships to be awarded on all India basis, at least 50% of which are awarded to candidates belonging to universities in the States other than U.P.

---.---.---

Item No. 10 : To consider the Report of the Visiting Committee appointed by the U.G.C. for assessing the proposal of the Cochin University for the introduction of an undergraduate course in Naval Architecture/Ship Technology during the Fifth Plan.

The Commission while accepting in principle the recommendations of the Visiting Committee which examined the proposals of the Cochin University for the introduction of an undergraduate course in Naval Architecture/Ship Technology desired that the report may be sent to the University and the State Government for their views with regard to specific suggestions made therein for implementing the scheme during the V Plan. While finalising the grant that may be payable to the University, provision may also be made for visiting faculty.

---

Item No. 11 : To consider the report of the Committee appointed by the Commission to review the working of the correspondence courses at the Meerut University.

The Commission accepted the suggestions and recommendations made by the Committee with regard to the correspondence courses at Meerut University and agreed to provide assistance for the following for consolidating the undergraduate correspondence courses :

- i) A Reader each in History, Economics, Political Science and Sociology.
- ii) Improvement of instructional materials. Rs. 39,000 .
- iii) Personal contact programmes Rs. 75,000
- iv) Study Centres Rs. 1,20,000

The above grants will be on condition that the University implements the UGC guidelines on correspondence course and the recommendations made by the Committee.

In this connection, the Commission desired that the universities be informed that the income from organisation of correspondence courses should be utilized by them for further development and improvement of correspondence courses. This income should not be utilised by the universities as a source of general revenue.

---

p.t.o.

Item No. 14 : To consider the minutes of the Standing Committee on Computer Development meeting held on 12th March, 1976.

This was noted.

---

Item No. 15 : To consider a proposal received from Prof. S. Shukla, Professor of Education, Jamia Millia Islamia, New Delhi, regarding provision of travel grant to scholars for collecting research material from abroad.

The Commission considered the suggestions made by Prof. Shukla with regard to providing travel grant to scholars for collecting research material from Nepal and Ceylon and agreed that in specific cases where such visits to immediate neighbouring countries were considered essential in the interest of research work, an additional contingent grant may be given to the scholar to enable the scholar to visit the country/ countries concerned.

---

Item No. 16 : To consider further the question of number of answer books, expected to be examined by the teachers.

It was agreed that normally no teacher may be expected to evaluate more than 300 scripts for undergraduate students and 150 scripts of postgraduate students at the annual or the semester examination. The same norms may be prescribed for examination of the scripts in respect of correspondence courses and private candidates.

As regards the practical examination for private candidates, the Commission desired that further details may be obtained and the matter brought up before the Commission.

---

Item No. 17 : To consider further a note on the implementation of the scheme for development of undergraduate education in colleges.

This was withdrawn.

---

Item No. 18 : To consider the revised Fifth Plan development proposals of Meerut University.

The Chairman reported that he had further discussed this with the Vice-Chancellor, Meerut University. The University has accepted the concept of Schools of Physical Sciences and Life Sciences for which it is necessary to set up the Department of Zoology, as suggested by the Visiting Committee, as part of the School of Life Sciences.

The University is also agreeable to continue post-graduate courses in Mathematics, Psychology, Sociology, etc., and to provide specialised and innovative courses at the postgraduate stage.

The Chairman was authorised to finalise in consultation with the Vice-Chancellor the schemes to be accepted for implementation in the V Plan.

---

Item No. 19 : To consider the proposal of the Aligarh Muslim University for additional staff for library.

The Commission considered the proposal of the Aligarh Muslim University for additional staff for the Library and agreed that pending the detailed examination of the proposal with the help of a committee, the University may be assisted to provide for a post of a Deputy Librarian and 3 Assistant Librarians.

---

Item No. 20 : To consider the proposal of the Nagpur University for a grant on the occasion of its Golden Jubilee.

The Commission agreed to provide a grant of Rs.10 lakhs to the Nagpur University on the occasion of its Golden Jubilee celebration. It was noted that the Maharashtra Government had agreed to make available a grant of Rs.20 lakhs to the University on this occasion. It was further noted that a total grant of Rs.30 lakhs thus available would be utilised by the University for setting up the Department of Cellulose Technology, Department of Microbiology, Department of Statistics and introduction of Elective Postgraduate course at the M.Sc. level in Geology or Applied Geology and also for construction of "Suvarna Mahotsva Bhavan".

---

Item No. 21 : To consider the proposal of the Poona University (Deccan College Postgraduate and Research Institute) for further excavations at Inamgaon and Somnath.

The Commission accepted the proposal of the Deccan College Post-graduate & Research Institute (Poona University) for further excavations at Inamgaon and agreed to provide a grant of Rs.60,000 per annum for a period of five years. The Commission further desired that the Deccan College be requested to ensure that the reports of the work already done are published at an early date.

---

Item No. 22 : To consider further the proposal of the Utkal University for Change in the Specialisations for the post of Readers approved for the Fifth Plan period.

Consideration of this item was postponed to the next meeting, since information from the Vice-Chancellor, Utkal University, was still awaited.

---

Item No. 23 : To consider the proposal of Kohima Science College, Kohima, for financial assistance under Rs.5.00 lakh scheme in relaxation of eligibility condition of minimum enrolment in degree classes.

The Commission, as a very special case, agreed that the Kohima Science College, Kohima, may be assisted for purchase of books and equipment as given below by waiving the minimum enrolment condition prescribed for the purpose.

		<u>Commission's share</u>
Library books	Rs. 1 lakh	75,000
Equipment	Rs. 1.6 lakhs	1,20,000

---

Item No.24: To consider certain establishment matters of the University Grants Commission.

Applicability of the provisions of Fundamental Rule 56 in so far as these relate to review of cases of Government servants attaining the age of 50/55 years or completing 30 years of service to the employees of the University Grants Commission.

The Commission considered the references received from the Ministry of Education & Social Welfare and decided that the provisions of Fundamental Rule 56 in so far as these related to the review of cases of government servants attaining the age of 50/55 years or completing 30 years of service as well as the orders issued by the Government of India in this regard from time to time may also be made applicable to the employees of the University Grants Commission.

---

Item No. 25 : 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 August 23, 1976 in Delhi.

---

Item No. 26 : To consider further the Scheme of appointment of Professor of Eminence in Universities.

The Commission considered the views of the Jawaharlal Nehru University regarding the scheme of appointment of Professor of Eminence in universities but regretted that it could not accept the suggestions made by the University. In this connection it was noted that it was open to any university, to refrain from suggesting any names for consideration under this scheme.

---

Item No. 27 : To consider the recommendations of the Committee appointed by the University Grants Commission to examine the proposal of Punjabi University, Patiala, for the continuation of Scholarships for post-M.Sc./B.E. Diploma Courses in Electronics & Television Engineering & Space Sciences.

The Commission desired that the recommendations of the Committee may be examined further in the light of observations made by the committee and necessary action taken.

----

Item No. 28 : To consider a proposal on Teachers Training Programme in English.

The Commission accepted in principle the suggestion made by the C.I.E.F.L., Hyderabad, to collaborate with other universities for organising teachers training programme in English language. It was further agreed that the details of the requirement for implementation of this scheme may be worked out with the help of a committee and brought before the Commission.

---

Item No. 29: To consider the proposal of the department of Ancient History, Culture and Archaeology of the Allahabad University for participation in the Programme of Centres of Advanced Study/Departments of Special Assistance.

The Commission considered the recommendations of the committee to assist the Department of Ancient History, Culture and Archaeology of the Allahabad University under the scheme of Special Assistance to selected Departments and desired that the Department may be provided support under the Scheme of Departmental Support in the first instance subject to the University accepting the following conditions :

- (1) The Commission's assistance will be made available only after the syllabi at the undergraduate and postgraduate levels are revised keeping in view the guidelines provided by the Commission's panel on History in this regard.
- (2) The Commission's support may be provided only if the University agrees to drastically reduce the enrolment at both the undergraduate and postgraduate levels so that the teacher-pupil ratio which is 1:101 is improved considerably.

Specific items for which assistance may be provided to the Department may be determined after the University accepts the suggestions made above. The question of participation of the Department in the Special Assistance Programme will be considered later.

---

Item No. 30 : To consider the proposal of the Department of History of the M.S. University of Baroda for participation in the programme of Centres of Advanced Study/Departments of Special Assistance.

The Commission desired that the Department of History, M.S. University of Baroda, may be provided support under the Scheme of Departmental Support in the first instance and the question of its participation in the Programme of Special Assistance to selected Departments may be considered later. The specific items for which assistance may be provided to the University may be accordingly determined.

Item No. 31 : To consider the proposal of the Psychology Department of the Utkal University for participation in the programme of Centres of Advanced Study/Departments of Special Assistance.

The Commission considered the proposal of the Department of Psychology, Utkal University, for participation in the programme of CAS/DSA and agreed to provide assistance to the Department under the scheme of Special Assistance to selected Departments as given in the Appendix V.

Item No. 32 : To consider the report of the Fifth Plan Visiting Committee for the University of Jabalpur.

The Commission considered the report of the V Plan visiting committee for the University of Jabalpur and agreed to provide grants as given in the Appendix VI. It was further agreed that the University would be advised not to start any new department unless it is in a position to provide full complement of staff which has been recommended by the visiting committee. In this connection, it was suggested that the University and the State Government be requested to determine early the exact nature of the relationship and coordination between the university departments and the Government Arts & Science College located in the vicinity of the University.

Item No. 33 : To consider the recommendations of the Committee for the development of the Postgraduate Centre, Goa, in Fifth Plan.

The Commission generally accepted the recommendations of the Committee for the development of the Post-graduate Centre, Goa, during V Plan and agreed to provide grants as given in the Appendix VII.

In this connection, the Commission desired that a committee be appointed to work out the details for providing facilities for studies in Marine Sciences in Goa in collaboration with the National Institute of Oceanography, Goa.

---

Item No. 34 : To consider further the report of the Committee appointed by the Commission to examine the proposal of Andhra University for the organisation of a course in Space Science and Research.

The Commission accepted the report of the committee appointed to examine the proposal of the Andhra University for the organisation of a course in Space Sciences and Technology, keeping in view the consultations made with the Indian Space Organisation. The Commission further desired that the Physics Department of Andhra University, which would have a major responsibility in organisation of this course, may coordinate the programme in consultation with other participating departments in the University and Indian Space Research Organisation.

The Commission further agreed to provide the following assistance to the University for this purpose for a period of three years in the first instance after which the Commission may review the position.

I. Non-Recurring:

a) Additional Lab. equipment	Rs.1,00,000
b) Development of fabrication of equipment in the areas of Rocket Pay Loads and Telemetry.	Rs.1,00,000
c) Two additional rooms at Field Station.	Rs. 30,000
	<u>Rs.2,30,000</u>
Total:	

II. Recurring

a) TA/DA for students and staff for travel.	Rs. 10,000 p.a.
b) Materials for Student Projects	Rs. 5,000 p.a.
c) Contingencies	Rs. 5,000 p.a.
d) 10 Studentships @ Rs.250/-p.m. for 12 months.	Rs. 30,000 p.a.
e) Guest Lectures.	Rs. 5,000 p.a.
	<u>Rs. 55,000 p.a.</u>

Staff

- f) 2 Readers, 1 Lecturer, 1 Electronics Engineer and 1 Electronics Technician.

The appointment of staff however should be made on a permanent basis on the usual sharing basis and the University be requested to take over the expenditure on the staff after the assistance from the Commission ceases for this purpose.

---

Item No. 35 : To consider the report of the Review Committee appointed by the Gujarat University for the Survey of Facilities and organisation of Post-graduate teaching in its affiliated colleges.

This was noted. It was noted that the Gujarat University had accepted the recommendations of the review committee with regard to organisation of postgraduate studies in the colleges of Gujarat University and accordingly most of the postgraduate classes will be discontinued w.e.f. 1976-77 in the "postgraduate centres" located in the affiliated colleges. The Commission however felt that the assets created out of the grants given to the colleges by the University Grants Commission in the earlier years for the postgraduate courses may be retained by the colleges concerned and used for improvement of teaching and research programmes.

---

Item No. 36 : To consider the recommendations of the Standing Advisory Committee for Centres of Advanced Study in the Humanities and Social Sciences in regard to selection of university departments to which visiting committees may be sent to ascertain their suitability for participation in the CAS Programme.

The Commission accepted the recommendations of the CAS/DSA Advisory Committee that visiting committees may be sent to the following departments for assessing their suitability for participation in the Programme of Special Assistance to Selected Departments:

Psychology	- Allahabad	History	- Delhi
Sociology	- Panjab	Economics	- Andhra, Calcutta and Punjabi
Anthropology	- Ranchi	Linguistics	- Osmania
Philosophy	- Rajasthan & Jadavpur.		

The Commission desired that similar action may be taken in respect of departments suggested by Science Panels in consultation with the Standing Committee on CAS/DSA in Science subjects and brought up before the Commission.

R.K. Chhabra  
Secretary

Satish Chandra  
Chairman

Annexure I

UNIVERSITY GRANTS COMMISSION

Schemes approved during the Fourth Plan Period or earlier and which are required to be completed during the Fifth Plan period and including the grants released for the purpose subsequent to 31.3.1974 by the University Grants Commission.

.....

BANARAS HINDU UNIVERSITY

S.No	Scheme/Department	Amount payable as on 1.4.1974 Rs.	Reference letter No. & date	U.G.C.
1	2	3	4	5
<u>STAFF</u>				
1.	12 Million Dollar Loan Programme	36,904.20	F.22-1/73(Sc.I)/D2-a)	
2.	Field Training work in Geology	7,788.23	F.31-16/66(S) dated 5.9.1966.	
3.	Mahila Mahavidyalaya(Humanities)	14,487.80	F.1-3/70(H-I/D2-a)	
4.	Faculty of Law	1,706.64	F.1-3/70(H-I/D2-a)	
5.	Historical Grammer of Hindi Language	960.96	F.1-7/65(H-I/D2-a)	
6.	General Education	35,536.67	F.68-6/61(C) dated 7.1.1965.	
7.	Introduction of Diploma Course in Journalism	29,872.72	F.6-3/72(H-I/D-2-a)	
8.	Bharat Kala Bhavan	2,009.21	F.1-9/63(H-I/D-2(a)	
9.	Employment of Training Coaches	18,064.79	F.6-17/70(SA-I/D-2(a)	
10.	Evening College	13,520.90	F.46-8/71(HL)/D2-a)	
11.	Develpement Officer	292.47	F.20-1/69(CD/D-2(a)	
12.	Faculty of Education	4,50,291.00	F.25-2/70(H-II/TE/ D-2(a) F.3-11/75(D-2(a)	
Total -		<u>6,11,441.59</u>		

Appendix III to Item No. 6

BANARAS HINDU UNIVERSITY

Approved allocation Fifth Plan Period

a) Ist Charge

Spill over	-	Rs. 24,98,560	Annexure I
Basic Grants	-	Rs. 12,50,000	Annexure II
Schemes already approved	-	Rs. 17,84,900	Annexure III

b) New Allocations:

Books	-	Rs. 14,40,000	Annexure IV
Equipment	-	Rs. 25,50,000	Annexure IV
Building	-	Rs. 36,65,000	Annexure V
Miscellaneous	-	Rs. 5,65,000	Annexure VI

c) Recurring

i) Addl. Staff Prof. 14, Readers 29 Annexure VII  
Lecturers 32 and others 44

ii) 40 Junior Research Fellowships.

- a) 10 Fellowships may be reserved for candidates belonging to scheduled Castes, scheduled tribes.
- b) 10 Fellowships reserved for candidates belonging to backward and weaker sections of society, students from border States such as Manipur, Nagaland and other backward and under developed States of the country.
- c) 20 fellowships to be awarded on all India basis, at least 50% of which are awarded to candidates belonging to universities in the States other than U.P.

---.---.---

-----

1	2	3	4
---	---	---	---

-----

II BUILDING

13.	Physics	60,000.00	F. 21-6/71 (Sc. I/D2 (a))
14.	Geology	1,128.64	F. 21-1/68 (Sc. I/D2 (a))
15.	Psychology	30,000.00	F. 6-2/72 (H-I/D2 (a))
16.	Law	1,91,150.00	F. 1-2/69 (H-I/D2 (a))
17.	Vocal Music/Instrumental Music/Musicology	5,025.43	F. 32-3/65 (H/D2 (a))
18.	Mahila Mahavidyalaya	2,345.67	F. 21-17/63 (Sc. I/D2 (a)) F. 6-3/64 (H-1/D-2 (a))
19.	International House	7,169.37	F. 51-38/59 (HCU-I/D2 (a))
20.	212 Seated Hostel including 2 Warden Quarters	47,000.00	F. 61-9/70 (CU-I/D2 (a))
21.	48 Teachers Hostel	7,90,000.00	F. 33-5/72 (CU-I/D2 (a))
22.	Non- Teaching Staff Quarters		
a.	10 Quarters for Class IVth Staff	67,500.00	F. 32-6/71 (CU-I/D2 (a))
b.	22 Quarters for Ministerial Staff	3,27,800.00	F. 31-3/71 (CU-I/D2 (a))
c.	4 Quarters for Supdt.	22,000.00	F. 31-2/71 (CU-I/D2 (a))
23.	Hostel for 24 Postgraduate Students Faculty of Education	2,50,000.00	F. 25-2/70 (H-II/TE/D-2 (a))
24.	US Million Dollar Loan Scheme Department of Botany		
a.	Air Conditioned Room for Growth Chamber.	26,000.00	F. 22-1/73 (Sc. I/D2 (a))
b.	Isotope Laboratory building Department of Zoology	50,000.00	F. 22-1/73 (Sc. I/D2 (a))

-----

Total Rs. 18,77,110.11

'B'

III Others

25.	Furniture for Education Department.	10,000.00	F. 25-2/70 (H-II/TE/D-2 (a))
	Total Rs.	10,000.00	

'C'

Grand Total (A+B+C = Rs. 24,98,560.70)

-----

Annexure II

University Grants Commission

Basic Grants approved to the Banaras Hindu University by the Commission in the beginning of the Fifth Plan for the purchase of (i) Scientific Equipment, and (ii) Books and Journals.

.....

<u>Purpose</u>	<u>Amount</u>	<u>UGC Reference</u>
Basic Grant for the purchase of		
a) Scientific equipment	7,50,000	F.3-3/74(D2a)
b) Books and Journals	5,00,000	F.3-2/74(D2a)
Total	<u>12,50,000</u>	

-----

\*SLK\*

Annexure . III

UNIVERSITY GRANTS COMMISSION

Other Schemes accepted by the Commission on the condition that the expenditure thereon would be a Charge on the Fifth Plan Allocation likely to be made to the Banaras Hindu University.

.....

S.No.	Purpose/Scheme	Amount sanctioned	UGC letter No. and Date.
1	2	3	4
<b>I. <u>NON-RECURRING</u></b>			
1.	Purchase of Mass Spectrometer etc. for setting up Central Instrumentation Service Laboratory.	13,00,000.00	F-3-65/66(I) dated 28.2.1974 F-3-3/75(D-2(a)) dated 26.3.1975.
<b>II. <u>RECURRING</u></b>			
2.	Strengthening of Departmental Libraries & Reorganisation of the Manuscript Section.		
	a) Professional Junior (Rs.400-950)-1 Rs. 40,000/-		
	b) Semi-Professional (Rs.130-280)-1 Rs.24,000/-	64,000.00	F.1-4/71(H-1/D-2(a))
3.	Scholarship for students of Faculty of Oriental Learning & Theology 20 stipends @ Rs.50/- p.m. each & 2 Research Scholarship @ Rs. 200/- p.m. for academic year 1974-75 & 1975-76.	25,000.00	F.3-1/75(D-2a)
4.	Scholarship for students of Faculty of Education Scholarship @ Rs. 100/- p.m. each to 20% students for academic year 1974-75 & 1975-76.	60,000.00	F.1-3/70(H-1/D2(a)) F.3-12/75(D2(a))
<b><u>RESEARCH SCHEMES</u></b>			
	Centre for Study of State Govt. in the Political Science Department for 1974-75 and 1975-76 only	50,000.00	F.1-3/70(H-I/D-2(a)) F.3-8/75(D-2(a))

1	2	3	4
6.	Reproduction Biology under Prof. JP Thapliyal, Deptt. , of Zoology for 1974-75 and 1975-76	50,000.00	F. 1-3/70(H-I/D) F. 3-9/75(D-2(a
7.	Reproduction Biology under Dr. J. Sharma, Deptt., of Zoology for 1974-75 & 1975-76	50,000.00	F. 1-3/70(H-I/D) F. 3-10/75(D-2(a
8.	Assistant Registrar		
	(a) Examination- 1	} 80,000.00	
	(b) Civil Supplies & Student Amenities- 1		
9.	Publication of Historical Grammar of Hindi Language.	105,900.00	
Total -		17,84,900.00	

\*SLK\*

BANARAS HINDU UNIVERSITYAnnexure -IV

Allocation for Fifth Plan period for  
Equipment and Books & Journals as accepted  
by the Commission.

(RUPEES IN LAKHS)

S. No.	Department	Books & Journals (100%)	Equipment (100%)
1.	2.	3.	4.
1.	Ancient Indian History Cul. & Arch.	0.20	0.30
2.	Art & Architecture	0.10	0.20
3.	Philosophy	0.10	-
4.	Hindi	0.15	-
5.	Indian Languages	0.05	-
6.	Urdu	0.10	0.05
7.	Bengali	0.05	-
8.	English	0.15	-
9.	Foreign Language	0.10	-
10.	Sanskrit & Pali	0.10	-
11.	Arabic	0.05	-
12.	Persian	0.05	-
13.	School of Languages	-	0.60
14.	Library & Information Science	0.10	-
15.	Physical Education	-	0.10
16.	Bharat Kala Bhavan	0.10	0.50
17.	Journalism & Mass Communication	0.30	0.80
18.	Economics	0.40	0.05
19.	History	0.30	-
20.	Political Science	0.30	-
21.	Psychology	0.30	0.70
22.	Sociology	0.30	0.05
23.	Physics & Spectroscopy	1.00	3.00
24.	Chemistry	1.00	4.00
25.	Botany	1.00	3.00
26.	Zoology	1.00	3.00
27.	Geology	0.50	2.00
28.	Geography	0.50	1.00
29.	Geophysics		
	a) Applied Geophysics	-	1.50
	b) Meteorology	-	1.00
	c) Common facilities	0.60	0.50
30.	Mathematics and Statistics	0.50	0.80
31.	Centre for Life Sc. (Conditional)	0.50	-
32.	Central Instrumentation Laboratories.	-	-

1	2	3	4
33.	Faculty of Oriental Learning and Theology	0.20	0.10
34.	Faculty of Music & Fine Arts.	0.10	0.30
35.	Faculty of Commerce	0.30	0.05
36.	Law	1.00	-
37.	Education	0.30	0.40
38.	Mahila Mahavidyalaya	0.50	1.50
39.	Evening College	0.10	-
40.	Central Library	2.00	-
41.	Univ. Press	-	-
	Total:	<u>14.40</u>	<u>25.50</u>

Annexure -V

BANARAS HINDU UNIVERSITY

BUILDING CONSTRUCTION APPROVED - FIFTH PLAN PERIOD

S. No.	Department	Amount (Rs. in lakhs)
1.	Art & Architecture	0.70
2.	School of Languages	0.50
3.	Bharat Kala Bhavan	0.10
4.	Faculty of Social Science	4.00
5.	Chemistry	0.70
6.	Zoology	1.00
		0.50
7.	Geology	2.50
8.	Geography	1.00
9.	Geophysics	0.25
10.	Mathematics and Statistics	1.00
11.	Centre for Life Science (Conditional)	-
12.	Faculty of Music and Fine Arts	1.00
13.	Education	2.00
14.	Mahila Mahavidyalaya	2.00
		0.40
15.	Central Library	9.00
16.	Hostel for students	
	i) For men students	4.00
	ii) For Women students	2.00
17.	Teachers quarters	4.00
18.	Auditorium	-
	Total:	<u>36.65</u>

p.t.o.

Annexure -VI

BANARAS HINDU UNIVERSITY

ALLOCATION FOR OTHER MISCELLANEOUS PROJECTS  
APPROVED FOR FIFTH PLAN PERIOD

S. No.	Department	Rs. in lakhs	
1.	Art & Architecture	0.05	Field Trg.
2.	Philosophy	0.20	Publication
3.	School of Languages	0.10	Contingencies
4.	Bharat Kala Bhavan	0.20	Publication
5.	Botany	0.15	Field Trip
		0.75	Fabrication and Air-Conditioning
6.	Geology	0.80	Field Work
7.	Geography	0.20	Field Work
8.	Geophysics a) Applied		
	Geophysics	0.75	Field Work
	b) Meteorology	0.50	Field Work
9.	Mathematics and Statistics	0.15	Field Work
10.	Centre for Life Sc. (Conditional)	0.50	(Demographic Lab. Grant)
11.	Central Instrumentation Laboratories	0.30	
12.	Faculty of Oriental Learning & Theology.	1.00	(Publication of Rare Texts)
	Total:	<u>5.65</u>	

----

UNIVERSITY GRANTS COMMISSION

Annexure VII

BANARAS HINDU UNIVERSITY

Additional Staff approved- Fifth Five Year Plan Period

<u>S.No.</u>	<u>Department</u>	<u>Staff</u>	<u>Specialisation</u>
1.	Ancient Indian History, Culture and Archaeology	2 Readers	Pre-history, Numismatics, Epigraphy
2.	Art & Architecture	1 Reader 2 Lecturer	Iconography/Western art history General Art History -1 Eastern Art - 1
3.	Philosophy	1 Reader	Modern symbolic logic/ Navyanayaya
4.	Hindi	1 Reader 1 Stenotypist	Linguistics/Language Teach- ing Hindi
5.	Urdu	1 Professor 1 Typist	-
6.	English	1 Professor	Contemporary literature
7.	Sanskrit & Pali	1 Reader	
8.	Arabic	1 Lecturer	Modern Arabic
9.	Persian	1 Lecturer	Modern Persian
10.	School of Languages	1 Professor 1. Tech.Asstt. 3 Stenotypist 2 Gestetner Operator 1 Lab. Attendant	Linguistics
11.	Library & Information Science	1 Professor	With a research degree and experience in Modern Techniques of library Science
12.	Physical Education	1 Reader 3 Lecturer	(Already existing regularised)
13.	Bharat Kala Bhavan (Deptt. of Museology)	1 Deputy Director 1 Deputy Keeper 1 Asstt. Librarian 3 Armed Guards 3 Gallery Attendants 1 Checking Counter Assistant	Expert in Museology Expert in Museology

...../-

1	2	3	4
33. Faculty of Oriental Learning and Theology		0.20	0.10
34. Faculty of Music & Fine Arts.		0.10	0.30
35. Faculty of Commerce		0.30	0.05
36. Law		1.00	-
37. Education		0.30	0.40
38. Mahila Mahavidyalaya		0.50	1.50
39. Evening College		0.10	-
40. Central Library		2.00	-
41. Univ. Press		-	-
Total:		<u>14.40</u>	<u>25.50</u>

<u>S.No.</u>	<u>Department</u>	<u>Staff</u>	<u>Specialisation</u>	
25.	Geophysics a) Applied Geophysics	1 Professor	-	
		1 Lecturer	-	
		1 Technician	Mechanical cum Driver	
	b) Meteorology	2 Reader	-	
		2 Lecturer	-	
		1 Lab. Tech.	Elect.	
	c) Common facilities	1 Reader	Mathematical Geophysics/ Meteorology	
		1 Lecturer	Communication system and data Processing	
	26.	Mathematics & Statistics	2 Readers	Modern Areas of pure Maths.
	27.	Computer Science Centre	1 Professor	-
2 Reader			-	
2 Lecturer			-	
28.	Centre for Life Science(Conditional)	1 Reader	Biochemistry	
		3 Lecturer	One each in Botany, bio- Chemistry & Zoology	
		1 Technician		
		1 Lab. Asstt.		
		2 Lab. Attendants		
		1 Clerk		
29.	Faculty of Oriental Learning & Theology	1 Professor	Sahitya/Mimansa	
		1 Lecturer	Veda	
		1 Supdt.	Publication	
		1 Research Assistant	-	
30.	Faculty of Music & Fine Arts	1 Professor	Vocal Music	
		1 Reader	Instrumental Music	
		1 Lecturer(Dance)	Bharatnatyam	
		1 Accompanist	Mridangam	
31.	Commerce	1 Professor	-	
32.	Mahila Mahavidyalaya	2 Reader	One each in Sociology, Geography	
		6 Lecturer	One each in Education, Physics, Hindi, Statistics, and two in chemistry	
		1 Professional Assistant	Library	
		1 Lecturer	Urdu	
33.	Evening College	2 Asstt. Librarians		
34.	Central Library	4 Professional Juniors		
<hr/>				
14 Professors, 29 Readers, 32 Lecturers, & 44 others				

Payment will be on the basis of actual expenditure per annum only in respect of posts above, filled from the date of appointment upto the end of 1978-79. Wherever specialisation have been indicated against posts above, no change can be made without prior approval of the Commission.

Guidelines for utilisation of amount realised from the sale of Books, Equipment, etc. produced under COSIP-ULP

-----

(A) Text-books and other reading materials produced and sold under the University Leadership Projects.

- (i) The main purpose for production of such books and other reading materials should be to make them available to students and teachers at as low price as possible and in adequate numbers. The element of profit should be kept to the absolute minimum to take care of the costs involved in storage, distribution and handling etc., and to provide for small amounts to be added to the reserve fund which would enable the activities to be continued even after the formal project and assistance from the UGC has ended. The Committee therefore felt that the selling price of such books should not ordinarily be fixed at more than  $1\frac{1}{2}$  times the actual cost of production, to include the cost of paper, printing, binding. The costs for preparation of manuscripts and their testing and evaluation are already provided for in the COSIP budgets. There are also other sources of indirect subsidy in such efforts.
- (ii) The number of copies of the books to be printed should be reasonably estimated keeping in view the number of students using such books within the university and to make available sufficient number of copies to users in the other universities etc., and also the revised editions likely to be brought out.
- (iii) The net profits accruing from the sales should be decided after taking into account the costs of production and distribution and the profit so realised may be used in the following manner:
  - a) 40% to be put in the reserve fund (alongwith the reclaimed costs of production) for taking up production of further reading materials;

- b) 30% to be utilised at the discretion of the coordinator of the project for use in the department for various academic purposes;
- c) The remaining 30% may be distributed to the individual teachers in the universities and colleges who have contributed to the production of the materials. This may be done by the coordinator with the approval of the Vice-Chancellor and the amounts so given to the individual teachers should be used for furtherance of the teacher's academic work. The purposes, for which these amounts may be used by the teachers, would generally be the same as in the case of the contingent grants attached to the research fellowships awarded by the UGC. The maximum amount that may be given to an individual teacher should be determined by the coordinator with the approval of the Vice-Chancellor of the university concerned.

B. Scientific Equipment etc :

The net profits realised could be determined after taking into account the costs of materials involved, any other expenditure not provided in the COSIP Budget but incurred for purposes of production of multiple numbers of the equipment concerned and likely expenditure on storage and distribution. The sale price of the equipment should generally be in the range of  $1\frac{1}{2}$  times to 2 times of the cost of production as indicated above.

The net profit so realised by sales may be used in the following manner:

- (a) 40% of the amount may be put into the reserve fund (alongwith reclaimed costs of production) for production of more items of equipment as well as research, design and development of further items of equipment required for furtherance of the objectives of the COSIP.
- (b) 30% may be placed at the discretion of the coordinator to be distributed amongst the persons who have contributed to the design, fabrication and development of the instruments concerned.
- (c) 30% to be used for promoting the academic work of the teachers in the subject, both in the university department and the colleges departments, participating in the programme.

Appendix V to Item No. 31  
to the minutes of the meeting  
held on 19th July, 1976

Revised

Support Recommended and Approved by the University Grants Commission for the Department of Psychology, Utkal University under special Assistance Programme.

.....

(a) 1 Reader in Educational Psychology (he should have a postgraduate degree both in education and in Psychology)

1 Reader with specialisation in Cognitive Growth or children and

(b) 3 Research Associates may be provided to the Department and they will be associated with specific research projects.

(c) (i) 4 Senior Research Fellows at any one time.

(ii) 4 Junior Research Fellows at any one time.

(d) 8 National Scholarships each year (According to the UGC rules 50% of these fellowships are to be earmarked for students coming from outside the state where the university is located. But in this case we recommend that 75% of the scholarships may be earmarked for outside students).

(e) 6 teachers fellowships each year.

(f) The department receives a large number of teachers from Indian and other universities. But we understand it has been difficult to consolidate this programme on an institutional basis for want of funds. We recommend a sum of Rs. 30,000/- p.a. for this purpose.

(h) (i) Administration & Technical Staff	Rs. 20,000 p.a.
(ii) Library books and Journals	Rs. 25,000 p.a.
(iii) Research & Field work	Rs. 25,000 p.a.
(iv) Publications	Rs. 20,000 p.a.
(v) Miscellaneous Expenditure	Rs. 10,000 p.a.

(i) Other Items (Non-Recurring)

(i) Equipment	Rs. 1,00,000
(ii) Building (space for the departmental library, 2 seminar rooms and space for academic staff) 5000 sq. ft.	Rs. 2,50,000
(iii) Furniture, fixtures & Fittings	Rs. 50,000
(iv) Books and Journals	Rs. 1,50,000

.....  
-----

Appendix VI to Item No. 32

JABALPUR UNIVERSITY

Fifth Plan allocation approved (University Grants Commission Share)

Spill-over Rs. 2.00 lakhs

Basic Grants:

Books Rs. 3.00 lakhs

Equipment Rs. 5.00 lakhs

New Allocations:

Non Recurring . . . . .

Books Rs. 15.00 lakhs

Equipment Rs. 17.34 lakhs

Building Rs. 12.20 lakhs

Others Rs. 1.95 lakhs

Visiting Professorship Rs. 1.00 lakh

Recurring

Staff

Professors - 1

Readers - 11

Lecturers - 10

Others - 6

Junior Research Fellowships- 10 (Ten) at any given time to be utilized according to the guidelines laid down by the Commission.

-----

\*SLK\*

Annexure I

Allocation for Equipment

Departments

(Rs. in lakhs)

Chemistry	-	4.50
Biological Sciences	-	3.75
Physics	-	4.50
Mathematics	-	1.50
Hindi	-	0.38
Economics	-	0.25
Sociology	-	0.20
Central Library	-	0.75
Health Centre	-	1.13
Central Workshop	-	0.38

-----  
17.34  
-----

Annexure II.

Books - Rs.15.00 lakhs

Annexure III

Allocation of Buildings.

Departments.

(Rs. in lakhs)

Biological Science	-	3.00
Animal House	-	0.75
Physics	-	3.75
Central Workshop	-	0.50
Overhead tanks	-	1.00
for staff Quarters & residential area.		
Warden's Quarters.	-	1.10
boundary wall, commonroom facilities for the girls' Hostel.		
Completion of Library building	-	0.60
Staff Quarters	-	1.50
		<u>12.20</u>

Annexure IV.

Others.

Visiting Professorship-		1.00
Botanical Garden	-	0.50
Harbarium Museum etc.-		0.50
Electrical fans for		
Boys Hostel	-	0.65
Centre of Study of		
Regional Development	-	0.30
		<u>2.95</u>

Annexure V

Staff

Departments.

Chemistry	2R, 2L, 1Tech &	Reader in Analytical/ Microanalyst 1, Macromolecular Chemistry.
Biological Sciences	1P, 1R, 3L, 2T.A.	
Physics	2R, 2L	Reader in Solid State Physics/ Electronics
Mathematics	1R	Reader in Math. Statistics
Hindi	1R, 1L	Reader in Literature/ Linguistics
Sanskrit	1R	--do--
Philosophy	1L	
History	1R	Reader in Madieval History
Law	1R	
Economics	1R, 1L	Reader in Econometrics/ Planning
Central Workshop	2 Tech	

--.---.---

\*SLK\*

Appendix VI to Item No. 32

JABALPUR UNIVERSITY

Fifth Plan allocation approved (University Grants Commission Share)

Spill-over Rs. 2.00 lakhs

Basic Grants:

Books Rs. 3.00 lakhs

Equipment Rs. 5.00 lakhs

New Allocations:

Non Recurring

Books Rs. 15.00 lakhs

Equipment Rs. 17.34 lakhs

Building Rs. 12.20 lakhs

Others Rs. 1.95 lakhs

Visiting Professorship Rs. 1.00 lakh

Recurring

Staff

Professors - 1

Readers - 11

Lecturers - 10

Others - 6

Junior Research Fellowships- 10 (Ten) at any given time to be utilized according to the guidelines laid down by the Commission.

-----

\*SLK\*

Appendix VII to Item No. 33

P.G. Centre, Goa.

Fifth Plan allocation approved (UGC Share),

Spill-over - 0.46 lakhs

Basic Grants:

Books - 1.65 Lakhs

Equipment - 2.10 lakhs

New Allocations:

Non-Recurring

Books - 8.00 lakhs

Equipment - 9.00 lakhs

Building - 14.15 lakhs

Visiting Professorships - 0.50 lakhs

Recurring

Staff

Professors 5

Readers 10

Lecturers 7

Others 6\*

Junior Research Fellowships - 8 (Eight at any given time to be utilized according to guidelines laid down by the Commission.)

-----

\*SLK\*

Annexure I

Allocation for Equipment

Departments

(Rs. in lakhs)

Chemistry	-	4.50
Biological Sciences	-	3.75
Physics	-	4.50
Mathematics	-	1.50
Hindi	-	0.38
Economics	-	0.25
Sociology	-	0.20
Central Library	-	0.75
Health Centre	-	1.13
Central Workshop	-	0.38
		<hr/>
		17.34
		<hr/>

Annexure II.

Books - Rs. 15.00 lakhs

Annexure III

Allocation of Buildings.

Departments.

(Rs. in lakhs)

Biological Science	-	3.00
Animal House	-	0.75
Physics	-	3.75
Central Workshop	-	0.50
Overhead tanks	-	1.00
for staff Quarters & residential area.		
Warden's Quarters.	-	1.10
boundary wall, commonroom facilities for the girls' Hostel.		
Completion of Library building	-	0.60
Staff Quarters	-	1.50
		<hr/>
		12.20
		<hr/>

Annexure IV.

Others.

Visiting Professorship	-	1.00
Botanical Garden	-	0.50
Harbarium Museum etc.	-	0.50
Electrical fans for Boys Hostel	-	0.65
Centre of Study of Regional Development	-	0.30
		<hr/>
		2.95
		<hr/>

Annexure I

Allocation for Equipment

Departments.

Physics	-	2.00 lakhs
Chemistry	-	2.00 lakhs
Biological Sciences	-	3.00 lakhs
General	-	1.00 lakh
Workshop	-	1.00 lakh
		-----
		9.00 lakhs
		-----

Annexure II.

Books	-	8.00 lakhs
-------	---	------------

Annexure III.

Allocation for Building.

Departments:

(Rs. in lakhs)

Science Block 1800 Sq. M.	-	3.60
Humanities Block 1800 Sq.M.	-	3.60
Staff Quarters 1800 Sq.M.	-	3.00
Boy's Hostel 300 Sq. M.	-	1.05
Girls Hostel 300 Sq.M.	-	1.45
workshop Shed 150 Sq. M.	-	0.85
		-----
		14.15
		-----

Annexure IV.

Visiting Professorships	-	0.50 lakh
		-----

\*SLK\*

Annexure V

Staff

Departments

(I) School of Languages

French and Portuguese 1R French.

(II) School of Humanities & Social Sciences.

History 1R Modern History of Erstwhile Portuguese colonies in Asia and Africa

Economics 1P, 1R P in Development Economics  
1L R in Statistics/Econometric  
L in Regional Planning.

Political Sciences 1P Development Administration

Sociology 2R Social Change, Sociology of Art and Culture.

(III) School of Physical Sciences.

Physics 1P, 1R  
1L, 1T.

Chemistry 1P, 1R, Professor and Reader in  
2L, 1T inorganic/Physical/  
Industrial Chemistry.

Mathematics 1R, 1L

(IV) School of Biological Sciences

1P, 2R, Focus on Biological  
2L, 1T. Resources.

(V) Workshop 3T.

-----  
5P, 10R, 7L, 6T  
-----

-----

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

3

Meeting:

Dated: 19th July, 1976.

Item No. 7 :: To consider the recommendations of the Committee of Conveners of the Panels in the Humanities and Social Sciences made at their meeting held on April, 20, 1976 on certain suggestions made by Professor Daya Krishna, Department of Philosophy, Rajasthan University with regard to implementation of Short-term Projects.

.....

The University Grants Commission has been providing financial assistance since 1963-64, to the university and college teachers for research/learned work or short term projects in the humanities and social sciences. Under this scheme, financial assistance upto Rs.5,000/- is given to a teacher for books, journals, computation work, equipment, field work including preparation of questionnaire etc. in connection with his approved work. In special cases assistance could also be provided for publication of monographs and research papers. Assistance under this scheme is not available for printing or publication of theses, stationery, typing, payment of fee, contingencies etc. Teachers who are assisted under the above scheme are allowed to retain books/journals obtained under the scheme.

The Commission has recently decided that TA/DA for field work may be paid to the teachers whose projects are approved under the above scheme according to the rules of their universities upto a maximum limit of 20% of the approved grant provided there is adequate justification for it and the Panel is satisfied that the project cannot be implemented without field work.

Professor Dayakrishna, Department of Philosophy, University of Rajasthan, a member of the Panel on Philosophy, made the following suggestions for implementing the scheme of short term projects.

1. It would be desirable to clarify that grants for publications shall not be entertained under this scheme. This is necessary as many persons apply for grants for publication, and also because there are other schemes of the University Grants Commission under which such grants are available.
2. The applicant, in case he happens to be located in a large University Centre or in a big metropolitan town where good libraries are available, should clearly indicate the reasons why he wants a grant for the purchase of books and journals.

(4)

3. A distinction should clearly be indicated between Field Work and Travel, as many of the candidates appear to confuse the two. Whenever travel is necessary for purposes of research it should be clearly indicated as to why in the opinion of the candidate, it is necessary.
4. The applicants, who want a grant for purchase of books and journals must give a list of the books they would like to purchase and the copies of the journals they would like to get for purposes of their research.

The matter was placed before the Committee of Conveners of the Panels in the Humanities and Social Sciences for consideration at their meeting held on April, 20, 1976.

The Committee accepted the following suggestions made by Professor Dayakrishna, Department of Philosophy, University of Rajasthan in regard to the University Grants Commission scheme relating to short-term research projects :

- (1) requests for grants for publication of research projects may not be entertained under this scheme and the candidates should be informed accordingly and in advance.
- (2) the scholars may be requested to send a list of books purchased by them through their guides and heads of departments as and when they buy books for the purpose of their research work approved by the Commission
- (3) Whenever travel is necessary for purpose of research the scholar should clearly indicate as to why it is necessary.

The above recommendation of the Committee of Conveners of the Panels is placed before the Commission for consideration.

AS(HR)/JS(I)

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

5

Meeting :

Dated : 19th July, 1976

Item No. 8 : To consider the recommendation made by the Committee of the Conveners of the Panels in the Humanities and Social Sciences at their meeting held on April 20, 1976 regarding the selection of a few University departments for participation in the University Leadership Project under College Humanities and Social Sciences Improvement programme (COHSIP).

The Commission at its meeting held on February 16, 1976 (item no. 7) considered the recommendations made by the various panels in the humanities and social sciences regarding the selection of 30 university departments (list attached - Appendix) for participation in the University Leadership Project under College Humanities and Social Sciences Improvement Programme (COHSIP). The Commission desired that the Committee of the Conveners of the Panels in the Humanities and Social Sciences 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 the departments may be made keeping the following in view:

- (1) the programme may be implemented, in the first instance, in the affiliating universities;
- (2) as far as possible, distribution of disciplines among the universities could be even- the regional requirements should be kept in view in the selection of the universities;
- (3) ordinarily, not more than four universities may be selected for each of the major disciplines.

In pursuance of the above decision of the Commission, the matter was placed before the Committee of Conveners of the Panels in the Humanities and Social Science at its meeting held on April 20, 1976. It was agreed that the University Leadership projects may be implemented in the first instance in a few selected affiliating universities. The selected affiliating universities could invite non-affiliating universities to co-operate in the programme.

The Committee recommended that in the first instance, the following university departments may be invited to participate

p.t.o.

(6)

in this programme:

- (1) Department of Political Science, Delhi University, Delhi.
- (2) Department of Economics, Panjab University, Chandigarh.
- (3) Department of Philosophy, Rajasthan University, Jaipur.

It was also suggested that the university departments recommended by the Panels and the universities to which the COHSIP colleges are affiliated may be sounded as to whether they would like to participate in this programme and if so, how?

The matter is placed before the Commission for consideration.

.....\*SLK\*.....

List of University Departments  
various subjects panels in Humanities and Social  
Sciences for participation in the University Leadership  
project under (COHSIP).

1. Modern Indian Languages:

1. Department of Tamil, Madurai University
2. Department of Telugu, Osmania University
3. Department of Oriya, Utkal University
4. Department of Hindi, AMU, Andhra, Sardar Patel and Patna Universities.

2. Political Science:

- a) West Zone : Deptt. of Political Science, Rajasthan University in collaboration with the Political Science Departments of Gujarat and Poona Universities.
- b) North Zone: Deptt. of Political Science, Panjab University
- c) Eastern Zone: Deptts of Political Science in Calcutta and north Eastern Hill Universities.
- d) Southern Zone: Department of Political Science in Madras and Osmania Universities.
- e) Central Zone: Deptt. of Political Science in Lucknow and Aligarh Muslim Universities.

3. Economics:

- i) Department of Economics, Andhra University  
(Along with Applied Economics)
- ii) Deptt. of Economics, MS University of Baroda  
(Along with Agricultural Economics).
- iii) Department of Economics, Calcutta University
- iv) Department of Economics, Panjab University.
- v) Department of Economics, Kurukshetra University
- vi) Deptt. of Economics, Lucknow University
- vii) Deptt. of Economics, Punjab University.

8

4. Sociology:

- i) Department of Sociology, Poona University.
- ii) Department of Sociology, S.N.D.T. Women's University, Bombay.

5. Commerce:

- i) Department of Commerce, Calcutta University
- ii) Department of Commerce, Delhi University
- iii) Department of Commerce, Madras University
- iv) Department of Commerce, Panjab University
- . . . . . v) Faculty of Commerce, Rajasthan University..

6. Philosophy:

Department of Philosophy; Allahabad, Andhra, Calcutta, Poona, Rajasthan, and Utkal Universities.

-.-.-.-

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

9

Meeting :

Dated : July. 19, 1976.

Item No. 9 : To consider the recommendation of the Committee of Conveners of the Panels on the Humanities and Social Sciences made at their meeting held on April 20, 1976 regarding review of the policy laid down by the Commission for financial assistance to teachers under the scheme of Support for Advanced Research.

.....

Towards the beginning of the 5th Plan, the University Grants Commission instituted a scheme for supporting advanced research in the humanities and social sciences. Teachers in the universities and postgraduate colleges which have facilities for advanced research are eligible to receive assistance under this scheme. Research projects may be undertaken by an individual teacher or by a group of teachers or by a department as a whole. Assistance under this scheme is available for assessment of research/technical and other similar staff, travel, field work, apparatus, equipment, postage, stationery, computation work, books, journals, questionnaire, contingencies and other similar items needed for the project. Appointment of peons etc. is not covered under this scheme.

Selection of projects for support under the above scheme is normally made by the University Grants Commission twice a year on the recommendations of the subject panels. Proposals are invited from the universities and colleges in the prescribed proforma.

The following information is supplied by the teachers in respect of completed and on-going research projects:

1. Details of the projects which the principal investigator has completed so far (title of the project, duration, date of completion and total expenditure, agency from which support was received, whether the project report has been prepared/published, serial No. of the enclosure containing summary of the report).
2. Projects being conducted at present by the principal investigator (title of the project, duration and total grant approved, agency from which support is being received, date of commencement, probable date of completion).
3. Has the present or somewhat similar project been submitted to any other agency for support? If so, kindly indicate the name of the agencies and their decision on the proposal of the investigator.

(10)

4. In case the present project or an allied project is being supported by any other agency, please indicate the name of the agency and the assistance sanctioned by it for the purpose.

Instances have come to the notice of the Commission, where a scholar who has been given assistance for a research project by the University Grants Commission is already working on a number of research projects with assistance from other agencies. It was, therefore, considered necessary to put some reasonable limits on the number of projects on which a scholar could work at a time with assistance from the University Grants Commission and other agencies.

The matter was placed before the Committee of Conveners of the Panels in the Humanities and Social Sciences for consideration at their meeting held on April 20, 1976. The Committee agreed that normally a scholar should not be working at any given time for more than three research projects supported by the University Grants Commission and other grant giving agencies.

The above recommendation of the Committee is placed before the Commission for consideration.

AS(HR)/ JS (I)

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting: 

Dated : 19th July, 1976

Item No. 10 To consider the Report of the Visiting Committee appointed by the University Grants Commission for assessing the proposal of the Cochin University for the introduction of an undergraduate course in Naval Architecture/ Ship Technology during the Fifth Five Year Plan.

The Commission constituted a visiting committee to examine and assess the proposal of the Cochin for the introduction of an undergraduate course in Naval Architecture/Ship Technology during the Vth Five Year Plan.

The Committee visited the Cochin University, Trichur Engineering College, the Cochin Shipyard and the Cochin Naval Base, Cochin Port Trust etc. from 22-24th March, 1976. The Committee had an opportunity to discuss the proposal with the Chief Minister, Education Minister and the Education Secretary of the Kerala Government at Trivandrum on 24th March, 1976. The report of the Committee has been prepared in two parts- the first part deals with a historical background highlighting the aims and objectives of the Cochin University alongwith the financial implications as submitted by the University for the introduction of the undergraduate course in Naval Architecture/ Ship Technology. Part two of the Report refers to the observation and recommendations of the Visiting Committee on the subject. A copy of the report is attached as Annexure.

The observations and recommendations of the Committee are summarised below :-

1. India is a maritime nation and shipping constitutes a vital economic factor in the country's growth and development. From a meagre two lakh tons DWT composed of 59 ships at the time of India's independence, the DWT has crossed 4 million tons with over 400 vessels. Indian shipping today has attained the capacity to carry 23% of the country's overseas trade. This is not enough.

2. Self sufficiency in ship designing is an important factor in achieving the goal of self-reliance in ship building. To meet the country's special requirements, it is imperative to set up marine Design and Research Organisation so that ships can be designed and built within the country.

p.t.o.

: : :

3. Acute shortage of Naval Architects and Ship builders or ship constructors is a world wide phenomenon and more so in India and the developing countries. The location of the Naval Base and the Shipyard at Cochin has given an unique opportunity to the maritime State of Kerala and the Cochin University to play a pre-eminent role in the shaping of the country's maritime future.

4. Naval Architecture/Ship Technology is a highly specialised course where integration of the theory with practice in production by way of sandwich type of training is essential.

5. The undergraduate course in Naval Architecture/Ship Technology at Cochin University is feasible and viable and it is hoped that the university will be able to fulfil the national task in active collaboration and cooperation with the Cochin Shipyard, the Cochin Naval Base and the Cochin Port Trust not only in designing of the sandwich type of the course but also for its fruitful implementation.

6. The course proposed is of 10 semesters duration with one of the semesters reserved for practical training in the shipyard. In view of the proposed introduction of the 10+2 structure of High School education in the country and of a 4 - year duration for a first degree in Engineering, the University should examine the possibility of making the duration of undergraduate course in Naval Architecture/Ship Technology also of 4 years i.e. 8 semesters. The 8 semester course could be followed by one semester of practical training in the shipyards before the degree is awarded. Since these are the formative years for the Ship Technology department where the facilities available at present are not adequate compared to other similar courses elsewhere, the reduction of the duration of the present course may not be desirable. At a future date when the Department has established itself a reduction of the duration of the course by one semester ( to make it a 4 year course ) may be desirable.

7. Since the first year of all engineering courses is basically devoted to the teaching of the basic sciences, humanities, engineering drawing and workshop practice, the first year syllabi of this course could be easily modified to make it completely common with all other branches of engineering. Apart from effecting considerable economy this would also introduce a certain amount of flexibility and enable some students, under special circumstances to opt out of or into the new course.

8. The programme of teaching proposed envisages utilizing the facilities of the Trichur Engineering College for the first 4 semesters. During this period, the students are required to spend  $1\frac{1}{2}$  days per week in cochin utilizing the facilities of the University of Cochin, the Cochin Shipyard and the FACT Training School. This arrangement is considered undesirable for several reasons. Apart from the journey to

and from Trichur being tiring for the students, it is considered completely unnecessary for the learning process. The students are fresh pass-outs from High School with no knowledge whatsoever of engineering subjects and it would be a far better utilization of their time if the first year of their course could be spent completely in the College at Trichur, learning the basics of engineering. The contact with ship-building industry could start after the first year of their course after which the students could be permanently located at Cochin. There is no added advantage in shuttling the students between Cochin and Trichur as the infrastructure for imparting practical training in sciences, humanities, engineering drawing and workshop practice exist at Trichur Engineering College.

9. . . . It has been noted that arrangements for the transfer of the . . . . . Government Engineering College, Trichur to the Cochin University are under way and the financial assistance from the University Grants Commission for approved schemes for development of engineering and technology are available only to the University Engineering Colleges/ Institutes. It is hoped that the Trichur Engineering College will soon be brought under the purview of the Cochin University as its constituent college by suitable amendments of its Act and Statutes before it becomes eligible to receive University Grants Commission assistance for the introduction of the undergraduate course in Naval Architecture/ Ship Technology on the usual sharing basis of 50: 50.

10. The very justification for introducing the course at Cochin University is because of the existence of the Cochin Shipyard and allied industries at Cochin and the possibility of active collaboration with them. It is desirable to ensure this collaboration with a definite programme before the course is introduced. The quantum of collaboration and cooperation will not only increase their employability after successful training but also would expose the students to live situations in the field of Naval Architecture/Ship Technology.

11. The University has admitted 2 batches of students to this course, 15 each year. The session for the course starts in January with the result that opportunities for admission to such a course by students from other States are denied as the admission to engineering courses in other States happen to be in July, the students clearing their qualifying examination just prior to that. The admission to the course should be made on an All- India basis preferably with some reservation of seats for students from other States. The entrance examination for admission to the course could be conducted by the Cochin University at a number of places if possible, in collaboration with IITs or the Roorkee University which have developed an effective machinery in this regard.

12. The course is tough and strenuous and the importance of physical fitness of the students at the time of admission, throughout the duration of the course and even after cannot be over-emphasized.

114

13. The necessity for having a good teaching staff needs no emphasis. There is shortage of adequately trained teachers in the country who are qualified in the disciplines needed for the course. To overcome this situation, it will be necessary to work out a suitable cultural exchange programme with a reputed university abroad provided such a collaboration is mutually beneficial.

14. It was noted as announced by the Vice-Chancellor, Cochin University that the Government of India is exploring the possibility of developing bilateral link between the Cochin University and the Rostock University under Indo-GDR Cultural Exchange Programme. Naval Architecture/Ship Technology could be a profitable area of collaboration to the mutual benefit of both the countries. It will be necessary to procure the services of one or more senior Faculty members for a specified period under the Indo-GDR Cultural Exchange Programme as early as possible so that the course could be run on sound lines.

15. In the recruitment of teaching staff, a definite all-India base would be desirable. In the selection of teachers, the University should associate with other participating agencies e.g. Cochin Shipyard, Cochin Naval base etc. Some of the promising bright young teachers recruited by the University should be sent to Rostock University for specialised training in Naval Architecture and Ship building under the provision of Indo-GDR Cultural Exchange Programme. This would, in the course of time, enable the University to organise the course with the help of its own personnel supplemented now and then by Visiting Professors/specialists from within the country and abroad. The nonteaching staff recommended covers only technical and other supporting personnel needed for the various laboratories, workshops, Library etc. e.g. Laboratory technicians/assistants; superintendent/Foreman/Mechanic for workshops; professional assistant for Library etc.

16. The Naval Base at Cochin is primarily intended to impart Naval training of a general nature to officers of the Indian Navy. It will, therefore, not be able to give any substantial support for the Course. However, they can give general ship-awrèness training and convenience of visits to ships and other on-shore establishments, which they have assured they will be willing to give.

17. The Cochin Shipyard has agreed to give training facilities to the students of the Course.

18. In Planning practical training of the students during their 6 semesters stay at Cochin and during their last semester which is reserved specifically for practical training, it should be ensured that the time available is distributed between

15

: " :

all the shipyards of the country viz: Garden Reach Workshop, Mazagon Dock, Hindustan Shipyard and the Cochin Shipyard. This would give the students a broader base to their practical experience and also enhance the possibilities of their employment in shipyards other than that in Cochin.

19. The University is charging tuition fee at Rs. 1000/- per annum whereas the tuition fee charged for other streams of engineering at the Trichur Engineering College is only Rs. 400/- per annum. The disparity in the fees charged from students in engineering for two streams of engineering courses should not exist. The University of Cochin should examine the possibility of charging only Rs. 400/- per year from the students of the undergraduate course in Naval Architecture/Ship Technology. Moreover, Naval Architecture is not a very popular subject as obtaining in the country today despite the fact that the Indian graduates in the subject have been getting attractive offers of employment opportunity. Even under this condition, the existing Institutions (IIT Kharagpur and IIT Madras) have not been able to attract the very best students to the Naval Architecture/Ship Technology course. Disproportionately high tuition fees will certainly act as a deterrent to attract the very best students to the course.

20. The existing laboratories, class-rooms, hostles, etc. available at the Trichur Engineering College would be sufficient to meet the requirement for training of students in Naval Architecture/Ship Technology for the first year of their course. Marginal facilities may be necessary at Trichur Engineering College for running the course.

21. Financial implications:

Buildings:

A. Flat-Roof type

2.	Drawing Halls at the rate of 120 m <sup>2</sup>	=	240 m <sup>2</sup>
1	Mould Loft 180 m <sup>2</sup>	=	180 m <sup>2</sup>
3	Lecture Halls at the rate of 60 m <sup>2</sup>	=	180 m <sup>2</sup>
3	Tutorial Rooms at the rate of 50 m <sup>2</sup>	=	150 m <sup>2</sup>
10	Staff Rooms at the rate of 15 m <sup>2</sup>	=	150 m <sup>2</sup>
1	Library at the rate of 100 m <sup>2</sup>	=	100 m <sup>2</sup>
1	Seminar Room at the rate of 100 m <sup>2</sup>	=	100 m <sup>2</sup>
	Total Carpet area	=	1000 m <sup>2</sup>

p.t.o.

16

Addl. Approx. 30 % for corridors, bath rooms, etc. = 330 m<sup>2</sup>  
Total Plinth area = 1430 m<sup>2</sup>  
Cost at the rate of Rs. 500/- per m<sup>2</sup> inclusive of all electrical, sanitary and other fittings = Rs. 7,15,000

B. Shet type Laboratories:

Strength of Materials Lab. = 100 m<sup>2</sup>  
Hydrodynamics Lab. = 100m<sup>2</sup>  
Thermodynamics Lab. = 100 m<sup>2</sup>  
Material Science Lab. = 100 m<sup>2</sup>  
Control Engg. Lab = 100 m<sup>2</sup>  
Electrical and Electronics Lab = 100 m<sup>2</sup>

Workshops:

Machine Shop = 200 m<sup>2</sup>  
Wood working Shop = 100 m<sup>2</sup>  
Welding Shop = 100 m<sup>2</sup>  
Total area of sheds = 1,000 m<sup>2</sup>

Cost at the rate of Rs. 350/- per m<sup>2</sup> inclusive of all electrical, sanitary and other fittings- Rs. 3,50,000/-

Furniture :

For class rooms, labs. etc. = Rs. 20,000/-

Equipment:

Laboratories:

Strength of Materials Lab. = Rs. 2,00,000/-  
Hydrodynamics Lab = Rs. 2,00,000/-  
Thermodynamics Lab = Rs. 1,00,000/-  
Materials Science Lab. = Rs. 1,00,000/-  
Control Engg. Lab. = Rs. 1,50,000/-  
Electrical and Electronics Lab = Rs. 1,50,000/-

17

Workshop:

Machine Shop	=	Rs. 5,00,000/-
Wood Working Shop	=	Rs. 1,00,000/-
Welding Shop	=	Rs. 2,00,000/-
	=	<hr/>
	=	Rs.17,00,000/-

Library :

For initial stock of books  
for the course Rs. 2,00,000/-

Teaching and non-teaching staff:

	<u>Ay. monthly salary</u> (Subject to revision)	<u>Total Annual Cost</u>
Professors 2	Rs. 1,500/-	Rs. 36,000/-
Readers 3	Rs. 1,150/-	Rs.41,400/-
Leacturers 5	Rs. 900/-	Rs.54,000/-
		<hr/>
		Rs.1,31,400/-

Addl. (Approx) 10% for provident fund,  
leave salary etc.

Rs. 13,600/-

Total for teaching staff

Rs.1,45,000/-

Addl. (approx) 35% for non-teaching technical  
supporting staff needed for various laboratories,  
workshops, library etc only. e.g. laboratory  
Technician/Assistant; Superintendent/Foremen/Mechanics  
for Workshops; Professional Assistant for library etc.

Rs. 50,000/-

---

Total Rs.1,95,000/-

The staff could be recruited in the following broad fields :

Senior Staff

Junior Staff.

- |  |                       |
|--|-----------------------|
| 1. Ship Design                           | Applied Thermoscience |
| 2. Ship Motion and<br>Manoeuverability   | Materials Science     |
| 3. Resistance and Propulsion<br>of ships | Fluid Mechanics       |

18

- |    |  |  |
|----|--|--|
| 4. | Strength of Ships and<br>Practical Ship Building | Solid Mechanics  |
| 5. | Ship building Technology                         | Elect. and Electronics Engineering<br>(with computer science background) |

The above is more by way of a suggestion than a rigid classification.

Library (per year)	Rs. 16,000.00
Maintenance and Repair of Laboratories etc. at the rate of Rs. 500/- per student per year.	Rs. 30,000.00

Total Financial recommendations:  
Non-Recurring:

1. Building including furniture (2430 sq. m).	Rs. 10,65,000
2. Equipment	Rs. 17,00,000
3. Books and Journals	Rs. 2,00,000
	Rs. 29,65,000

Recurring per annum:

1. Teaching Staff (2P+3R+5L)	Rs. 1,45,000
2. Non-teaching Supporting Staff (at 35% of salary etc. of teaching staff) needed for laboratories, workshops, library only.	Rs. 50,000
3. Library	Rs. 15,000
4. Working expenses for Laboratories	Rs. 30,000
5. Hiring of computer time and incidentals	Rs. 20,000

Total. Rs. 2,60,000

19

<u>Item</u>	<u>University State Govt. Share at 50 %</u>	<u>UGC Share at 50%</u>
Non-recurring (for V Plan)	Rs. 14,82,500/-	Rs. 14,82,500
Recurring (per annum)	Rs. 1,30,000/-	Rs. 1,30,000

The matter is placed before the Commission for consideration.

JS(II)

--- --

\*SLK\*

*Amended*

Report of the U.G.C. Committee on Introduction  
of Undergraduate Course in Naval Architecture/  
Ship Technology at the Cochin University  
under the Fifth Five Year Plan (22-24 March, 1976)

----

The Commission constituted a Visiting Committee to examine and assess the proposal of the Cochin University for the introduction of an undergraduate course in Naval Architecture/Ship Technology during the Fifth Five Year Plan with the following members:

- \* 1. Professor S. C. Mitra  
Department of Naval Architecture  
Indian Institute of Technology  
Kharagpur.
2. Shri S. Paramanandhan  
Director of Naval Design  
Naval Headquarters  
New Delhi.
3. Shri P.U. Cariappa  
Manager (Production)  
Cochin Shipyard Limited  
Cochin.
4. Professor S. Sampath  
Addl. General Manager (DE & QA)  
Bharat Electronics Limited  
Bangalore.
5. Professor Shankar Lal  
Head of the Department of  
Mechanical Engineering  
Roorkee University  
Roorkee.
6. Shri S. K. Handa  
Assistant Educational Adviser  
Ministry of Education & SW  
Southern Regional Office  
Madras.

Officer of the Commission :

Dr. S. K. Dasgupta  
Joint Secretary  
University Grants Commission  
New Delhi.

---

\* Professor S. C. Mitra could not visit Cochin

Part-I: Summary of the proposal as received from the Cochin University.

INTRODUCTION.

The Cochin University was established in 1971 with the aim of developing industrially and technologically based higher education and research. The University has given top priority to the development of the School of Technology, and within the School of Technology, the Division of Ship Technology has been accorded the highest priority.

DEPARTMENT OF SHIP TECHNOLOGY

The University took a decision in 1973 to establish a Department of Ship Technology and to institute a degree course in Naval Architecture and Ship Building, after a series of discussions with the Cochin Shipyard.

COLLABORATION WITH GERMAN DEMOCRATIC REPUBLIC

The possibility of a technical collaboration between the Cochin University and the Technical Universities in GDR for the establishment of an Institute of Applied Science Technology at the Cochin University has been envisaged under the Indo-GDR Cultural Exchange Programme 1976.

COLLABORATION WITH NORWAY

Collaboration in boat designing and building has been in existence with Norway in Kerala for the last several years.

PROJECTED REQUIREMENTS OF NAVAL ARCHITECTS

The Cochin University made an assessment of requirements of naval architects in the country for the next 10 years. The University's assessment was subsequently corroborated by a communication from the Ministry of Shipping and Transport, Government of India which has stated the requirements of Naval Architects for the V Plan period as follows:

Shipyards	-	134
Shipping Companies	-	9
Classification Societies	-	8

PROJECT REPORT

In August 1974 the University commissioned a project report by Captain P.V. George, C.Eng.F.I.MAR. E., I.N.(Retd).

CURRICULUM AND SYLLABUS

The University constituted a Board of Studies. Members were drawn from the I.I.T. Kharagpur (the only institution in India offering a regular degree course in Naval Architecture), Shipyards, Naval Headquarters, Shipping Companies, Cochin Port Trust and other related establishments. The curriculum was drawn up with the objective of providing to the industry personnel qualification as much in Ship building and Shipyard practice as in the Design of Ships.

LOCATION

All formalities for starting the course were completed, including the budget provision of Rs.5 lakhs for 1974-75.

The first part of the course for the first four semesters was decided to be at a well-established Engineering College, e.g. Govt. Engineering College, Trichur in order to minimise the initial expenditure on building, laboratories and workshops and teaching staff for the Ship Technology Department.

MISSION OF THE FIRST BATCH OF STUDENTS

Applications for admission to the Five Year course in Naval Architecture and Ship Building were invited in September 1974. From over 50 applications received 15 students of outstanding merit were finally selected, after an Entrance Examination consisting of a written test and a viva-voce.

Mr. S. Banerjee, B. Tech.(Ions.) C.N.C.(Lond.), M.I.I. N.A., Naval Architect, joined the Department on January 1, 1975. The course commenced on January 6, 1975.

THE COURSE

The course is fully residential, all students being accommodated in the hostels. Class-room, laboratory and library facilities at the Trichur Engineering College are utilised for instruction in basic sciences, engineering and humanities. Special arrangements have been made with TACT Limited, Udyogamandal for workshop training. The students have paid visits to the industry and have adequately exposed to sea and ships; the students, as well as the staff members taking classes for them, were given sea training in "MV ALINDIVI" on a 6-day cruise to Lakshadweep Islands in March 1975). A Departmental Library has also been set up in the University campus for use of the students during their weekly visits to Cochin.

TEACHING STAFF

The classes for the Naval Architecture course are handled by very Senior Professors of the Trichur Engineering College Faculty. Lectures on Naval Architecture subjects are given by a senior Naval Architect of the Cochin Shipyard.

STUDENTS PERFORMANCE

The students have done well in the first two Semester Examinations conducted. A special feature of the course is an 8-week period spent by every student, once a year, in Shipyards. The first batch of students were distributed between Mazagon Dock Limited, Bombay (6 in number), Hindustan Shipyard Limited, Vizakhapatnam (7 in number) and M/s Chowgule & Co., Goa (2 in number). The student reports rendered by the students, which are available with the Ship Technology Department, make good reading and indicate the extent to which students have assimilated the complexities of shipyard practices at such an early stage of their training.

LOCATION AND  
PERMANENT  
ARRANGEMENTS

At the time the decision was taken to conduct the first two years of the course at Trichur Engineering College, it was thought of only as a temporary arrangement pending adequate facilities being provided at the University Campus, Cochin. But subsequently, the question of permanent location for the Ship Technology Department as well as the other Technology Departments was taken up with the Government of Kerala. Steps are well under way for transferring the Government Engineering College to the Cochin University in order to provide the University with a sound base for all its technology courses.

The University has recognised the need for a Marine Station in Cochin, where instruction and training in Ship Technology subjects will be provided for the students during the Vth to 10th Semesters. The orientation courses for students during the first four semesters will also be given at the Cochin Station. A plot of land next to the University Department of Marine Sciences and in the vicinity of the Cochin Port Trust Tanker Berth and the Cochin Shipyard and Naval Base is being acquired, and suitable buildings for the Marine Station will be constructed in time for the first batch of students to use them by 1977.

The second batch of students has been admitted in January 1976.

The budgetary position for the course during the last two years as well as the ensuing financial year is summarised in the Annexure.

PROFESSIONAL  
STAFF

The staff to teach basic sciences, engineering and humanities are available in the Faculty of the Government Engineering College, Trichur. Regarding staff for Ship Technology subjects, one qualified Naval Architect is in position. Additional staff required will be recruited in the following ways:

- (1) direct recruitment
- (2) deputation from other services
- (3) selected members of the existing Engineering staff re-trained in Naval Architecture.
- (4) Visiting Professors including those from GDR. An Instructor in Seamanship has just now been appointed. The University is in correspondence with the Naval Headquarters for the Services of at least one more Naval Architect, one Chief Draughtsman and one Draughtsman.

CONCLUSION

The B.Tech. course in Naval Architecture of the Cochin University have the following features:

1. The objective of the course is to meet the technical and managerial manpower requirements of our shipyards, ship repair firms and shipping companies and Defence.
2. This objective is sought to be achieved through a regular degree course in Naval Architecture and Ship Building, initially.
3. As compared with the ever emphasis on Design in the Curriculum of conventional Naval Architecture courses, the Cochin University course aims to give equal importance to Ship Building and Shipyard Management.
4. Sea training is an integral part of the early semesters.
5. Technical training of eight weeks to Shipyards, Ship Repair Firms and related industries, is also a very important part of the course. An essential feature of the course is that students spend one whole Semester in a Shipyard which will enable them to acquire six months continuous professional experience and also to complete a Project work approved by the University.
6. There is provision for offering a graded system of electives from the eighth semester onwards.
7. The students will be trained in Computer aided Ship Design practice, as well as shipyard management. They will be using electronic and programmable calculators from the beginning of the course.

FOREIGN

COLLABORATION

Ship Technology is rapidly undergoing change both in design and in the construction of ships. Also the variety of ships in use is constantly expanding.

The most significant recent advance in Ship building arises from the technique of under-water welding. Originally developed in Japan in 1967 and subsequently adopted in Scandinavia, the technique is currently in use by Messrs. Scott Lithgow of Glasgow. The firm has collaboration arrangement with the Cochin Shipyard. The technique permits the construction of a vessel in two or more parts and its final assembly in water. Without the adoption of this technique, it becomes necessary to enlarge slipways or building docks to accommodate larger ships than hitherto constructed in a given yard which in.....

turn necessitates considerable capital expenditure.

The use of **unconventional materials**-materials other than steel and timber-has revolutionised use, and construction of small and medium size vessels. Aluminium alloys, the use of which was once confined to the construction of ship super-structures, is now being used for hull construction. U.S. and Canada lead the world in this.

Cement concrete, or Ferro-cement as it is now called, has been used as a shipbuilding material for over 60 years. There is a cement concrete floating dock-- originally built by the (British) Admiralty in Kakinanda in 1943--still in service of the Kandla Port Trust. A 26-foot-long fishing vessel was built in ferro-cement by an enterprising retired naval officer in Cochin two years or so ago. Cement concrete was originally adopted to reduce steel consumption in shipbuilding in Britain during the first world war, but now, in its new form as ferro-cement, has become a material of ship construction in its own rights. New Zealand and Australia are leaders in ferro-cement construction.

Glass-reinforced plastic is a relatively newcomer to the shipbuilding scene. It has already made its mark in Western European countries including Britain, particularly in the construction of small g-r-p. fishing vessels.

The Dutch found themselves short of steel and timber after the end of world war II. They had to make up heavy war losses of small craft. They chose rubberised fabric as a boat building material. They are now building large-size barges out of this materials like liquefied natural gas (LNG) which demand considerable advancement in new materials as also safety precautions. Sulphur, once carried in its naturally occurring physical state, is now carried in a molten condition 'Submersibles' are now being utilized for undersea exploration. These are only a few of the instances of the ever-expanding variety of ships in use today.

Ship repair and maintenance methods are also undergoing changes. Soon annual drydocking of ships may be dispensed with the development of under-water cleaning and inspection. Above all, advances in management technique in construction and repair of ships are also constantly made.

All this goes to prove that in shipbuilding as in

other activities such as steelmaking or space research, must keep open our contacts with the world outside. This is best achieved through accepting offers of collaboration from more highly developed countries than our own and offering similar help to less developed countries. Cochin University has an offer to help from Universities in G.D.R. in particular Rostock-University. Such an offer must be accepted how best such offers are utilised should be left to the University. As can be seen from the earlier paragraphs, several countries have individually something special to offer us in design and construction of ships and the management of shipbuilding. It is for the University to determine the technology most desired in our country, to seek and secure it regardless of the source of offer and to exploit it to the best advantage of the country.

#### EXPENDITURE INVOLVED

The anticipated expenditure by way of provision of physical facilities as estimated by the Cochin University is indicated below:

##### Non-Recurring

1. <u>Accommodation</u>	
Class room accommodation	2 - 1000 m
Laboratories including 450 m for model testing facilities	2 - 1000 m
Workshops	- 2000 m <sup>2</sup>
Library, 4 small auditoria and one large auditorium	- 2000 m <sup>2</sup>
Offices and staff rooms	- 300 m <sup>2</sup>
Swimming pool	- 420 m <sup>2</sup>
Hostel accommodation	- 1600 m <sup>2</sup>
Miscellaneous accommodation	- 180 m <sup>2</sup>
Total floor area required	<hr/> - 8500 m <sup>2</sup> <hr/>
2. <u>Equipment</u>	
Class room furniture for 160 staff and 400 students	- 1.65 lakhs
Hostel furniture for 400 students	- <u>1.20 lakhs</u>
	Rs <u>2.85 lakhs</u>

3. Books and Journals

Recurring ~~xxx~~

Teaching: 7P + 15R + 26L + 15 Others plus non-teaching s

STAFFING PATTERN

Subject Group	No. of Professors	Subject	Number of			
			Reader/	Lects./	Instr/	Tech
Humanities	1	Liberal Studies	-	1	-	-
Science	1	Mathematics	1	4	-	1
		Physics	1	1	-	1
		Chemistry	1	1	-	1
Engineering	1	Applied Mech.	-	2	-	-
Science		Machine Design	-	1	-	-
		Material Science	1	-	-	1
		Applied electricity	-	1	-	1
		Fluid mechanics	-	1	-	-
		Strength of materials	1	-	-	-
		Marine elect. Eng.	1	-	1	-
		Structural analysis	-	-	1	-
		Control systems	1	-	-	-
		Applied thermo dynamics	-	1	-	-
Naval Architecture		Workshop practice	1	2	6	-
& Shipbuilding	4	Geometrical drawing	-	1	-	-
		& Engg. drawing	-	1	-	-
		Prelim. Ship design	-	-	-	-
		ship drg & calculations	-	-	-	-
		ship design	1	2	-	-
		Stability of ships	-	-	-	-
		Flooding and sub-	-	-	-	-
		division	1	1	-	-
		Ship Hydrodynamics	-	-	-	-
		Seakeeping and	-	-	-	-
		Manoeuvrability	1	1	-	-
		Strength of ships	1	1	-	-
		Ship resistance and	1	2	-	-
		Propulsion	-	-	-	-
		Marine Engineering	1	-	1	-
		Shipbuilding and	-	-	-	-
		Shipyards practice	1	2	-	-
Total	7		15	26	8	

Progressive break-up of expenditure is as below:

Non-Recurring Figures in lakhs of rupees

	1974-75	1975-76	1976-77	1977-78	78-79	Total
Equipment	8.50	24.00	28.00	15.00	-	75.50
Building	-	11.18	17.90	16.40	5.52	51.00
Furniture	0.50	0.60	0.60	0.60	0.55	2.85
<b>Total:</b>	<b>9.00</b>	<b>37.78</b>	<b>46.50</b>	<b>32.00</b>	<b>6.07</b>	<b>129.35</b>

Recurring

Pay and allowances to staff Rs. 8.56

Library and Instructional material Rs. 2.00

Equipment and machinery maintenance Rs. 2.50

Fuel and energy costs Rs. 1.50

Communications costs Rs. 1.00

Contingencies Rs. 1.00

**Total:** Rs. 16.56 lakhs

Say Rs. 17.00 lakhs

Year-wise break-up of posts is indicated below:

	1974-75	75-76	76-77	77-78	Total
Professors	2	3	2	-	7
Readers	1	7	6	1	15
Lecturers	6	8	6	6	26
Instructors	-	3	4	1	8
Technicians	-	4	3	-	7

BUDGETARY POSITION

ANNEXURE

Head	<u>1974-75</u> Budget provision	<u>Expenditure</u>	<u>1975</u> Budget	<u>1976</u> Expenditure ac on 29.2.1976	<u>1976-77</u> Forecast
Pay of Officers	44,000	18,578.75	1,32,300	39,338.49	1,69,600
Pay of Establishment	9,800	5,526.63	44,100	8,378.13	57,100
Allowances	8,500	13,929.86	88,100	22,617.89	81,600
Contingencies	1,82,700	90,351.34	3,05,500	39,413.35	1,41,000
Other charges	2,55,000	57,772.40	7,00,000	90,729.50	1,25,000
Total:	<u>5,00,000</u>	<u>1,86,458.98</u>	<u>12,50,000</u>	<u>2,00,477.36</u>	<u>5,74,300</u>

P A R T - II

OBSERVATIONS AND RECOMMENDATIONS  
OF THE VISITING COMMITTEE

The Committee visited the University to examine the proposal on 22-24th March, 1976. Professor S.C. Mitra could not join the Committee due to sudden indisposition.

The Committee met the Vice-Chancellor, Pro-Vice-Chancellor and the members of the Syndicate, Cochin University and had a long discussion on the objectives of the undergraduate course in Naval Architecture/Ship Technology, Cochin University and the mechanics of its implementation. The Committee visited the Govt. Engineering College Trichur on 22nd March, 1976 held discussion with the Faculty members and acquainted themselves with the physical facilities available at the Govt. Engineering College Trichur. On 23rd March the Committee visited the Cochin Naval Base, Cochin Shipyard and the Cochin Port Trust to have some first hand knowledge about the facilities existing at these organisations for their successful utilization in running the course.

The Committee had the privilege of meeting the Chief Minister, the Education Minister and the Education Secretary, Govt. of Kerala on the 24th March at Trivandrum and was indeed happy to learn the interest and the involvement of State Govt. in the implementation of the programme of the Cochin University to meet the urgent national need.

The observations and recommendations of the Committee are presented below in the form of a report in two parts. The first part deals with a historical background highlighting the aims and objectives of the Cochin University alongwith the financial implications as submitted by the University for the introduction of the undergraduate course in Naval Architecture/Ship Technology. Part two of the Report refers to the observation and recommendations of the Visiting Committee on the subject.

India is a maritime nation and shipping is a vital economic factor in the country's growth and development. From a meagre two lakh tons DWT composed of 59 ships at the time of India's independence, the DWT has crossed 4 million tons with over 400 vessels. Indian shipping today has attained the capacity to carry 23% of the country's overseas trade. This is not enough.

Self sufficiency in ship designing is an important factor in achieving the goal of self-reliance in ship building. Most of the ships being built in the country

are not designed indigenously. To meet the country's special requirements it is imperative to set up Marine Design and Research Organisation so that ships can be designed and built.

Acute shortage of Naval Architects and Ship-builders or ship constructors is a world wide phenomenon and more so in India and the developing countries. The location of the Naval Base and the Shipyard at Cochin has given an unique opportunity to the maritime State of Kerala and the Cochin University to play a pre-eminent role in the shaping of the country's maritime future. The biggest and the most modern shipyard has been located at Cochin. To meet its own requirements for ship design and ship building the Cochin Shipyard has introduced a programme for training 15 to 20 Naval Architects per year. This pioneering activity will in due course of time prove to be a great asset not only to the Cochin Shipyard but also a national asset to all the Shipyards in the country. For the first-time in India the Cochin Shipyard is building a ship of 75,000 DWT for the Shipping Corporation of India. Many more such ventures will certainly follow not only at the Cochin Shipyard but also at other Shipyards of the country. This demands adequate planning. The country will need a great increase in the numbers of youngmen and women trained in Science, technology, engineering and management and the growth of the national income must depend on the success of the educational system in training the right type of people in the right disciplines, in adequate numbers and in seeing that they go to the right section of the economy. Economic growth and educational advance are in fact symbiotically dependent on each other.

The Science Policy Resolution of the Government of India (4th March, 1958) has emphasised that:

"the wealth and prosperity of a nation depends on the effective utilisation of its human and material resources through industrialisation. The use of human material for industrialisation demands its education in Science and training in technical skills. Industry opens up possibility of great fulfilment for the individual. India's enormous resources of manpower can only become an asset in the modern world when trained and educated".

All these factors lend support to the proposal of the Cochin University to introduce the undergraduate course in Naval Architecture/Ship Technology. Naval Architecture/Ship Technology is a highly specialised course where integration of the theory with practice in production by way of sandwich type of training would

deliver the goods. The Cochin University situated as it is, with the necessary support from the State and the Centre, it is hoped, would be able to fulfil the national task in active collaboration and cooperation with the Cochin Shipyard, the Cochin Naval Base and the Cochin Port Trust not only in designing of the sandwich type of the course but also in its fruitful implementation. The involvement of the State Government and its active cooperation, as it appeared to the Visiting Committee, will certainly be an asset in achieving the objective of providing the much needed properly trained personnel in Naval Architecture/Ship Technology to the country in adequate numbers at the right time.

A huge Oil Refinery Complex has been set up at Cochin, which, the Committee hopes, may offer ample opportunities to the Cochin University to explore the possibilities of introducing collaborative courses of studies in petro-chemicals and allied technologies once its own Faculties of Science and Engineering/Technology are developed.

The Committee has noted that arrangements for the transfer of the Government Engineering College, Trichur to the Cochin University are under way. The Committee also noted that the financial assistance from the UGC for approved schemes are available only to the University Engineering Colleges/Institutes as its integrated constituents with all financial, academic and administrative control vested in the University. The Committee hopes that the Trichur Engineering College will soon be brought under the purview of the Cochin University as its constituent college by suitable amendment of the Act and Statute of the University before it becomes eligible to receive UGC assistance as a base for the Naval Architecture/Ship Technology course on the usual sharing basis at 50:50.

The Undergraduate course in Naval Architecture/Ship Technology at Cochin University is feasible and viable and is in a field in which there is dearth of qualified personnel in the country. It will fill a void in the national picture of technical education. The introduction of the degree course in Naval Architecture/Ship building may in due course of time, lead to the establishment of a full-fledged faculty of ship Technology offering courses in Marine Engineering, Food Processing, etc. and in the promotion of research activities.

The Naval Architecture/Ship building is a highly specialised area involving sizable financial input. All necessary precautions have therefore to be taken to co-relate the demand/supply as precisely as possible.

p.t.o.

A condition should not develop where the graduates trained in this area of specialization may face unemployment or underemployment. It is always safer to start with a viable lower intake and to increase it with the need.

The University appears to have put more emphasis on small craft which are more in the nature of innovation than of deep engineering design procedures or problems. The emphasis should be more on new concept ships like the hydrofoils, the air-cushion vehicles as well as off shore vessels where the Naval Architect is very deeply involved together with Geologists and Civil Engineers.

The University has referred to new techniques of under-water welding for construction of vessel in two or more parts and its final assembly in water.

Though physically the process of welding is located below water, the work is achieved in the dry state on both the sides of the plate. It will be more appropriate to describe it as a float welding using cofferdams.

DURATION OF  
THE COURSES  
AND PLACE  
OF TRAINING

The course proposed is of 10 Semesters duration with one of the Semesters reserved for practical training.

In view of the proposed introduction of the 10+2 structure of High School education in the country and of a 4-year duration for a first degree course in engineering, the University should examine the possibility of making the duration of this course also of 4 years (i.e. 8 semesters). This period in college could be followed by 1 Semester of practical training in a shipyard, before the degree is awarded. The I.I.T. at Karagpur will also be adopting a 4-year pattern for its B.Tech. Courses after the adoption of the 10+2 Pattern of High School education.

It is the common trend in other teaching institutions, to reduce the duration of engineering courses from five to four years. Since these are the formative years for the Ship Technology Department where the facilities available at present are not adequate compared to other similar courses elsewhere, the reduction of the duration of the present course may not be desirable. At a future date when the Department has stabilised itself a reduction of the duration of the course by one Semester (to make it a 4-year course) may be desirable.

In the scheme of Teaching proposed the teaching in none of the Semesters is common with the other branches of engineering.

Since the first year of all engineering courses is basically devoted to the teaching of the basic sciences, humanities, engineering drawing and workshop practice, it is felt that the first year syllabi of this course could be easily modified to make it completely common with all other branches of engineering. Apart from effecting considerable economy this would also introduce a certain amount of flexibility and enable some students, under special circumstances to opt out of or into the new course.

The Scheme of Teaching proposed envisages utilizing the facilities of the Trichur Engineering College for the first 4 Semesters. During this period, the students are required to spend 1½ days per week in Cochin utilizing the facilities of the University of Cochin, the Cochin Shipyard and the FACT Training School.

This arrangement is considered undesirable for several reasons. Apart from the journey to and from Trichur being tiring for the students, it is considered completely unnecessary for the learning process. The students are fresh pass-outs from High School with no knowledge whatsoever of engineering subjects and it would be a far better utilization of their time if the first year of their course could be spent completely in the College at Trichur, learning the basics of engineering. The contact with ship-building industry could start after the first year of their course after which the students could be permanently located at Cochin. There is no added advantage in shuttling the students between Cochin and Trichur as the infrastructure for imparting practical training exists at Trichur itself.

In this connection it is pertinent to note that the B.Tech. students who have been specially recruited by the Cochin Shipyard and are now working for an additional degree in Naval Architecture at the I.I.T., Madras, are not required to have any contact with shipyards during the first year of their conversion course. The General Manager of the Cochin Shipyard also clearly stated that contact with the shipyard was not necessary during the first year of a degree course.

For the proper training of specialized Engineers/Technologists in such fields as Naval Architecture/Ship Technology, close collaboration with industry is highly desirable. The employability of the end products will improve by the quantum and nature of practical training the students get from the industries. The very justification for introducing the course at Cochin University is because of the existence of the Cochin

Shipyard and allied industries at Cochin and the possibility of active collaboration with them. It is desirable to ensure this collaboration with a definite programme before the course is introduced. It may be worthwhile to explore the possibility of reservation of an admission quota for candidates to be sponsored by the Cochin Shipyard and Allied Industries on the basis of admission qualification as may be laid down for the course by the University. Such candidates will become readily employable after they complete their training successfully. Further to expose the students to live situations in the field of Naval Architecture/Ship-building and to make the best use of the available industrial facilities in and around Cochin, it may be desirable that the course be offered on a sandwich pattern between the Institution and the Industries.

The proximity of sea, the Cochin Shipyard, the Naval Training Base, the Marine/Fishery Industry and other industrial complex offer special advantages to the Cochin University for developing a Centre for Ship Building Technology and a number of allied fields. The Centre when fully developed could offer a number of postgraduate courses in Ship Building and in allied fields, undertake useful research and development work and provide consultancy in this highly sophisticated and specialized area.

This long-term development objective would also amply justify the institution of the degree course in Naval Architecture/Ship Technology at Cochin University for the present with the recommended investment.

#### ADMISSION

The University has admitted 2 batches of students to this course, 15 students in each batch. The first batch was admitted in January 1975 and the second batch in January 1976—all thirty of them, without exception belonged to the State of Kerala. It is noted that the last date of receipt of applications from the candidates is 15th September and the selected candidates are admitted into the course by January of the following year. This time table suits candidates passing out of the local universities only and does not afford opportunities from other states to complete. Ultimately if this course has to be recognised at the all India level and its students accepted elsewhere in industries situated in other States, it is essential that the set up assumes a national character. With this objective in view it is suggested that

- a) As a matter of policy a certain number of seats should be reserved for students from other States.

- b) Starting of the course should be June or July in line with other universities.
- c) Equivalents of the basic qualification for entrance namely Pre-degree of Kerala University should be defined clearly so as to give equal opportunities to applicants from other universities in the country.
- d) The system of allotting 50% for academic qualification, 25% for the test and 25% for the interview may be discontinued. Instead the admission should be only on the basis of entrance examination conducted at various centres throughout the country and subsequent interviews, major percentage, or weightage being given to the entrance examination. The entrance examination could be conducted by the Cochin University in collaboration with the I.I.T's or the Roorkee University which have developed an effective machinery in this regard. The Cochin University should explore the possibility to recruit the best in the country and to give the course an all India character. The method of selection for admission shall have to be modified to attract and include students from all over the country. Perhaps reservation of seats for other States as is done in Regional Engineering College for nomination of candidates for the Course from other States, will have to be given due consideration. The course is tough and strenuous and the importance of physical fitness of the students at the time of admission and throughout the duration of the course and even after cannot be over-emphasized.

TEACHING  
STAFF

The necessity for having a good teaching staff needs no emphasis. The situation obtaining today is that primarily there is a shortage of people in the country who are qualified in the disciplines needed for the department. Secondly, even among those with the basic qualifications, very few have adequate teaching experience-mainly because the teaching institutions have been unable to offer the same attractive terms and conditions as the industries. To overcome this situation the options open are:

- a) To work out a suitable cultural exchange scheme with a reputed university abroad, provided such a scheme is mutually beneficial or

p.t.o.

- b) To get on contract people who have adequate experience in this line from abroad by offering them attractive terms and attach bright youngsters with basic qualifications as under studies. These assistants will be in a position to take over the responsibility from the foreign personnel in course of time. The latter option would require a departure from the existing pay scales of the University. It is felt that unless the university is able to offer the bright young men substantially more than what it offers at present in similar positions in other faculties, it would be extremely difficult to attract youngsters of requisite calibre. In the recruitment of staff a definite all-India base would be desirable.

The Committee noted as announced by the Vice-Chancellor at the special meeting of the Syndicate of Cochin University that the Government of India is exploring the possibility of developing bilateral link between the Cochin University and the Rostock University under Indo-GDR Cultural Exchange Programme. Naval Architecture/Ship Technology could be a profitable area of collaboration to the mutual benefit of both the countries. It will be necessary to procure the services of one or more senior Faculty members for a specified period under the Indo-GDR Cultural Exchange Programme as early as possible so that the course could be run on sound lines. In order to select the best talent available, the UGC and other participating agencies, e.g. Cochin Shipyard, Cochin Naval Base, Cochin Port Trust etc. should be associated with the Cochin University in selecting the teachers who would be sent to East Germany for specialized training in Naval Architecture and Ship Buildings and this selection should be made on all India basis. This would, in course of time, enable the University to organise the course with the help of its own personnel supplemented now and then by Visiting Professors/Specialists from within the country and abroad.

The staff recommended by the Committee should be recruited without delay to meet the teaching/training responsibility.

COCHIN NAVAL . The Naval Base at Cochin is primarily intended to  
BASE impart Naval training of a general nature to officers of the Indian Navy. It will, therefore, not be able to give any substantial support for the Course. However, they can give general ship-awareness training and convenience of visits to ships and other on-shore establishments, and they have assured that they would willingly give.

COCHIN  
SHIPYARD

The Cochin Shipyard has agreed to give training facilities to the students of the Course. However, as rightly pointed out by the Shipyard authorities, two points need to be borne in mind:

- (a) the advantage to be gained by casual tours of the Shipyard during the first year of the Course can, at best, be marginal. Hence the whole of the first year training could be done at Trichur, without any unnecessary trips to Cochin.
- (b) In Planning the practical training of the students during their 6 semesters stay at Cochin and during their last semester which is reserved specifically for practical training, it should be ensured that the time available should be distributed between all the shipyards of the country viz: Garden Reach Workshop, Mazagon Shipyard, Hindustan Shipyard and the Cochin Shipyard. This would give the students a much broader base to their practical experience and also enhance the possibilities of their employment in other shipyards also.

TUITION  
FEES

It was noted that the tuition fees charged from the students of this Course by Cochin University are Rs.1,000/- per year, whereas the tuition fee charged by Calicut University from the students at the Trichur Engineering College are only Rs.400/- per year.

It is felt that this disparity in the fees charged from students of engineering by two different universities of the State should not exist. The fees charged by Cochin University appear to be too high. The University of Cochin should examine the feasibility of charging only Rs.400/- per year from the students of this course. Moreover, naval architecture is not a very popular subject as obtaining in the country today despite the fact that the Indian graduates in the subject have been getting attractive offers of employment opportunity upto now. Even under this condition, the existing institutions have been unable to attract the very best students to the naval architecture course. Disproportionately high tuition fees will certainly act as a deterrent to attract the very best students.

FINANCIAL  
INPUTS

At Trichur:- The existing laboratories, class rooms, hostels, etc. were examined in detail and it was found that no additional facilities would be required at Trichur to train the students for the first year of their 4-year

Course. The present hostel facilities at Trichur are also adequate to house the 15 students of the Course.

Since the first year of the Course would be common with the first year of the other engineering courses, at best only marginal additions of staff will be required for these students.

At Cochin :

Building: Flat - Roof type

2.	Drawing Halls at the rate of 120 m <sup>2</sup>	=	240 m <sup>2</sup>
1	Mould Loft 180 m <sup>2</sup>	=	180 m <sup>2</sup>
3	Lecture Halls at the rate of 60 m <sup>2</sup>	=	180 m <sup>2</sup>
3	Tutorial Rooms at the rate of 50 m <sup>2</sup>	=	150 m <sup>2</sup>
10	Staff Rooms at the rate of 15 m <sup>2</sup>	=	150 m <sup>2</sup>
1	Library at the rate of 100 m <sup>2</sup>	=	100 m <sup>2</sup>
1	Seminar Room at the rate of 100 m <sup>2</sup>	=	100 m <sup>2</sup>
	Total Carpet area	=	1100 m <sup>2</sup>
	Addl. approx. 30% for corridors, bath rooms, etc.	=	330 m <sup>2</sup>
	Total Plinth area	=	1430 m <sup>2</sup>

Cost at the rate of Rs. 500/- per m<sup>2</sup> inclusive of all electrical, sanitary and other fittings.

Rs. 7,15,000/-

Building: Shed type Laboratoires:

Strength of Materials Lab	=	100 m <sup>2</sup>
Hydrodynamics Lab.	=	100 m <sup>2</sup>
Thermodynamics Lab	=	100 m <sup>2</sup>
Materials Science Lab.	=	100 m <sup>2</sup>
Control Engg. Lab.	=	100 m <sup>2</sup>
Electrical and Electronics Lab.	=	100 m <sup>2</sup>

Workshops:

Machine Shop	=	200 m <sup>2</sup>
Wood Working Shop	=	100 m <sup>2</sup>
Welding Shop	=	100 m <sup>2</sup>
		<hr/>
Total area of sheds	=	1000 m <sup>2</sup>

Cost at the rate of Rs. 350/- per m<sup>2</sup> inclusive of all electrical sanitary and other fittings - Rs. 3,50,000/-

Furniture:

For class rooms, labs. etc. = Rs.20,000/-

Hostels:

The present hostel accommodation at Cochin University is sufficient to accommodate the 15x3=45 students of this course who would be at Cochin at any given time. Hence no additional hostel facilities will be required.

Equipment:Laboratories:

Strength of Materials Lab.	=	Rs.2,00,000/-
Hydrodynamics Lab.	=	Rs. 2,00,000/-
Thermodynamics Lab.	=	Rs.1,00,000/-
Materials Science Lab.	=	Rs.1,00,000/-
Control Engg. Lab.	=	Rs.1,50,000/-
Electrical and Electronics lab.	=	Rs.1,50,000/-

Workshop :

Machine Shop	=	Rs.5,00,000/-
Wood Working Shop	=	Rs.1,00,000/-
Welding Shop	=	Rs.2,00,000/-
		<hr/>
	=	Rs.17,00,000/-

'Towing Tank' 'Manoeuvring Basin' and 'Cavitation Tunnel' are not considered essential at this stage of the development. A Model Testing Laboratory, including these facilities, can be added at a later stage when postgraduate courses are developed.

No separate 'Fabrication Shop' equipment has been recommended because training in fabrication methods can best be given in an industrial organisation or shipyard. Since fabrication is a production method, it differs widely from shipyard to shipyard and is subject to constant changes. It will not therefore be possible for an university to keep pace with the industrial organisations either in the changing methods of production or in providing up-to-date sophisticated machinery.

Library:

For initial stock of books for the Course = Rs. 2,00,000/-

Teaching and non-teaching staff:

The average staff-student ratio for undergraduate engineering education in the country is 1:10. Since the number of students in this course is small and the requirements of staff specialised, a staff-student ratio of about 1:6, it is felt, would suffice.

For 150-200 students at Trichur and Cochin, this would mean 10 staff members. Distributing these in the ratio of 1:1 between senior staff (Professors and Readers) and Junior staff (Lecturers), the Committee recommends provision of:

	<u>Av. monthly salary</u> (Subject to revision)	<u>Total Annual Cost</u>
Professors 2	Rs. 1,500/-	Rs. 36,000/-
Readers 3	Rs. 1,150/-	Rs. 41,400/-
Lecturers 5	Rs. 900/-	Rs. 54,000/-
		<hr/> Rs. 1,31,400/- <hr/>
Addl. (Approx) 10% for provident fund leave salary etc.		Rs. 13,600/-
Total for teaching staff		<hr/> Rs. 1,45,000/- <hr/>
Addl. (Approx) 35% for non-teaching technical supporting staff needed for laboratories, workshops, library etc.(e.g. laboratory technician, laboratory assistant, Superintendent/Foremen/ mechanics for workshops, professional assistant for library etc.)		Rs. 50,000/-
	Total	<hr/> = Rs. 1,95,000/- <hr/>

The staff could be recruited in the following broad fields:

<u>Senior Staff</u>	<u>Junior Staff</u>
1. Ship Design	Applied Thermoscience
2. Ship Motion and Manoeuverability	Materials Science
3. Resistance and Propulsion of Ships	Fluid Mechanics
4. Strength of Ships and Practical Ship Building	Solid Mechanics
5. Ship building Technology	Elec. and Electronics Engg. (with computer science background)

The above is more by way of a suggestion than a rigid classification.

Library (per year) Rs.16,000.00

Maintenance and Repair of Laboratories etc. at the rate of Rs.500/- per student per year. Rs.30,000.00

Total Financial recommendations:  
Non-Recurring:

1. Building including furniture (2430 sq.m)	Rs.10,65,000
2. Equipment	Rs.17,00,000
3. Books and Journals	Rs. 2,00,000
	<u>Rs.29,65,000</u>

Recurring per annum:

1) Teaching Staff: (2P+3R+5L)	Rs. 1,45,000
2) Non-teaching supporting staff (at 35% of salary etc. of teaching staff)	Rs. 50,000
3) Library	Rs. 15,000
4) Working expenses for Laboratories	Rs. 30,000
5) Hiring of computer time and incidentals	Rs. 20,000
Total:	<u>Rs.2,60,000</u>

\*The Faculty and the students should have access to the use of modern computer facilities at Trivandrum, Bangalore or Madras.

Item	University/State Govt. Sharing at 50%	UGC Share at 50%
Non-recurring (for V Plan)	Rs. 14,82,500	Rs. 14,82,500
Recurring (Per annum)	Rs. 1,30,000	Rs. 1,30,000

The Committee places on record its deep appreciation to the Kerala State Government, the Vice-Chancellor, Pro-Vice-Chancellor, the members of the Syndicate, the members and the Faculty both at Tribhuv Engineering College and at the Cochin University Campus for all the guidance, assistance and cooperation extended to it in assessing and examining the proposal of the University to introduce an undergraduate course in Naval Architecture/Ship Technology.

Dated : 24th March, 1976

Sd/- 1. S. Parmanandan

2. P.U. Cariappa

3. S. Sampath

4. Shankar Lal

5. S.K. Handa

6. S.K. Dasgupta.

CONFIDENTIAL

University Grants Commission

Meeting: ..

Date : 19th July, 1976

20

Item No. 11 : To consider the report of the Committee appointed by the Commission to review the working of the correspondence courses at the Meerut University

----

The University Grants Commission at its meeting held on 29th September, 1975 while considering the proposal of the Allahabad University to start Correspondence Courses for B.A., B.Com. and LL.B. desired that the working of the Correspondence Courses at Meerut University may be reviewed (Resolution 22).

In pursuance of the above resolution, the Commission appointed a Visiting Committee consisting of the following members to review the working of the Institute of Correspondence Courses and Continuing Education, Meerut University and to consider the development requirements of the Institute in the Fifth Plan period:-

1. Dr. C.M.S. Das,  
Professor of Zoology,  
University of Delhi.
2. Dr. Amrik Singh,  
Secretary,  
Association of Indian Universities,  
New Delhi.
3. Dr. S.C. Goel,  
Deputy Secretary, UGC.

The Committee visited the Institute of Correspondence Courses and Continuing Education on April 21, 1976, and held discussions with the Vice-Chancellor, Meerut University, officiating Director and other teachers of the Institute and the members of the Advisory Committee of the Institute. The report of the Committee is attached (Annexure-I).

The main recommendations of the Committee are summarized below:

- i) The Committee noted the circumstances which have led to the Correspondence Courses not being able to attract a sufficiently large number of students, and after taking all the factors in to

p.t.o.

- consideration the Committee was of the view that the Meerut University can still attract a sufficiently large number of students to its correspondence course programme and make it viable provided the course is organised in keeping with the UGC guidelines and sufficient stress is laid on the quality of the lessons and the provision for contact programmes, study centres and adequate library facilities.
- ii) The Committee desired that the University may examine how far the basic philosophy of inter-relationship between Correspondence Courses Unit and the University departments can be incorporated in its thinking and translated into practice.
  - iii) The Committee reiterated the suggestion in the UGC guidelines that "the preparation of instructional material is crucial to the success of the entire programme of correspondence education. The lessons should be written by the best available persons individually or in teams of 3-4 selected on all India level or at least the State level from among those who have experience of teaching the subject for atleast five years".
  - iv) The Committee suggested that a definite proportion of lesson writers from outside should be laid down and the proportion should be progressively increased.
  - v) The Committee has recommended that the duration of the contact programme should be immediately increased to 8 to 10 working days, and an effort should be made to organize atleast one programme in each semester with the cooperation of the local colleges of the University, and in the interest of economy as well as academic standards the responsibility for organising the contact programme should be entrusted to the local colleges.
  - vi) The Meerut University should get in touch with the School of Correspondence Courses & Continuing Education in the University of Delhi and organise study centres on a reciprocal basis.
  - vii) The Institute should take full advantage of the UGC scheme of book banks and also work out a system of issue of books to the students from the Central Library of the University as well as the Libraries of the affiliated Colleges.

- viii) With a view to augmenting its resources which would also help the students community at large, specially the category of external students, the Institute may publish its instructional materials in the form of text books and make them available for sale. This would also help the school to raise the quality of instructional material through greater feed back for students.
- ix) The Committee was of the view that the University should utilise the present plan period for consolidating the its undergraduate correspondence courses and approach the Commission for assistance towards the introduction of correspondence courses at the postgraduate level in the next plan period.
- x) The Committee has recommended that financial assistance may be provided by the UGC to the Meerut University for consolidating its undergraduate Correspondence Courses programme towards the following items:

Item	Estimated expenditure for the period ending 1978-79
	Rs.
i) A Reader in each in History, Economics, Political Science and Sociology.	2,16,000
ii) Improvement of Instructional material.	29,000
iii) Personal Contact Programmes	75,000
iv) Study Centres	1,20,000
Total:	<u>4,50,000</u>

The assistance for staff will be available upto 1980-81 and for other facilities upto 1978-79. Thereafter, it will have to be taken over as a committed expenditure by the State Government.

Item	University/State Govt. Sharing at 50%	UGC Share at 50%
Non-recurring (for V Plan)	Rs. 14,82,500	Rs. 14,82,500
Recurring (Per annum)	Rs. 1,30,000	Rs. 1,30,000

The Committee places on record its deep appreciation to the Kerala State Government, the Vice-Chancellor, Pro-Vice-Chancellor, the members of the Syndicate, the members and the Faculty both at Tribhur Engineering College and at the Cochin University Campus for all the guidance, assistance and cooperation extended to it in assessing and examining the proposal of the University to introduce an undergraduate course in Naval Architecture/Ship Technology.

Dated : 24th March, 1976

Sd/- 1. S. Parmanandan

2. P.U. Cariappa

3. S. Sampath

4. Shankar Lal

5. S.K. Handa

6. S.K. Dasgupta.

24

Report of the Visiting Committee to the Institute  
of Correspondence Courses and Continuing Education  
Meerut University.

.....

The University Grants Commission appointed a visiting Committee, consisting of the following members, to review the working of the Institute of Correspondence Courses and Continuing Education, Meerut University and to consider the development requirements of the Institute in the fifth plan period.

1. Dr. C.M.S. Das  
Professor of Zoology  
University of Delhi
2. Dr. Amrik Singh  
Secretary  
Association of Indian universities  
New Delhi
3. Dr. S.C. Goel  
Deputy Secretary (ER)  
UGC, New Delhi.

2. The committee visited the Institute of Correspondence Courses and Continuing Education on April 21st, 1976 and held discussions with Shri S. Tripathi, officiating Director and other teachers of the Institute and the members of the Advisory Committee of the Institute. The committee also had the benefit of discussion with Dr. B.S. Mathur, the Vice-Chancellor of the Meerut University. The committee also visited the university library and other departments of the Institute. The report of the committee follows.

Basic facts and figures

3. The Institute of Correspondence Courses in the Meerut University was established in July 1969 and offers a two-year degree course leading to the B.A. degree of the Meerut University. The University started correspondence courses on its own but the UGC accepted the proposal at its meeting held on 4th February 1970 and agreed to provide a grant of Rs. 5,00,000/- for a period of four years to the university for this purpose.

The Institute provides facilities for education through correspondence for the B.A. degree for students all over India. A student enrolled with the Institute (like any other regular student of the university) studies the same syllabi and curriculum and takes the same examination and is awarded the same degree by the university on the successful completion of the course.

English and Hindi are the medium of instruction for the subjects except that in the languages, the medium is the language concerned.

25

Admission is open to candidates who have passed the intermediate examination of the Board of high School and intermediate education, U.P. or of any Indian university or any of the specified equivalent examination including the B.Tech first year examination of I.I.T. Kanpur and two year pre-degree course of Kerala or Calicut University.

Teaching is conducted in the following subjects, English, Hindi, Sanskrit, Mathematics, Economics, History, Political Science, Sociology and Philosophy. The general courses taught are religion, culture, basic mathematics, basic statistics, everyday botany, everyday physics, everyday zoology and human physiology, elementary sociology, Indian constitution, general English and general Hindi. A student is required to study three main subjects of four courses each. In each semester a student takes one course in each of the three main subjects. In addition, a student is required to offer four general courses. The general courses are those which a student has not studied at the intermediate or pre-university level and which he is not studying as part of the main course for the B.A. degree.

The instructional system consists of mailing lessons to the students on weekly basis. Each weekly instalment consists of one lecture in each of the subjects offered. In all 8 lectures in a subject course and four lectures in a general course are sent to the student in each semester. The contents of the lectures are approximately equal to 3-10 class room lectures.

Each lecture is followed by an assignment which the student is required to submit and which is evaluated, commented upon and thereafter returned to the student for the guidance. There is also a comprehensive assignment for each of the subjects. The university has prescribed completion of a minimum of 75 per cent assignment of at least 33 per cent marks before a student is allowed to appear at the examination. The Vice-Chancellor, however, may condone shortage in assignment up to 15 per cent on the recommendation of the Director, Correspondence Courses, under certain conditions to be specified.

The enrolment in the Institute of Correspondence Courses was 1,769 in 1969-70, 1,812 in 1970-71, 3,218 in 1971-72, 3,813 in 1972-73, 3,471 in 1973-74, 1,970 in 1974-75 and 1,095 in 1975-76. It will be seen that enrolment touched its highest level in 1973-74 and has been declining drastically since then. The subjectwise distribution of enrolment in 1974-75 shows that the maximum number of students viz 843 or 42.8 per cent are from U.P., followed by Delhi (685 or 34.8) per cent Rajasthan (136 or 7 per cent) and Harayana 128 or 6.6 per cent. The enrolment of girls was 167 or 8.5 per cent of the total enrolment. A majority of the students enrolled in correspondence courses of the Meerut University are employed students. Their number was 1,299 or 65.2 per cent of the total enrolment.

206

The total number of sanctioned teaching posts in the Insitute is 9 of whom 8 are in position i.e. Lecturer each in Sanskrit, Hindi, Economics, English, History, Political Science, Mathematics and Sociology. Four lecturers have a Ph.D. or D. . phil degree. These lecturers are also guiding some research scholars.

The examination results of B.A., regular students and B.A. correspondence course students for the year 1972-73, 1973-74 and 1974-75 are given below for comparision.

B.A. REGULAR STUDENTS

Year	Total appeared	Total Passed	* pass percentage		
			i	II	IIIDivision
1972-73	8799	5408	*61.5	127 2429	2852
1973-74	11373	5864	51.6	150 1653	4061
1974-75	10092	4173	41.3	101 1977	2095

B.A. CORRESPONDENCE COURSE STUDENTS

Year	Total appeared	Total Passed	Pass Percentage	I II III Division		
				I	II	III
1972-73	1,307	470	36	4	172	294
1973-74	1,292	524	41	3	150	371
1974-75	859	537	62.5	1	176	360

The above table shows that the results of correspondence course students are inferior both qualitatively and quantitatively except during the year 1974-75. However, in so far as the information for the year 1974-75 is concerned, it seems that there is some typographical error as the number of students enrolled in the second and 4th semester is shown to be 536 and 858 respectively but the total number of students appearing at the university examination is shown to be 859 only.

4. The observations and recommendations of the committee are as under:

(a) The committee is concerned with the decline in enrolment in B.A. degree course offered by the University through correspondence and discussed this matter in detail with the university authorities This was attributed to a number of factors:-

(i) The provision made by the university to permit private

29

candidates to take university examination from 1973-74. 9,960 students were registered with the university in 1976 for appearing privately at the university examinations. It is a matter of serious concern that the ratio between correspondence courses and private students is approximately 1:9 and that correspondence courses are not able to attract a sufficiently large number of private students.

(ii) the ratio of growth of enrolments in Arts has gone down considerably in recent years (iii) The course offered by the Meerut University is a two year degree course which would obviously make it difficult for students outside U.P. to enrol themselves for the course. (iv) it has also to be noted that the Meerut University follows the semester pattern which implies that a student enrolled in correspondence courses has to take two examinations every year.

After taking all the above factors into consideration, the committee is of the view that the Meerut University can still attract a sufficiently large number of students to its correspondence course programme and make it viable provided the course is organised in keeping with the UGC guidelines and sufficient stress is laid on the quality of the lessons and the provision for contact programmes, study courses and adequate library facilities.

(b) One of the basic features of the UGC guidelines is that teachers in the school of correspondence courses should be borne on the strength of the respective university departments, and that the selection committee for the teachers of correspondence course unit should be the same as for regular departments and that in future while recruiting teachers for the departments it should be stipulated that they may be assigned work in the correspondence course unit depending upon the exigencies of work. The commitment of the Meerut university to this philosophy is somewhat equivocal.

Nevertheless, it is of the utmost importance that a two way traffic is established between the correspondence course unit and the university departments, which probably is the only way in which bright and talented teachers can be attracted to the correspondence course unit and standards of correspondence education can be maintained at a high level. The committee therefore, would like to impress upon the university the need to examine how this basic philosophy can be incorporated in its thinking and translated into practice.

(c) The instructional material for the students of correspondence courses was prepared by the Institute in the first year as a crash job. Later these lessons were re-written and properly edited but all this was again done with the help of the lecturers working in the Institute, with the exception of one or two subjects. This seems to be highly

unsatisfactory as no teacher, howsoever experienced he might be can write the entire degree course in his subject. In this connection the committee would like to reiterate the suggestion in the UGC guidelines" the preparation of instructional material is crucial to the success of the entire programme of correspondence education lessons should be written by the best available persons individually or in teams of 3-4 selected on all India level or at least the state level from among those who have experience of teaching the subject for atleast five years". In view of the above, it is suggested that a definite proportion of lesson writers from outside should be laid down and the proportion should be progressively increased. This is the only way in which one can avoid inbreeding and take full advantage of the correspondence system of education.

(d) The Institute in keeping with the UGC guidelines will appoint subject committee to review all the lessons periodically and assign same for re-writing or re-editing and also approve lesson writers.

(e) The Institute conducts limited personal contact programme of one or two days on a purely voluntary basis. These programmes have been conducted in the past at Belhi, Ghaziabad, Meerut and Saharanpur. The number of contact programmes was two in 1971-72, six in 1972-73, three in 1973-74, 10 in 1974-75 and 15 in 1975-76. The committee recommends that the duration of the programme should be immediately increased to 8-10 working days and an effort should be made to organise atleast one programme in each semester with the cooperation of the

local colleges/are utilised and some honorarium is paid to the teachers of the colleges as the cost is not likely to be high but in the interest of economy as well as academic standards, the responsibility for organising the contact programmes should be given to the local colleges.

(f) The university has been running a study centre at Saharanpur but seems to have dropped the idea of establishing a similar centre at Delhi from where a fairly large number of students enrol themselves with the Meerut University, Institute of Correspondence courses, There seems to be no reason why the Institute of correspondence courses of the Meerut University should not get in touch with the School of Correspondence courses in the University of Delhi and organise study centres on a reciprocal basis.

(g) The committee noted with satisfaction that the flow of lessons from the Institute of Correspondence Courses to the students is fairly well regulated and that the assignments submitted by the students are also evaluated, corrected and returned to the students regularly. The university has also introduced the system of internal assessment and 20 per cent of the marks have been assigned for the first and third semester on the basis of these assignments.

the  
rsity  
e facili-  
of the  
ges

29

(h) It was also noted with satisfactions that the Institute brings out a magazine 'Prasarika' with contributions from students and teachers of the Institute. The magazine makes good reading.

(i) The committee would like to lay stress on the development of library facilities in the Institute. The Institute should take full advantage of the UGC scheme of book banks and also work out a system of issue of books to the students from the central library of the university as well as the libraries of the affiliated colleges, in addition to building a library of its own from the fees collected from the students.

(j) One of the steps which the Institute could take to augment its resources and which would also help the student community at large, specially the category of external students, is that the institute may publish its instructional materials in the form of text books and make them available for sale. In the long run, this would also help the school to raise the quality of instructional material through greater feed back from students.

(k) The university submitted a proposal to the committee for financial assistance towards the introduction of correspondence courses at its postgraduate level in all the subjects being offered at the undergraduate level viz Economics, English, History, Political Science, Sanskrit, Sociology, Hindi and Mathematics. Considering the present low level of enrolment in the undergraduate correspondence courses as also the fact that in the new pattern of education, students cannot be admitted to postgraduate courses without having completed a three year degree course or a two year degree course and a one year link or bridge course, the committee is unable to support the proposal of the university. It has also to be noted that the Meerut University has yet to establish postgraduate departments in many of these subjects. The university will also have to organise its undergraduate correspondence courses alongwith the lines indicated in the report and in the UGC guidelines with particular reference to the standards of instructional material and the conduct of personal contact programmes and organisation of study centres. In the opinion of the committee, the university should utilise the present plan period for consolidating the undergraduate correspondence courses and approach the Commission for assistance towards the introduction of correspondence courses at the postgraduate level in the next plan period.

(l) The Committee recommends that financial assistance may be provided by the UGC to the Meerut University for consolidating its undergraduate correspondence course programme towards the following items:-

Item	Estimate expenditure for the period ending 1978-79
i) A reader each in History Economics, Political-science and Sociology	Rs.2,16,000

p.t.o.

30

ii) Improvement of Instructional Material.	Rs.39,000
iii) Personal contact programmes	Rs.75,000
iv) Study Centres	Rs.1,20,000
	<hr/>
Tital:	Rs.4,50,000
	<hr/>

.....

Assistance for staff will be available upto 1980-81 and for other facilities upto 1978-79. Thereafter, it will have to be taken over as committed expenditure by the State Government.

The above grants may be sanctioned to the university on condition that the UGC guidelines and the recommendations in the report are accepted by the university.

The Committee is grateful to the Vice-Chancellor and the staff of the Institute of Correspondence Courses and Continuing Education for its help in its deliberations.

-----

(31)  
Confidential

University Grants Commission

Meeting:

Dated : 19th July, 1976

Item No.12: To consider the report of the Committee appointed by the Commission to consider the question regarding the utilisation of the amount realised from the sale of books and other materials produced under the College Science Improvement Programme - University Leadership Projects.

.....

The Commission at its meeting held on 16th February, 1976 vide Item No.14 decided that the general guidelines for the utilisation of sale proceeds from the materials produced under the CCSIP - University Leadership Projects may be prepared with the help of a Committee. A Committee consisting of following members was accordingly appointed: -

1. Professor R.P. Bambah  
Head of the Department of Mathematics  
Panjab University  
Chandigarh.
2. Professor B.L. Saraf  
Head of the Department of Physics  
Rajasthan University  
Jaipur.
3. Professor H.J. Amikar  
Head of the Department of Chemistry  
Poona University  
Poona.
4. Professor S. Krishnaswamy  
Head of the Division of Biological Sciences  
Madurai University  
Madurai.
5. Dr. D. Shankar Narayan  
Additional Secretary  
UGC, New Delhi.

A meeting of the Committee was held on 23rd April, 1976. Professor H.J. Amikar and Professor S. Krishnaswamy were not able to attend the meeting. The main recommendations of the Committee are indicated below :-

1. The Committee noted that all such materials had been produced as a result of the collective effort of university and college teachers and by utilising the infrastructure facilities available at the university department and it would be difficult to specifically identify individuals for either giving recognition or financial remunerations. It should however be necessary to provide some incentives and encourage individuals who have contributed significantly to the production of such materials as well as to the success of the CCSIP programmes in general.

32

- - -

2. The Committee felt that the selling price of the books prepared under the CCSIP should not be fixed at more than  $1\frac{1}{2}$  times the actual cost of production which may include the cost of paper, printing, binding etc.

3. The net profits should be worked out after taking into account the costs of production and distribution and the profit so realised in respect of Books and other reading materials may be utilised in the following manner:-

a) 40% may be put into the reserve fund for taking up production of further materials. /reading

b) 20% to be utilised at the discretion of the coordinator of the project for use in the department for various academic purposes;

c) The remaining 40% may be distributed to the individual teachers in the universities and colleges who have contributed to the production of the materials. This may be done by the coordinator with the approval of the Vice-Chancellor and the amounts so given to the individual teachers should be used for furtherance of the teacher's academic work.

(Professor R.P. Bambah however subsequently wrote that the distribution in case of Books should be also 40%, 30% and 30% as in case of equipment).

4. For equipments the net profit may be determined after taking into account the costs of materials involved, any other expenditure not provided in the CCSIP Budget and likely expenditure on storage and distribution. The sale price of the equipment should generally be in the range of  $1\frac{1}{2}$  times to 2 times of the cost of production. The net profit so realised in respect of scientific equipment, films and other distribution aids may be used in the following manner:-

a) 40% of the amount may be put into the reserve fund for production of more items as well as research, design and development of further items of equipment required for furtherance of the objectives of CCSIP.

b) 30% may be placed at the discretion of the coordinator to be distributed amongst the persons who have contributed to the design, fabrication and development of the instruments concerned.

c) 30% to be used for promoting the academic work of the teachers in the subject, both in the university department and the college departments participating in the programme.

The matter is placed before the Commission for consideration.

Report of the Committee appointed to consider the question regarding utilisation of the amount realised from books and other materials produced and sold under the University Leadership Projects of the College Science Improvement Programme.

.....

The University Grants Commission desired that an Expert Committee may be appointed to examine further the questions related to the utilisation of the amounts realised from the sales of books, equipment and other materials produced by the university departments undertaking university leadership projects under the College Science Improvement Programme. A Committee consisting of the following was accordingly appointed :

- 1) Professor R.P. Bamrah  
Head of the Department of Mathematics  
Panjab University  
Chandigarh
- 2) Professor B.L. Saraf  
Head of the Department of Physics  
Rajasthan University  
Jaipur
- 3) Professor H.J. Amikar  
Head of the Department of Chemistry  
Poona University  
Poona.
- 4) Professor S. Krishnaswamy  
Head of the Division of Biological Sciences  
Madurai University  
Madurai
- 5) Dr. D. Shankar Narayan  
Additional Secretary  
UGC.

The Committee held its meeting on 28th April, 1976 in the office of the University Grants Commission. All members except Professor H.J. Amikar and Professor S. Krishnaswamy attended the meeting.

The Committee noted that as a result of the various activities initiated by the university departments selected to take up university leadership projects under the College Science Improvement Programme, it had become possible for these departments to produce curriculum materials, such as, text-books and other reading materials and scientific equipment including demonstration equipment, models, charts, films, film strips etc. These materials were designed and developed as a result of the initiative taken by the departments concerned and the participation of both university and college

teachers in the subject and with the utilisation of the facilities of workshop etc., available to the project. These materials were produced mainly for bringing about curriculum reforms and reforms in Instruction etc., in the affiliated colleges of the University and were also supplied to the colleges. However, in some cases, the materials were produced in larger numbers and sold to colleges as well as other institutions. The question, therefore related to the manner in which amounts so realised from the sales of books, scientific equipment etc., should be utilised for further promotion of the activities of the College Science Improvement Programme in the departments concerned.

The Committee took note of the fact that all such materials had been produced as a result of the collective effort of university and college teachers and by utilising the infrastructure facilities of workshop etc. It would, therefore, be difficult to specifically identify individuals for either giving recognition or financial remunerations. At the same time, it is also necessary to provide some incentives and encourage individuals who have contributed significantly to the production of such materials as well as to the success of the CCSIP programmes in general. The Committee noted that the Commission had earlier taken a decision that 40% of the sale proceeds may be paid to the authors as remuneration for writing the books, 20% to be used for commission for retail sales of books and the balance of 40% to be placed in the reserve fund to encourage production of more books and materials. It was understood that the word 'sale proceeds', related to the profits realised after reclaiming the cost of production involved and for which purposes either a specific amount had been provided by the UGC or the University Department concerned had reappropriated it from other existing budget heads under the CCSIP-UIP.

The Committee, after taking into account the various issues involved, suggested that the following procedure may be followed henceforth:

- (A) Text-books and other reading materials produced and sold under the University Leadership Projects.
- (i) The main purpose for production of such books and other reading materials should be to make them available to students and teachers at as low price as possible and in adequate numbers. The element of profit should be kept to the absolute minimum to take care of the costs involved in storage, distribution and handling etc., and to provide for small amounts to be added to the reserve fund which would enable the activities to be continued even after the formal project and assistance from the UGC has ended. The Committee therefore felt that the selling price of such books should not ordinarily be fixed at more than  $1\frac{1}{2}$  times the actual cost of production, to include the cost of paper, printing, binding. The costs for preparation of manuscripts and their testing and evaluation are already provided for in the CCSIP budgets. There are also other sources of indirect subsidy in such efforts.

(ii) The number of copies of the books to be printed should be reasonably estimated keeping in view the number of students using such books within the university and to make available sufficient number of copies to users in the other universities etc., and also the revised editions likely to be brought out.

(iii) The net profits accruing from the sales should be decided after taking into account the costs of production and distribution and the profit so realised may be used in the following manner:

- a) 40% to be put in the reserve fund (alongwith the reclaimed costs of production) for taking up production of further reading materials;
- b) 20% to be utilised at the discretion of the coordinator of the project for use in the department for various academic purposes;
- c) The remaining 40% may be distributed to the individual teachers in the universities and colleges who have contributed to the production of the materials. This may be done by the coordinator with the approval of the Vice-Chancellor and the amounts so given to the individual teachers should be used for furtherance of the teacher's academic work. The purposes, for which these amounts may be used by the teachers, would generally be the same as in the case of the contingent grants attached to the research fellowships awarded by the UGC. The maximum amount that may be given to an individual teacher should be determined by the coordinator with the approval of the Vice-Chancellor of the university concerned.

B. Scientific Equipment etc :

The net profits realised could be determined after taking into account the costs of materials involved, any other expenditure not provided in the CCSIP Budget but incurred for purposes of production of multiple numbers of the equipment concerned and likely expenditure on storage and distribution. The sale price of the equipment should generally be in the range of  $1\frac{1}{2}$  times to 2 times of the cost of production as indicated above.

The net profit so realised by sales may be used in the following manner:

- (a) 40% of the amount may be put into the reserve fund (alongwith reclaimed costs of production) for production of more items of equipment as well as research, design and development of further items of equipment required for furtherance of the objectives of the CCSIP.

36

- (b) 30% may be placed at the discretion of the coordinator to be distributed amongst the persons who have contributed to the design, fabrication and development of the instruments concerned.
- (c) 30% to be used for promoting the academic work of the teachers in the subject, both in the university department and the colleges departments, participating in the programme.

The Committee further noted that as part of the CCSIP, the books, scientific equipment and other materials developed are supplied to the participating colleges departments free. The cost of such supplies should be accounted for against the budgetary provisions available in the CCSIP Project for supply of equipment and books to the colleges. This should be done in the same manner as equipment etc., sold to others. Generally it is expected that one unit of the materials is supplied to the colleges departments free of cost (i.e. by adjustment as indicated above) out of the provisions available under the CCSIP and any extra units which the colleges may require, would be purchased by them from out of their normal equipment and books grants.

The Committee noted that it may be possible for some of these items of equipment to be patented and royalty obtained or sold out to industry in the neighbourhood. The amounts realised as a consequence of such sales should also be taken into account and used in the same manner as indicated above.

The Committee expressed its appreciation of the efforts made by the CCSIP-UIPs in production of various curricular materials so far and making them available to the colleges and bringing about necessary changes in laboratory work as well as class room instruction, at undergraduate level.

.....

University Grants Commission

(37)  
Confidential

Meeting:  
Date : 19th July, 1976

Item No.13: To consider the minutes of the Committee appointed to consider the recommendations made at the Joint Meeting of the U.G.C. and the Standing Committee of the Association of Indian Universities regarding the rules to be framed to review the cases of retirement of employees of the Universities at the age of 50 and 55 as proposed by the Government of Orissa.

---

The Joint meeting of the U.G.C. and the Standing Committee of the Association of Indian Universities at their meeting held on 29th October, 1975 considered a reference from the Sambalpur University regarding the rules framed by the Government of Orissa to review the cases of retirement of the employees at the age of 50 and 55 years.

The decision taken at the joint meeting in this connection is indicated below:

"It was agreed that rules may be framed for reviewing such cases at the age of 50 in the first instance and at the age of 55 for a second time, with a view to make premature retirement of those who are lacking in integrity or their physical or mental condition in such as to make them inefficient for further service. It was further agreed that it would be desirable to have periodical assessment of teachers even at earlier ages. While making rules for such review, it will not only necessary to provide for the right of defence and appeal to appropriate authorities but also provision for giving terminal benefits to those who are compulsorily retired may also have to be provided for. The procedure to be prescribed should be such that there should not be any scope for victimisation. Such review Committees should consist of academicians including experts from outside the State and the academic grounds on which premature retirement can be made, should be clearly laid down".

The proceedings of the joint meeting were considered by the U.G.C. at its meeting held on 7th January, 1976. The Commission desired that the recommendation made regarding the rules to be framed to review the cases of retirement of employees of the universities at the age of 50 and 55 as proposed by the Orissa Government may be referred to a Committee.

38

The Commission, accordingly, appointed a Committee consisting of the following members:

1. Dr. S.N. Sen,  
Vice-Chancellor,  
Calcutta University,  
Calcutta.
2. Shri I.J. Patel,  
Vice-Chancellor,  
Gujarat University,  
Ahmedabad.
3. Prof. S. Gopal,  
**Chairman,**  
National Book Trust,  
New Delhi.
4. Professor R.P. Bambah,  
Director,  
Centre of Advanced Study in Mathematics,  
Panjab University,  
Chandigarh.
5. Professor R. Rath,  
Department of Psychology,  
Utkal University,  
Bhubaneswar.

The meeting of the Committee was held on 20th April, 1976. A copy of the minutes of the Committee is enclosed (Annexure). The main recommendations of the Committee are given below:

1. The Committee was not in favour of the suggestion that rules may be framed for reviewing the cases of retirement of the teachers at the age of 50 in the first instance and at the age of 55 for a second term.
2. However, in exceptional cases, if a teacher cannot function as he is expected to do, his case for premature retirement could be considered. It was agreed that in such cases it will not be only necessary to provide for the right of defence and appeal to appropriate authorities but also provision for giving terminal benefits to those who are compulsorily retired may also have to be provided for. The procedure to be prescribed should be such that there should not be any scope for victimisation. Such review committees should consist of academicians including experts from outside the the State and the academic grounds on which premature retirement can be made, should be clearly laid down.

EO(CP)/DS(CP)

----

A meeting of the Committee appointed to consider the recommendations made at the joint meeting of the University Grants Commission and the Standing Committee of the Association of Indian Universities regarding the rules to be framed to review the cases of retirement of employees of the Universities at the age of 50 and 55 years as proposed by the Government of Orissa was held on April 20, 1976 at 3.00 p.m. in the University Grants Commission. The following were present :-

- |                                 |                       |
|---------------------------------|-----------------------|
| 1. Professor Satish Chandra     | .... Chairman - - -   |
| 2. Shri I.J. Patel              | .... Chairman, A.I.U. |
| 3. Professor S. Gopal           |                       |
| 4. Professor R.P. Bambah        |                       |
| 5. Professor (Miss) A.J. Dastur |                       |
| 6. Professor R. Rath            |                       |
| 7. Shri R.K. Chhabra.           |                       |

The Committee was not in favour of the suggestion that rules may be framed for reviewing the cases of retirement of the teachers at the age of 50 in the first instance and at the age of 55 for a second term.

However, in exceptional cases, if a teacher cannot function as he is expected to do, his case for premature retirement could be considered. It was agreed that in such cases it will not be only necessary to provide for the right of defence and appeal to appropriate authorities but also provision for giving terminal benefits to those who are compulsorily retired may also have to be provided for. The procedure to be prescribed should be such that there should not be any scope for victimisation. Such review committees should consist of academicians including experts from outside the State and the academic grounds on which premature retirement can be made, should be clearly laid down.

The Chairman brought to the notice of the Committee the resolution adopted and the copies of the Government of Andhra Pradesh orders adopted by the Syndicate of the Osmania University in connection with the premature retirement of teachers of the University in public interest. The Committee desired that the Chairman may discuss this matter further with the Government of India.

.....

University Grants Commission

(40)

Meeting:  
Date : 19th July, 1976

Item No.14: To consider the minutes of the Standing Advisory Committee on Computer Development - meeting held on the 12th March, 1976.

----

The first meeting of the reconstituted Advisory Committee on Computer Development was held in the office of the Commission on the 12th March, 1976. The following were present:-

1. Professor Satish Chandra  
Chairman,  
U.G.C.
2. Prof. R.P. Bambah,  
Head of the Centre of Advanced  
Study in Mathematics,  
Panjab University.
3. Prof. Rais Ahmed  
Director,  
N.C.E.R.T.,  
New Delhi.
4. Prof. H.N. Mahabala,  
Computer Centre,  
Indian Institute of Technology,  
Madras.
5. Dr. R.M.K. Sinha,  
Computer Centre,  
Indian Institute of Technology,  
Kanpur.
6. Col. A. Balasubramanian,  
Department of Electronics,  
Government of India,  
New Delhi.
7. Dr. D. Shankar Narayan,  
Additional Secretary,  
U.G.C.

Prof. R. Narasimhan of T.I.F.R., Bombay could not attend the meeting.

A copy of the proceedings of the meeting are attached (Annexure-I). The main recommendations of the

(41)

Committee and the action taken on these is indicated below:-

Recommendations:

1. It was decided that an overall plan for computer facilities indicating locations, support of technical staff and types of courses to be offered in relation to manpower needs may be prepared.
2. The Commission may provide grants to universities for long-term research projects to encourage the development of software and hardware within the country. It was decided that a detailed note on this may be placed before the Committee at its next meeting.
3. The Computer courses in the universities should be of the nature of (i) Training courses for computer users in the universities (ii) General courses for outside users and (iii) full-time courses of one or two years duration to train specialists. The courses of the first two levels could be taken up by many universities and courses of the level of number 3 could be taken up by selected universities where necessary facilities are available. A sub-Committee consisting of Prof. Rais Ahmed and Prof. Mahabala may examine this question and this may be placed before the Committee at its next meeting. The Sub-Committee could also identify existing gap in computer facilities available in various regions and recommend suitable places where computers are to be provided to fill up this gap.
4. It was decided that a detailed note indicating the technical staff required for various types of computers and annual grant required for maintenance and stationery etc. may be prepared and norms about recurring assistance to be provided for various types of computers be indicated.

Action taken:

Detailed notes for the use of Sub-Committee are being prepared by one of the member and the sub-Committee would meet as soon as necessary material is ready.

The preliminary norms for staff etc. for various types of computers have been prepared. These would be finalized in consultation with other members at the next

142

meeting of the Committee which will be held in July/  
August, 1976.

In addition to the minutes of the Computer  
Committee meeting, attached are (i) a copy of the minutes  
relating to discussions held between UGC and Electronics  
Commission with regard to import of Computers for  
University Computer Centres/ and (ii) the notification  
issued by Electronics Commission regarding approval of  
proposals for purchase of computers (Annexure-III).

Annexure II

The matter is placed before the Commission.

E.O. (SR-I)/Addl. Secy.

\*SCC\*

Minutes of the meeting of the Computer Committee held on 12th March, 1976.

-----

The first meeting of the reconstituted Standing Advisory Committee on Computer development was held in the office of the Commission on 12th March, 1976. Following were present:

1. Prof. Satish Chandra,  
Chairman,  
University Grants Commission.
2. Professor R.P. Bambah,  
Head,  
Centre of Advanced Study in Mathematics,  
Panjab University,  
Chandigarh.
3. Prof. Rais Ahmed,  
Director,  
N.C.E.R.T.,  
New Delhi.
4. Prof. H.N. Mahabala,  
Computer Centre,  
I.I.T.,  
Madras.
5. Col. A Balasubramanian, O.S.D.,  
Department of Electronics,  
Vigyan Bhawan, Annexe,  
New Delhi.
6. Dr. R.M.K. Sinha,  
Computer Centre,  
I.I.T.,  
Kanpur.
7. Dr. D. Shankar Narayan,  
Additional Secretary,  
University Grants Commission.

Professor R. Narsimhan was unable to attend the meeting.

The Committee noted the action taken on the recommendations of the Computer Committee meeting held on 5th July, 1974. It was noted that the visiting committees had visited most of the universities suggested earlier and the Commission had provided grants for purchase of computers to the universities concerned. The proposals under consideration may be finalised soon.

(HR)

The Committee had a general discussion about policy which could be followed by the Commission for development of computer facilities in the universities. It was felt that the Committee while recommending computers to be obtained in the universities could keep in view the balanced development of such facilities in different regions also. An over all Plan for Computer facilities indicating locations, support of Technical Staff, types of courses to be offered in relation to manpower needs etc. may be drawn up for guidance. It should also recommend substantial funds for purchase of computer time where the requirements do not justify purchase of a computer by any particular university. It was also felt that when a computer is provided to the university, the Commission should provide necessary grants for supporting technical staff and maintenance so that maximum utilisation of the computer facilities available could be ensured. It was suggested that Commission while providing grants for purchase of computer time may also indicate that they should make use of the computer facilities available in the neighbouring universities. This would ensure that computers in the universities would be used to optimum level. The Commission may also provide grants for long term research projects to encourage the development of software and hardware within the country. The department of Electronics is at present providing research support for short-term projects which would give immediate results. It was agreed that Professor Mahabala may prepare a detailed note on this aspect. This may be placed before the Committee at its next meeting.

The Committee also felt that the Universities and Commission being a major buyers of indigenous computers, they should participate in determining the policy regarding purchase and development of computer facilities in the country.

Item No.2: The Committee had a detailed discussion about development of computer science programmes at different levels in the universities. It was agreed that the programmes could be of following nature:

1. Training courses for computer users in the university.
2. General courses for outside users.
3. Full time courses of one or two years duration to train specialists.

The Committee felt that the courses at the first two levels could be taken up by many university with the facilities available but the full time courses as indicated at S.No.3 could be taken up only at some selected universities where they have facilities of staff for this

purpose, also necessary research in computer development and technology.

The Committee felt that during the next few years, number of universities would be obtaining computer facilities and it may be necessary to have a major training programme to train top level experts who would be able to manage these computer. Centres in various universities. It was decided that a sub-committee consisting of Professor H.N. Mahabala and Professor Rais Ahmed may examine in detail this question and recommend the places where such courses could be started. The Committee could also examine the question of scholarships to be offered to the students admitted to such courses. The same Committee could also identify existing gaps in computer facilities available in various regions and recommend suitable places where computers are to be provided to fill up this gap, as suggested earlier 'Plan for development of computer facilities in universities.

Item No.3: The Committee noted the present position of the computer facilities available in various universities. The Committee was informed that the department of Electronics is already taking action for obtaining the computer for the Eastern Regional Centre to be located at Jadavpur University Campus. The proposal of Jadavpur University to have its 'in-house' computer facility may be examined in the context of the Regional Computer Centre facility to be set up there. The proposal of Indian Institute of Science, Bangalore, for augmentation of the existing computer facilities is being examined by the department of Electronics and a final decision would be taken soon.

In case the expansion of existing IBM 1130 computers, the proposals are being examined by the Department of Electronics. It is expected to finalise its policy in this regard and Col. Balasubramanian agreed to give a note regarding expansion of the IBM 1130 computers available in the universities, indicating the financial implications involved.

Item No.4 & 5: The Committee considered the question of providing recurring assistance which would be necessary for the various types of computers which have been installed and are being installed in the universities. It was decided that Col. Balasubramanian may give a detailed note indicating the minimum technical staff required for various types of computers and also the annual grant required for stationery, maintenance etc. The Commission could provide grants on 'not deficit' Basis after taking into account the amount obtained from sale of computer time to other users in the area part of the income should be set apart as reserve fund for meeting needs of

(46)

of further augmenting the computer system (say 20%). Generally the computer centre should attain self supporting status within a period of 3 to 5 years and reach the level of 2-shifts operation.

The Committee had discussions with four representatives of the universities where Commission has agreed to provide medium level computer facilities. The four university representative were:

1. Prof. A.K. Kamal, Roorkee University
2. Prof. Gopal Tripathi, Banaras Hindu University
3. Prof. S.M. Vaidy, Poona University
4. Prof. Trehan, Panjab University

The Committee has already approved the grants for obtaining medium size computers to all these 4 universities and two of them have also invited tenders on the basis of configuration approved by the department of Electronics. It was expected that by the end of May, 1976 the quotations would be received in response to these tenders. It was felt that it would be better if all the 4 systems could be obtained from one country so that better facilities for maintenance could be obtained. It may also be possible to obtain better 'quantity discount' concessions from the suppliers if negotiations for purchase of more computers were held. It was decided that after the quotations are received in response to tenders a joint meeting could be arranged between the representatives of the Department of Electronics, U.G.C. and the four universities and final decision could be taken regarding computers to be obtained.

----

Summary of the discussions held on 12.3.1976 with the representatives of the Electronics Commission and the University Grants Commission with regard to the development of computer facilities and import of computers by the Universities.

As mutually agreed between the Chairman, University Grants Commission and Professor MGK Menon, Secretary, Department of Electronics, Government of India, the matter relating to the import of computers by the universities was discussed on 12.3.1976. The following persons were present:-

A. Representatives of the Dept. of Electronics/  
Electronics Commission

1. Dr. N. Seshagiri, Director  
IPAG, Dett. of Electronics.
2. Col. A Balasubramanian.  
O.S.D. (Computers)

B. Members of the Computer Committee of the University  
Grants Commission

Professor R.P. Bambah, Panjab University,

Professor H.N. Mahabale, I.I.T. Madras.

Dr. B.M.K. Sinha, I.I.T. Kanpur.

Professor Rais Ahmed NCERT

Dr. D Shankar Narayan, University Grants Commission.

Professor A.K. Kamal, Roorkee Univ-ersity

(The representatives of the universities whose proposals for import of computers had been accepted by the University Grants Commission were also present. These were : Prof. Gopal Tripathi (Banaras Hindu Univ-ersity) and Professor Vaidya (Poona Univ-ersity)

The Group took into account the Government of India Office Memorandum dated 2 March 1976 regarding the policy guidelines for import of computers.

The Group took note of the present position with regard to the recommendations made by the Electronics Commission on proposals made by the universities for obtaining computers required for their teaching and research programmes. The

48

Electronics Commission had generally recommended that the universities may either purchase the indigenously manufactured computers from the Electronics Corporation of India Ltd., Hyderabad or alternately were advised to import computers manufactured in the Eastern European block of countries, e.g., systems such as R 1020/1030/1040 e.t.c. During the past three years, the Electronics Commission had not recommended any proposal from the universities for import of computers from hard currency foreign exchange areas. On the other hand, the universities were aware that several other proposals from research laboratories and R & D organisations had been accepted for import of computers including IBM computers from such hard currency areas. This had naturally given the impression that only the universities were being directed to purchase computers from Eastern European countries or from Indian manufacturing sources, viz., ECIL irrespective of whether the computer capabilities and the nature of their computer needs required import of computers from hard currency areas. It would therefore be advantageous to know the policy adopted by the Electronics Commission in the matter of considering proposals from the universities and making available the necessary recommendation for foreign exchange for import of computers from hard currency areas.

The representatives of the Electronics Commission agreed that such a clear enunciation of the policy was desirable so that any particular group of institutions may not infer that the Electronics Commission was following a biased or discriminatory procedure in considering proposals for import of computers. Dr Seshagiri explained that on the basis of analysis of the computer throughout for the past three years, it would be seen that some institutions like IITs had been allowed to buy computers from western countries as well. The Electronics Commission generally pooled together the universities, IITs, research laboratories under one sector of institutions. The representatives of the UGC felt that such grouping of universities with other R&D institutions has proved disadvantageous to the universities and therefore impressed upon the Electronics Commission that the university system, as distinct from research laboratories and R&D institutions, should be treated as an independent group of users keeping in view that the universities as educational institutions provided several advantages for development of computer capability in the country.

On the basis of the discussions, it was agreed that the Electronics Commission would outline in a matrix the total foreign exchange resources available for import of computers over the next three to five years approximately and further break it down into (i) rupee foreign exchange, (ii) credits and (iii) hard currency

DEPARTMENT OF ELECTRONICS  
GOVERNMENT OF INDIA

49

POLICY GUIDELINES FOR IMPORT OF COMPUTERS  
(AS APPROVED BY THE CABINET ON 4TH DECEMBER, 1975)

The procedure as outlined below will be implemented by the Department of Electronics for import of computer systems over a value of Rs. 5 lakhs ci.f.

(a) Step- I (Action by users).

Each user will outline the application for which a computer system has to be obtained through import, is necessary. On the basis of such defined usage, the user will draw up functional specifications, based on his current and anticipated applications. In the case of general-purpose Government user such as, Customs, Income-Tax, Audit and Insurance, with offices/units located in Delhi, and which are either already using the Computer Centre of the Department of Statistics or can be expected, in terms of their requirements, to do so in the future, the Department of Statistics will be consulted, as necessary.

(b) Step-II (Action by Department of Electronics)

The justification for the applications envisaged, in terms of national priorities as laid down by the Electronics Commission from time to time, and the related specifications, will be scrutinised by the Department of Electronics (Computer Directorate); the Department will approve, in principle, the need for the import of a computer system with a certain functional configuration, which as a result of the technical scrutiny, may be different from that proposal by the user. The user would also be associated in deciding upon the functional configuration and convinced of the necessity of the change should any be considered necessary.

(c) Step-III (Action by Department of Electronics).

After such a clearance, in principle, the Department of Electronics will obtain competitive sealed tenders from various manufacturers/agents.

(d) Step-IV (Recommendations by Expert Committee).

The Department of Electronics will constitute a Committee of Experts consisting of hardware/software and system specialists, for evaluating the tenders and making a technical recommendation thereon.

(50)

Specialists from the user organisation will be invited to meetings of this Committee. Prior to initiating the evaluation, the user will be asked by the Department of Electronics to provide the Committee, a ranking of his preferences of computer types, together with his reasons for such a ranking.

(e) Step-V (Approval by Approval Committee)

The recommendations of the Committee of Experts will be put up to an Approval Committee consisting of :-

- i) Chairman, Electronic Commission- Chairman.
- ii) A Member of the Electronics Commission. - Member.
- iii) Secretary, Department of Economic Affairs. - Member.

In addition, the Secretary of the Department of which the user organisation is a part or is administratively associated, will be co-opted to the Approval Committee, when cases concerning those user organisations are taken up. In case the user department does not agree, the decision of the Approval Committee will be final.

Contracts for the computer finally chosen will be placed by the user organisation concerned.

(f) For computers imported under the above policy guidelines, clearance from the indigenous angle and other functions, normally discharged by the DGTD, will be handled by the Department of Electronics.

(g) The procedure outlined above will not apply to computers, programmable calculators, mini-computers, etc., entailing an outlay of Rs. 5 lakhs or less c.i.f. in foreign exchange for which existing Government, procedures will continue vide letter No. 1/EC/75 dated April 8, 1975 from Secretary, Electronics Commission to all Secretaries of the Government of India.

Note:

- i) The functioning of the procedure will be reviewed after a period of two years.
- ii) The time taken for finalising the specification and evaluating the tenders under this procedure should not exceed three months.

foreign exchange and indicate against each of these the foreign exchange proportion that could be made available to the universities for import of computers from each of these three areas' This would enable considerations of applications on well established criteria applicable to all groups of institutions including universities and to recommend proposals for import of computers by universities from these three foreign exchange areas as well as from indigenous manufacturers. The Group emphasised the fact that it w should not be expected that, in such a matrix, the universities would have no or negligible allocation from the credit sources and hard currency foreign exchange areas. A rational distribution of the foreign exchange resources available should be made and the universities should be given . . . their due share, say 5-10 per cent, minimum if not larger. . . . share so that universities could obtain computers from countries other than East European countries also. The proposals would, however, be considered on the basis of the criteria made applicable to other users whose proposals are considered for similar imports of computers from non-East European countries.

Dr. Seshagiri agreed to make available at an early date such a matrix to the University Grants Commission as well as to the approval committee proposed to be appointed vide Government of India Office Memorandum dated 2 March 1976 referred to above. It was also suggested that the universities would follow the procedure outlined by the Department of Electronics for import of computer systems whose value exceed Rs. 5 lakhs c.i.f.

The group also discussed the problem and difficulties experienced in the matter of purchase of indigenous computers from the E.C.I.L. and suggested that since the Universities would constitute one of the major users of the ECIL computers the universities should received a "favoured customer treatment" and also greater educational rebate, besides prompt business deals and service from the E.C.I.L. The E.C.I.L. should make available the full system configuration ordered- if necessary by obtaining form other manufacturers- and should not expect the universities to assemble the total system through purchases from several sources as this was likely to be uneconomical and also involve problems of technology interface etc.

pherals

CONFIDENTIAL

52

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 19th July, 1976

Item No. 15 : To consider a proposal received from Prof S Shukla, Professor of Education, Jamia Millia Islamia, New Delhi regarding provision of travel grant to Scholars for collecting research material from abroad.

.....

Under the University Grants Commission Scheme of Junior (Rs.400 p.m.) and Senior (Rs.600 p.m.) Fellowships Selected Scholars are entitled to contingent grants of Rs. 1500 and Rs.2000 per annum respectively. The contingent grant is available for meeting expenses on approved items, such as, Chemicals, Books/ Journals, Stationary, micro films, Photocopying etc. and on field work/travel within the country in connection with the approved research work. There is, however, no provision for meeting the travel expenses of the Scholars who may be required to go abroad in connection with the field work related to their research Project.

Professor S Shukla, Faculty of Education, Jamia Millia Islamia New Delhi has suggested that the Commission may create facilities for field work in comparative education similar to those for Scholars in Area Studies Programme and the Scholars who are required to do field work abroad as certified by their Supervisors, may be provided with travel grant. A copy of letter dated 26th May, 1976 received from Prof. Shukla is attached as (Annexure).

The matter is placed before the Commission for consideration.

A.S.(RF)/J.S.(II)

.....

53

Annexure to Item No. 15

Copy of letter No. Nil dated 26.5.1976 received from Professor S. Shukla, Faculty of Education, Jamia Millia Islamia, Jamia Nagar, New Delhi addressed to Prof. Satish Chandra, Chairman, University Grants Commission, New Delhi.

As I mentioned to you, there are a number of studies in comparative education, which require field work in foreign countries for satisfactory completion. The importance of the training of comparative educationists or specialists on education in foreign countries, particularly those in our neighbourhood, comparable to 'Specialists' of Western origin, is obvious and I need not emphasize it again.

In the light of the foregoing, I feel the Commission should create facilities for field work in comparative education, similar to those for scholars in area studies programme, already sponsored by the Commission. I request you to make provision for travel grant in case of scholars whose supervisors certify field work abroad to be necessary and who are working on topics in the area of comparative education.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

---

MEETING:

DATED : July 19, 1976

Item No.16: To consider further the question of number of answer books, expected to be examined by the teacher.

---

The Commission at its meeting held on June 3-4, 1976 considered amongst others the following points referred to it by the Ministry of Education for advice:

- (i) What should be the number of scripts to be evaluated beyond which payment may be made in respect of students appearing through correspondence courses? (The Ministry of Education was of the view that this number could be 300).
- (ii) If remuneration is to be paid in respect of private students for evaluation of answer sheets, should remuneration be paid on appropriate scale, also in respect of conduct of practical examinations in respect of private students.

The Commission observed as follows:

"The question of minimum number of scripts to be evaluated beyond which payment may be made in respect of students appearing through correspondence courses as well as the question of payment in respect of conduct of practical examination in respect of private students may be further examined and placed before the Commission".

As desired it has been ascertained that prior to the stopping of payment of remuneration for evaluating the scripts by the Examiners, the universities generally did not assign more than 300-350 scripts for undergraduate students and 150-200 scripts for postgraduate students to an Examiner.

The reference received from the Ministry of Education is for consideration.

---

CONFIDENTIAL

56

UNIVERSITY GRANTS COMMISSION

.....

Meeting:

Dated : 19th July, 1976

Item No.18 : To consider the revised Fifth Plan development proposals of the Meerut University.

...

The University Grants Commission at its meeting held on 7th January, 1976 (Item No. 7) considered the report of the Visiting Committee which assessed the Fifth Plan development proposals of the Meerut University. The decision of the Commission is indicated below :-

- a) The Commission could not accept the recommendation that the Meerut University should withdraw from teaching at the Master's level in order to avoid competition with the affiliated colleges. The Commission agreed with the recommendations of the Visiting Committee that the University should provide leadership to the affiliated colleges. This it was felt would be possible only if there is a strong base of postgraduate teaching in the University.
- b) The Commission was of the view that it is imperative for the university departments to offer postgraduate courses both to provide specialised and innovative courses which cannot be managed by the colleges and to provide leadership in maintaining and improving standards. The Meerut University should not only continue the existing master's courses but should start postgraduate instruction in a few more departments and specialised innovative programmes at the M.A./M.Sc. level. The Commission desired that the University may be requested to send separate proposals in this context after discussing with Vice-Chairman.
- c) The Commission also desired that the departments under the Life Sciences and the Behavioural Sciences should establish close inter-disciplinary links both in teaching and research. The question of integrating the Department of Agriculture Botany and Horticulture with the Division of Life Sciences and organisation of courses of studies by these Departments may be discussed with the I.C.A.R. by the University.

p. t. o

57

: : :

- d) 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.

The Chairman, University Grants Commission met the Vice-Chancellor, Meerut University and discussed with him the Fifth Plan development proposals of the Meerut University in the light of the Visiting Committee's recommendations and the Commission's resolution. The Meerut University has revised its proposals accordingly and a summary of the proposals is given below :

A) Continuation of M.A. Courses in the existing Departments

The University has dropped its proposal of discontinuing M.A. classes in the existing departments. The University has however, requested for some additional teaching staff in some departments as per details given below :-

i) Departments of Sociology and Psychology.

The Visiting Committee recommended posts of one Reader under I priority and one Reader under II priority for the department of Sociology and one Reader and one technical Assistant under I Priority and One Reader under II priority for the department of Psychology. The University has requested that in addition to the above staff one post of Lecturer in each of the above departments may be provided since the earlier proposal for discontinuing M.A. Classes in these departments has been dropped.

ii) Department of Russian

The University desires to introduce an advanced Diploma Course of one year's duration in Russian since this is the minimum qualification prescribed for various jobs in this field. The University has at the moment a one year Certificate Course and one year Diploma Course in Russian. The University has requested for the post of a Reader in Russian and a grant of Rs. 8,000 each under I and II priorities for equipment and Rs. 10,000 each in I and II priorities for books and journals for this purpose.

iii) Department of Education

The University has, in addition to the post of one lecturer recommended by the Visiting Committee, included the posts of one Professor, one Reader and one Lecturer approved by the Commission during the Fourth Plan period for development of teacher education in its revised Fifth Plan development proposals and has requested that the amount for these posts included in the 'spill over' may be transferred to the scheme to be approved in the Fifth Plan. From the Report of the Visiting Committee, it appears that these posts are lying vacant. It may be mentioned in this connection that assistance of the Commission for the posts approved in the Fourth Plan period for the development of teacher education would be available upto 31.3.1979 whereas if these posts are approved afresh and are included in the Fifth Plan posts, Commission's assistance would be upto 31.3.1981.

iv) Department of Physics.

The Commission had desired that the staff to be provided for the Physics Department should be in any one chosen area of experimental Physics so as to form a viable unit. The Visiting Committee recommended posts of one Professor, one Reader, one Lecturer under I priority and one Reader and one Lecturer under II priority for the Department of Physics. The University has suggested the following areas of specialisation for the above posts.

<u>Designation of the posts</u>	<u>Areas of Specialisation</u>
1. Professor	Nuclear Physics/solid state (Experimental/Theoretical).
2. Reader	
(i) First Priority	Electronics/Atomic and Molecular Physics/Atomic Collisions. (Experimental/Theoretical).
(ii) Second Priority	Electronics (Experimental)
3. Lecturer	
(i) First Priority	Atomic and Molecular Physics/Atomic Collisions.
(ii) Second Priority	Laser Physics/Electronics.

(59)

B. Establishment of New Departments.

The University has dropped its proposal for opening the department of Zoology for running M.Phil Classes. The University now proposes to start M.A. Classes in four subjects viz. English, Political Science, History and Economics and has requested for posts of one Professor and one Lecturer in I Priority and one Reader in II priority for each of these four Departments. The University has further indicated that it would not be possible to run these departments with the above strength alone. As M.A. Classes in these subjects are also being run in the local colleges, services of college teachers would be utilized on a part time basis and for this purpose assistance for a mini bus at a cost of Rs. 90,000/- and an amount of Rs. 50,000/- for payment of honorarium to part-time teachers may be provided to the university by the University Grants Commission.

C. Other depts.

The University has not suggested any change in the posts recommended by the Visiting Committee for the Departments of Mathematics and Botany and for Central Library & Central Instrumentation Workshop. The Statement at Appendix I gives department wise break up of posts (6 Professors, 8 Readers, 10 Lecturers and 10 Technical posts under I priority and 1 Professor, 9 Readers, 2 Lecturers and 6 Technical posts, under II priority) now requested for by the University.

D. Books and Journals

The Visiting Committee recommended a total grant of Rs.16.90 lakhs Rs. 7.15 lakhs under I Rs. 5.05 lakhs under II and Rs. 4.70 lakhs under III priority, for books & journals. The University has requested for the same amount of grant viz. Rs. 16.90 lakhs, Rs. 9.15 lakhs under I and Rs. 7.75 lakhs under II priority. The University has not made any change in the amount recommended by the Visiting Committee under first priority except that Rs. 2 lakhs has been asked for the four new departments and course in Russian and Rs. 1 lakh in addition to Rs. 2 lakh suggested by the Visiting Committee, for Central Library. The statement at Appendix II gives department wise details of grants recommended by the Visiting Committee and the grants now asked for by the University.

E. Equipment

The Visiting Committee recommended a total grant of Rs. 21.80 lakhs for equipment Rs. 10.10 lakhs under I 6.20 lakhs under II and 5.50 lakhs under III priority. The University has now asked

60

for a total grant of Rs. 18.10 lakhs - 8.8 lakhs under I priority and 9.3 lakhs under II priority. There is no change in the grants recommended by the Visiting Committee and grants now asked for by the University for each department under I priority except that a grant of Rs. 0.30 lakhs over and above Rs. 1.70 lakhs suggested by the Visiting Committee for Central Workshop and Rs. 0.40 lakhs for the four new departments in Humanities and Social Sciences and course in Russian have been included in the revised proposal. The grants recommended under III priority by the Visiting Committee have been more or less included by the University in the II priority. The statement at Appendix III gives the department wise details of grants recommended by the Visiting Committee and grants now asked for by the University for equipment.

#### F. Buildings

The Visiting Committee recommended a grant of Rs. 11.40 lakhs under I, Rs. 5.2 lakhs under II and 2.70 lakhs under III priority for buildings. The revised proposal for building is the same as recommended by the Visiting committee except that the amount of Rs. 2 lakhs recommended under I priority for the Zology building is now proposed to be used for the four new departments and the amount recommended under III priority has been added to the II priority. The statement at Appendix IV gives the details of the grants asked for by the University for buildings.

#### G. Miscellaneous schemes,

The Visiting Committee recommended a grant of Rs. 4.55 lakhs under I and Rs. 1.25 lakhs each under II & III priorities for Botanical Garden, Central Workshop building animal house for Zoology Department and Field work for Sociology Dept. The University has now dropped the proposal for animal house and has instead proposed purchase of a Mini Bus at a cost of Rs. 90,000/- with 100% assistance from the University Grants Commission under I priority and the grants recommended under III priority by the Visiting Committee have been added in the II priority. A statement giving details in this regard is at Appendix.V.

A copy of the letter from the Vice-Chancellor, Meerut University under which revised proposals were received is at Appendix VI

#### Proposal of Psychology Department for additional assistance

The University has also forwarded the proposals made by the Head of the Department of Psychology for development of his department. He has requested that following assistance be provided to his department during the V Plan period.

- a) Two Readers, Two Lecturers and Two Technical Assistants (The University has included posts of 1 Reader, 1 Lecturer and 1 Technical Assistant Under I and 1 Reader under II priority).

61

- b) 3000 Sq. Ft. covered area for the department building and 1500 S.Ft. covered area for Field Research Station in Dehradun. (The University has included Rs. 40,000/- each under I & II priorities for Psychology Department building).
- c) Equipment-Rs. 1.00 lakh (The University has included Rs. 0.50 lakhs under I and Rs. 0.70 lakhs under II priority).
- d) Books- Rs. 1.00 lakh (The University has included Rs. 0.50 lakh under I and Rs. 0.60 lakh under II priority).

The University has indicated that the proposal for additional assistance required by the Deptt. of Psychology may be considered by increasing the ceiling of plan allocation of the Meerut University. A copy of the letter received from the University is attached (Appendix VII).

Financial Implications:

Ceiling of assistance for Meerut University is Rs. 100 la. The financial implications of the revised proposals of the Meerut University are indicated below. (These include only such proposals of the Department of psychology which have been included by the University in its V Plan proposals).

		( Rs. in lakhs)	
		Ist Priority	IIInd Priority
1.	Spill over	13.33	-
2.	Basic Grants		
	(i) Books	3.00	
	(ii) Equipment	5.00	
<u>New Allocation</u>			
3.	Staff	13.98	7.45
4.	Equipment	8.80	9.30
5.	Books & Journals	9.15	7.75
6.	Building	11.40	7.90
7.	Miscellaneous	3.45	1.50
		&	
Total -		68.11	33.90

The matter is placed before the Commission for consideration.

E0 (D2a)/DS(D2)

\*SLK\*

MEERUT UNIVERSITY, MEERUT

Revised Vth Plan /proposals - Staff required during the  
Vth Plan Period.

S.No.	Department	I Priority	Specialisation	II Priority	Specialisation
1.	Physics-	I P	Nuclear Physics/ Solid State (Experimental/ Theoretical)	I Reader	Electronics (Experimental)
		I R	Electronics/Atom & Mole. Phy/ Atomic Collisins (Experimental/ Theoretical)		-
		1 L	Atomic and Mole- cular Phy. Atomic collisions	1 L	Laser Physics/ Electronics.
2.	Mathematics	2 R **	(1 in Statistics & 1 in Pure Mathematics)	1 P 1 R	-
3.	Botany	1 R	In Mycology and plants pathology/ morphogenesis/	1 R	** Same as for Priority I posts.
		1 L	Ecology/environ- mental Biology/ microbiology	1 L	
		1 T	Ass't.		
4.	Sociology	1 R	Social stratifi- cation/ rural ** sociology)	1 R	**Political Sociology.
		1 L	-		
5.	Psychology	1 R	-	1 R	-
6.	Education	1 P 1 R 2 L	-	-	-
7.	Russian	1 R	-	-	-
8.	English	1 P 1 L	-	1 R	-

63

9.	History	1P 1L	-	1R	-
10.	Political Sce.	1P 1L	-	1R	-
11.	Economics	1P 1L	-	1R	-
12.	Central Instru- mentation workshop.	Foreman/1 ) Carpenter ) Tech. Asstt. ) Electronic- Technican ) Glass Blowing Mechanic 1)		Tech. Asstt. 1 Mechanic. 1 Technician. 1	-
13.	Central Library	Asstt. Lib. 1) Prof. Asstt. 2)		Asstt. Lib. 1) Prof. Asstt. 2)	-
14.	Contingent amount required for paying honorarium of part Teachers	-	Rs. 50,000/-	-	-
Total-		6P+8R+10L+10T.A+Rs. 50,000/-		1P+9R+2L+6TA.	

P- Professor  
R- Reader  
L- Lecturer  
T.Asst. Technical Assistant

\* Suggested by the University in the light of the Commission Resolution.

\*\* Suggested by the Visiting Committee in its report.

MEERUT UNIVERSITY

Revised Vth Plan proposals assistance required for books and journals.

S.No.	Deptt.	Grants Recommended by the Visiting Committee				Grants now asked by the University		
		I Priority	II Priority	III Priority	Total	I Priority	II Priority	Total
1.	Physics	1.00	0.50	0.50	2.00	1.00	.80	1.80
2.	Mathematics	0.75	0.45	0.30	1.50	.75	.60	1.35
3.	Botany	1.00	0.50	0.50	2.00	1.00	.80	1.80
4.	Sociology	0.50	0.40	0.30	1.20	0.50	.60	1.10
5.	Psychology	0.50	0.40	0.30	1.20	.50	0.60	1.10
6.	Education	0.40	0.30	0.30	1.00	.40	.50	0.90
7.	Zoology	1.00	0.50	0.50	2.00			
8.	Central Lib.	2.00	2.00	2.00	6.00	3.00	2.75	5.75
9.	Russian	-	-	-	-	.10	.10	.20
10.	English	-	-	-	-	.50	.25	.75
11.	Pol. Science	-	-	-	-	.50	.25	.75
12.	Economics	-	-	-	-	.50	.25	.75
13.	History	-	-	-	-	.40	.25	.65
Total-		7.15	5.05	4.70	16.90	9.15	7.75	16.90

(65)

Appendix-III

MEERUT UNIVERSITY, MEERUT

Revised Vth Plan Proposals, Assistance required for equipment

(100% U.G.C. Share)

S.No	Deptt.	(Rs. in lakhs)						
		Grants recommended by the Visiting Committee				Grants now asked by the University		
		I Priority	II Priority	III Priority	Total	I Priority	II Priority	Total
1.	Physics	3.00	1.00	1.00	5.00	3.00	2.00	5.00
2.	Mathematics	0.30	0.10	0.10	0.50	0.30	0.20	0.50
3.	Botany	2.00	1.00	1.00	4.00	2.00	2.00	4.00
4.	Sociology	0.10	0.05	0.05	0.20	0.10	0.10	0.20
5.	Psychology	0.50	0.40	0.30	1.20	0.50	0.70	1.20
6.	Education	0.10	0.65	0.05	0.20	0.10	0.10	0.20
7.	Central Instrumentation Workshop	1.70	1.70	1.60	5.00	2.00	3.00	5.00
8.	Zoology	2.00	1.50	1.00	4.50	-	-	-
9.	Russian	-	-	-	-	0.08	0.08	0.16
10.	English	-	-	-	-	0.08	0.08	0.16
11.	Political Sce.	-	-	-	-	0.08	0.08	0.16
12.	Economics	-	-	-	-	0.08	0.08	0.16
13.	History	-	-	-	-	0.08	0.08	0.16
14.	Central Library.	0.40	0.40	0.40	1.20	0.40	0.80	1.20
Total-		10.10	6.20	5.50	21.80	8.80	9.30	18.10

66

## MEERUT UNIVERSITY, MEERUT

.....

Revised Vth Plan proposals assistance required for buildings.(Rs. in lakhs)

S.No	Department	I Priority	II Priority	Total
1.	Physics	.50	.50	1.00
2.	Botany	1.00	1.50	2.50
3.	Psychology	.40	.40	.80
4.	Education	1.50	.50	2.00
5.	English )			
6.	Political Sce. )	2.00	1.00	3.00
7.	Economics )			
8.	History )			
9.	Women Hostel	3.00	-	3.00
10.	Men Hostel	-	2.00	2.00
11.	Staff Quarters.	3.	2.00	5.00
Total -		11.40	7.90	19.30

67

Appendix -V

Meerut University, Meerut.  
V Plan Proposal for Development  
Miscellaneous Scheme (100% U.G.C. Share)

(Rs. in lakhs)

S.No.	Deptt.	I Priority	II Priority	Total
1.	Botany (Botanical Garden) Herbarium & Musium)	2.00	1.00	3.00
2.	Sociology (Field Work)	0.05	-	0.05
3.	Central Instrument- ation Workshop Buildings.	.50	.50	1.00
4.	Mini Bus (for convenience of teachers & students)	.90		.90
Total		3.45	1.50	4.95

(68)

Appendix - VI

Copy of Meerut University letter No.Dev/103/21/6 dated 3 May 76  
address to the Chairman U.G.C.

.....

Revised fifth five year plan proposals as required by U.G.C.  
letter No. F.26-1(4)/75(D-2(a) dated 11th Feb. 1976 and keeping in  
view the discussions with the Chairman, U.G.C. are submitted here-  
with(Appendices A to F):

	<u>I Priority</u>		<u>II Priority</u> . (Rs. in lakhs)	
	U.G.C. Share	State Share	UGC Share	State Share
A. Staff	13.98	.88	7.45	.19
B. Equipment	8.80	-	9.30	-
C. Books	9.15	-	7.75	--
D. Building	11.40	9.40	7.90	7.90
E. Misc.	3.45	-	1.50	-
F. Non teaching Staff & Contingencies.	-	3.45	-	3.45
	<u>Rs. 46.78</u>	<u>13.73</u>	<u>33.90</u>	<u>11.54</u>

( The amount of spill over & Basic Grants has been  
shown in the financial summary of the above appendices  
attached separately).

In view of the fact that the Commission has laid more  
stress on the strengthening the postgraduate programme, the  
University has dropped the proposal of discontinuing M.A.  
classes in the existing departments so as to provide strong  
base for the M.Phil programme in these departments.

The Visiting Committee had recommended the proposal for  
opening Zoology Department for running M.Phil classes, but  
keeping in view the discussions with the Chairman wherein more  
stress was laid for preparing strong Postgraduate base, it is now  
proposed to start the post graduate classes first in some  
more subjects and strengthening the M.Phil courses only in the  
existing departments. The proposals for opening M. Phil classes  
in Zoology has now been dropped. The University, instead proposes  
to start M.A. classes in English, Political Science, History  
and Economics. To start with, a faculty of one Professor and  
one Lecturer is proposed for each of these subjects and a  
Reader has been demanded for each one of these subjects in  
the IIInd priority. It may not be possible to run these post-  
graduate programmes with this strength alone, but as  
these M.A. programmes are also being run in the local colleges,

p. t. o.

69

the University proposes to utilize the services of college teachers on a part time basis and start an experiment of co-operative teaching. In order to facilitate the programme of cooperative teaching, the proposals for a purchase of a Mini bus at a cost of Rs. 90,000/- and request for an allocation for Rs. 50,000 to pay honorarium to part time teachers has been included, which may kindly be approved by the commission to make the cooperative teaching a success.

The University at present is running a one-year certificate course in Russian and a Diploma course in Russian which is also of one-year duration for the certificate holders. There has been a persistent demand for starting an Advanced Diploma in Russian of One-year duration for Diploma holders in Russian. In order to provide this facility, a post of Reader in Russian, and a modest requirement for books and equipments has also been included. An Advanced Diploma in Russian is the minimum qualification prescribed for various jobs in this field.

As regards existing departments the proposals are more or less the same as recommended by the Visiting Committee. One post of lecturer in each of the departments of Sociology and Psychology in addition to those recommended by the Committee has been included keeping in view the fact that earlier proposals for discontinuing the M.A. classes in these subjects has been dropped. The staff of one Professor, one Reader, one Lecturer sanctioned for the Education Department under the Teacher Education Scheme, sanctioned in the Fourth Five Year Plan and extended to Fifth Five Year Plan also has now been included in the proposals as the Teacher Education Scheme is now being supported within the plan allocations. The amount so increased (Rs. 1.65 lakh) has been reduced from the spill over.

Regarding commission's note on the appointment for the staff in the department of Physics in any chosen area it is proposed to provide the staff of Physics Department in the following areas of specialization. This was also discussed with the Chairman during his visit to the University on 15.4.1976.

<u>Designation of the post</u>	<u>Areas of specialization</u>
1. Professor	Nuclear Physics/solid state (Experimental/Theoretical)
2. (i) First Priority	Electronics/Atomic and Molecular Physics/Atomic collisions (Experimental/Theoretical)
(ii) Second Priority	Electronics (Experimental)
3. Lecturer (i) I Priority	Atomic and Molecular Physics/Atomic collisions.
(ii) II "	Laser Physics/Electronics.

As all these programmes are proposed to be started from the next academic session, it is requested that the commission may kindly give an early clearance to these proposals.

Yours faithfully,  
Sd/- xxx  
B.S. MATHUR.

Enclosure

REQUIREMENT OF DEPARTMENT OF PSYCHOLOGY

70

For conducting M.A. & M.Phil programmes and also for sustaining our existing interdisciplinary and inter-institutional collaborations it is necessary that following facilities be provided in the Department.

A. Staff:

Academic:

One Reader in Developmental Psychology.  
One Lecturer in Developmental Psychology.  
One Reader in Social Psychology.  
One Lecturer in Comparative and Physiological Psychology.

Laboratory:

One Veterinary technician for Primate Research Laboratory and Field Research Station.

One technician for Experimental Psychology Laboratory.

NOTE: In addition, the Department requires help from the Department of Physics in conducting a course in Instrumentation, from the Department of Botany in conducting courses in Biochemistry, and Evolution and Genetics, from the Department of Zoology in conducting course in Animal Behaviour, and from Medical College in conducting a course in Neuroanatomy, from the Department of Education in conducting course in measurement and testing, and also in Developmental Psychology, and from the Department of Sociology in giving course in Social Psychology.

**B. Equipment:** Rs.1,00,000 (the Department got only

Rs.40,000/- during the last five Year Plan period. Equipment worth Rs.35,000/- being used in the Primate laboratory belongs to Dr. S.D. Singh. Some equipment has also been purchased from Research grants from U.G.C. and I.C.S.S.R).

**C. Books:** Rs.1,00,000/- (The Department has got a very good selection of literature in the areas of Comparative and Physiological Psychology, Developmental Psychology, Primate Behaviour and collection of about 500 reprints in the field of Primate Behaviour).

p.t.o.

971

D. Building:

- (a) 3,000 sq.ft. covered area for the Departmental Building.
- (b) 1,500 sq.ft. covered area for Primate Field Research Station in Dehradun forests.

NOTE: Primate Field Research Station has become a necessity for running our programmes in the area of comparative and physiological psychology, and also our programmes with other institutions within the country. It may be mentioned that the State Government has also agreed to provide us some land and an old Rest House in Dehradun forests for this purpose. Such a set-up would be a great help for our programmes and for bringing scientists from various biological disciplines and institutions together. A detailed rationale for such a set up is attached herewith. A UGC sponsored Symposium organised by our Department in 1975 also recommended for such a field Research Station, a report of which is also attached herewith.

Finally, all this is considered necessary not because of any fad or fashion but because of the requirements of Psychology to day. It may be mentioned that this is the only Department within the country being organised on these lines.

Sd/-  
(Dr. S.D. Singh)  
Department of Psychology,  
Meerut University, Meerut.

\*SCC\*

Appendix VII

97a

Copy of letter No.Dev./103/61/168 dated the 31st May, 1975 from Dr. B.M. Singh, Registrar, Meerut University, Meerut addressed to the Secretary, University Grants Commission, New Delhi.

----

I am herewith submitting a copy of proposal (Enclosure) from the Professor of Psychology, Meerut University, Meerut regarding development of Psychology department. The demand of teaching staff of one Reader and one Lecturer has already been included in the 1st priority of the Vth Plan development proposals. Regarding the remaining proposals it is requested that the Commission may kindly consider sanctioning funds by increasing the ceiling of plan allocations.

---

\*SCC\*

UNIVERSITY GRANTS COMMISSION

73

Meeting:

Dated : 19th July, 1976

Item No. 19 To consider the proposal of the Aligarh  
-Muslim University for additional staff  
for the Library.

---

The Vice-Chancellor, Aligarh Muslim University has forwarded a proposal for approval of additional staff for Maulana Azad Library. He has stated that there is a heavy demand on the University Library to introduce new services such as indexing and abstracting service, reprographic facilities etc. and for improvement of the existing ones. With the significant increase in the student enrolment and in the number of researchers and teachers over the years, the load of work in the Library has increased so tremendously that it has become exceedingly difficult to maintain even the existing services. The details of the staff required by the University are as under:-

<u>Post</u>	<u>Scale</u>	<u>No. of existing posts</u>	<u>No. of additional posts required</u>
1. Deputy Librarian	Rs.700-50-1250 (pre-revised grade)	1	3
2. Assistant Librarian	Rs.400-40-950 (pre-revised grade)	5	11
3. Professional Assistant	Rs.250-15-400 (pre-revised grade)	15	10
4. Foreman Binder	Rs.550-25-750-EB-30-900 (Proposed grade)	-	1
5. Personal Assistant (Senior)	Rs.650-30-740-35-880-EB-40-960 (proposed grade)	-	1
6. Tooling Assistant	Rs.330-10-380-EB-12-500-EB-15-560 (proposed grade)	-	2

p.t.o.

74

7. Stenographer	Rs.330-10-380-EB-12- 500-EB-15-560 (revised grade)	-	1
8. Clerk Grade I	Rs.330-10-380-EB-12- 500-EB-15-560 (revised grade)	22	10
9. Clerk Grade II	Rs.260-6-290-EB-6-326- 8-366-EB-8-390-10-400 (revised grade)	10	5
10. Attendant	Rs.260-6-326-EB-8-350 (revised grade)	32	5
11. Daftri	Rs.210-4-250-EB-5-270	-	1
Total		<u>85</u>	<u>50</u>

A copy of the letter received from the Vice-Chancellor, Aligarh Muslim University is enclosed (Annexure-I).

The report of the Vth Plan Visiting Committee which assessed the needs of the Aligarh Muslim University has been considered by the Commission in its meeting in October 1975 (item 32) and the allocations approved by the UGC have been intimated to the University. The recommendations of the Visiting Committee do not include any assistance for staff for the University Library. An extract from the Visiting Committee report on the library is at Annexure-II.

The ceiling of assistance for Aligarh Muslim University for the Vth Plan period is Rs.250 lakhs. Schemes involving an expenditure of Rs.165.90 lakhs i.e. 2/3rd of the allocation have already been approved by the Commission. The university's proposal for a grant of Rs.3.00 lakhs for extension of the Geography Department building was considered by the Commission at its meeting in June 1976. The Commission accepted the proposal and desired that the university may be requested to indicate the allocation for non-recurring items already agreed to.

Adjustment proposed to be made for this purpose within

The proposal of the Aligarh Muslim University for additional staff for the library is placed before the Commission for consideration.

AS(D-2a)/DS(D-2)

\*SCC\*

75

Annexure II

Annexure II to Item No. 19.

ALIGARH MUSLIM UNIVERSITY

Recommendation of the Vth Plan Visiting Committee  
about the General Library

"The University has made proposal involving an outlay of Rs.1.24 crores for the libraries of Aligarh Muslim University. This included purchase of books and periodicals, construction of additional building, provision for equipment and staff. The Committee has separately recommended provision for books and journals for the individual departments. For strengthening of Central Library, the Committee recommends a provision of Rs.2.50 lakhs under first priority during Vth Five Year Plan.

In view of the paucity of funds, it is not possible to provide additional resources for the construction of the building.

The Committee is also of the view that the University should give top priority to the preservation of rare manuscripts available in the Library. The air-conditioning of the room where the manuscripts are kept should be expedited. The Director of Archives in the Government of India may be requested to advise the University for the preservation of manuscripts. A sum of Rs.1.00 lakh is recommended for the preservation of the manuscripts and the fund should not be directed for any other purpose".

----

Copy of D.O. letter No.86/V.C. dated 15.5.1976 from Dr. A.M. Khusro, Vice-Chancellor, A.M.U., Aligarh addressed to Shri R.K. Chhabra, Secretary, University Grants Commission, New Delhi.

----

I am writing about an important matter which has been causing us serious anxiety and over-stretching the staff and the Administration of the University to a point of great inconvenience. It is also a matter which is an existing as well as a potential cause of all-round irritations, frictions and bad relations. This is the matter of the staffing of the University Library which is absolutely over-stretched.

I am sending herewith a detailed note (Appendix) from the University Librarian about the additional staff requirements of the University Library. During the last 15 years there has been tremendous expansion of the University. New departments of Studies/ Institutions have been established and the existing ones considerably expanded, the research activity has been very much intensified and the students' enrolment has also recorded a significant increase. All this has had its impact on the library service to cope with the growing academic and research activities in the campus. Moreover, reforms in the methods of instruction and examination, introduced during this period, have also led to increased utilization of the library material. The total membership of the Library has increased from 2611 in 1960-61 to 7544 in 1975-76; the total issue of books has gone up to 98,181 in 1975-76 as against 34,543 in 1960-61; and, during the same period the use of material inside the Library has increased manifold. The total collection of the Library stood at 5,13,961 (including 13,859 mss) volumes on 31st March, 1976 as against 2,13,633 volumes on 31st March, 1961. The Library now remains open for 14 hours a day almost throughout the year as compared to 10 hours a days in 1961.

There is now a heavy demand on the University Library to introduce new services, such as indexing and abstracting service, reprographic facilities etc. and for the improvement of the existing ones. However, as there has hardly been any addition to the library staff since 1961 the University Library is not in a position to meet the growing demands from the academic community. In fact, with the significant increase in the student population and in the number of researchers and teachers

877

over the years the load of work in the library has increased so tremendously that it has become exceedingly difficult to maintain even the existing services. There is, therefore, a very strong justification for increasing the staff strength of the library so that it could effectively meet the demands from the academic community.

A comparative study of the staff in our University Library with that in the Jawaharlal Nehru University and Delhi University Libraries, given hereunder, also strengthens our case for additional staff:

	<u>Aligarh Muslim Univ. Library</u>	<u>Jawaharlal Nehru Univ. Library</u>	<u>Delhi University Library</u>
Librarian	1	1	1
Dy. Librarian	1	2	3
Asstt. Librarians & Doc. Officer	5	17	11
Prof. Assistant	15	24	24
Total professional staff:	<u>22</u>	<u>44</u>	<u>39</u>

Our total collection of books and periodicals is 5,13,961 as against 2 lacs in Jawaharlal Nehru University library and 4,93,000 in Delhi University library. The average issue of books per day in our library is 475 whereas it is 250 in Jawaharlal Nehru University and 500 in the Delhi University library. It would not be out of place to mention here that ours is a residential University and therefore the library material is more extensively used within the library rather than getting it issued as the rooms are crowded and each room is shared by three or four students.

The oriental collection and the manuscripts collection constitute a special feature of our library. We have a very rich collection of about 14,000 manuscripts including rare paintings, specimen of calligraphy and old and rare coins etc. This itself constitutes an independent section of the library. Further, we have a stock of over 90,000 printed books in Urdu language and about 30,000 in Arabic and Persian languages, most of which are very rare and largest to act as National Library for the collections of these languages. The preservation, proper dissemination of information about these valuable collections to the academic community and their servicing to the readers and

p.t.o.

78

3 -

research scholars (not only of Aligarh University but from other parts of India and abroad too) also supports our case for special additional staff.

I have given above the salient premises of our case for additional staff; the details are given in the enclosed note from the University Librarian with which I am fully convinced. I do hope that in view of the above facts the Commission will favourably consider our case and sanction the demanded staff (which is the minimum) as given in the Appendix to the accompanying note. I would feel personally grateful if you kindly use your good offices to persuade the Commission to agree to our genuine demand.

With best regards,

---

"A note on additional staff requirement  
for the University library!"

The membership of the library increases with the increase in the University students population, which consequently requires more assistance. Larger book funds demand additional staff for scientific and methodical acquisition. To set up new services and a new venture, extensive as well as intensive mechanisation of library operations are essential and need appropriate staffing (Special services such as photographic and binding operations also require another set of additional technical hands. The service points at the faculty libraries need strengthening of the staff and require effective coordinating agency at the Central Library). In our quinquennial estimates of Fifth Five Year Plan, the growth of the library is also matched in terms of staff establishment. The staff requirement is based on the progressive change in attitude of the University Library, i.e. from inward looking conservative methods to an outward looking organisation, aiming to fulfil the needs of the readers. As mentioned in my report elsewhere, the present organisation based on format structure will be converted into the divisional organisation which will require subject specialists-cum-technicians to extend systematic, scientific and modern services. The Library organisation is geared more directly to the needs of the readers including information retrievals, literature search, documentation and abstracting services. This outlook necessitates the appointment of highly qualified subject-experts. To base the organisational structure of the Library on subject division, it is necessary to appoint specialists in a variety of subjects. The subject experts shall be responsible for book selection, cataloguing and for the supervision of a reading room containing material in a particular subject. The readers will be offered extra facility of obtaining information with the minimum of wasted efforts. The subject specialisation requires a staff equivalent in the grade and status of readers and lecturers.

It is anticipated that an overall development shall enable the students and members of the Library to use the collections more intelligently as there is an increased awareness about the knowledge stored

877

over the years the load of work in the library has increased so tremendously that it has become exceedingly difficult to maintain even the existing services. There is, therefore, a very strong justification for increasing the staff strength of the library so that it could effectively meet the demands from the academic community.

A comparative study of the staff in our University Library with that in the Jawaharlal Nehru University and Delhi University Libraries, given hereunder, also strengthens our case for additional staff:

	<u>Aligarh Muslim Univ. Library</u>	<u>Jawaharlal Nehru Univ. Library</u>	<u>Delhi University Library</u>
Librarian	1	1	1
Dy. Librarian	1	2	3
Asstt. Librarians & Doc. Officer	5	17	11
Prof. Assistant	15	24	24
Total professional staff:	<u>22</u>	<u>44</u>	<u>39</u>

Our total collection of books and periodicals is 5,13,961 as against 2 lacs in Jawaharlal Nehru University library and 4,93,000 in Delhi University library. The average issue of books per day in our library is 475 whereas it is 250 in Jawaharlal Nehru University and 500 in the Delhi University library. It would not be out of place to mention here that ours is a residential University and therefore the library material is more extensively used within the library rather than getting it issued as the rooms are crowded and each room is shared by three or four students.

The oriental collection and the manuscripts collection constitute a special feature of our library. We have a very rich collection of about 14,000 manuscripts including rare paintings, specimen of calligraphy and old and rare coins etc. This itself constitutes an independent section of the library. Further, we have a stock of over 90,000 printed books in Urdu language and about 30,000 in Arabic and Persian languages, most of which are very rare and largest to act as National Library for the collections of these languages. The preservation, proper dissemination of information about these valuable collections to the academic community and their servicing to the readers and

p.t.o.

78

research scholars (not only of Aligarh University but from other parts of India and abroad too) also supports our case for special additional staff.

I have given above the salient premises of our case for additional staff; the details are given in the enclosed note from the University Librarian with which I am fully convinced. I do hope that in view of the above facts the Commission will favourably consider our case and sanction the demanded staff (which is the minimum) as given in the Appendix to the accompanying note. I would feel personally grateful if you kindly use your good offices to persuade the Commission to agree to our . . . . . genuine demand.

With best regards,

"A note on additional staff requirement  
for the University library!"

The membership of the library increases with the increase in the University students population, which consequently requires more assistance. Larger book funds demand additional staff for scientific and methodical acquisition. To set up new services and a new venture, extensive as well as intensive mechanisation of library operations are essential and need appropriate staffing (Special services such as photographic and binding operations also require another set of additional technical hands. The service points at the faculty libraries need strengthening of the staff and require effective coordinating agency at the Central Library). In our quinquennial estimates of Fifth Five Year Plan, the growth of the library is also matched in terms of staff establishment. The staff requirement is based on the progressive change in attitude of the University Library, i.e. from inward looking conservative methods to an outward looking organisation, aiming to fulfil the needs of the readers. As mentioned in my report elsewhere, the present organisation based on format structure will be converted into the divisional organisation which will require subject specialists-cum-technicians to extend systematic, scientific and modern services. The Library organisation is geared more directly to the needs of the readers including information retrievals, literature search, documentation and abstracting services. This outlook necessitates the appointment of highly qualified subject-experts. To base the organisational structure of the Library on subject division, it is necessary to appoint specialists in a variety of subjects. The subject experts shall be responsible for book selection, cataloguing and for the supervision of a reading room containing material in a particular subject. The readers will be offered extra facility of obtaining information with the minimum of wasted efforts. The subject specialisation requires a staff equivalent in the grade and status of readers and lecturers.

It is anticipated that an overall development shall enable the students and members of the Library to use the collections more intelligently as there is an increased awareness about the knowledge stored

80

.. .

by the library. The development of information and reference services, however, limited, will throw an additional burden on the library staff and we can safely forecast that the greatest need will be in science, technology and the social sciences. Provision of Graduate Librarians trained in these disciplines will help the readers. The use of data processing equipments would make it easier to gain information. It would simplify the use of catalogue, and encourage the production of bibliographies and lists of various kinds. The documentation staff will establish a closer collaboration with the members of teaching staff for information work within their special fields. Even the reference and information service in the University shall require a close cooperation with other similar institutions for utilisation of outside resources. In fact, our libraries with large collections of literature can play a leading part in the National Science Information system recently planned on a massive scale by the Government of India. To keep teaching and research staff continuously informed of relevant newly published work, it requires a systematic, "current awareness service". The purpose is to keep abreast of new publications and reports. Research workers rely on personal contacts, browsing, through current periodicals and on literature-guides including abstracts and lists of currently published articles. The staff required for these services shall be encouraged to develop and offer services to all those working in special fields. The increasing use of computer slowly and gradually will offer the possibilities of such information to be distributed in a machine readable form.

The automation and use of computer in the University Library shall mechanise the library system which shall also reduce the amount of routine work and will also help us in introducing supplementary services and would provide rapid means of access to wider sources of information than is possible by the traditional methods. With this in view we not only require professionally qualified persons of higher calibre but also require programmers for computerisation, statisticians to analyse the library data and mechanics and operators to look after the gadgets. Additional staff for planning and system specialists are needed to modernise the library services. However, it must also be remembered that during the Fifth Five Year Plan period the mechanised system may need to be run concurrently and this will be expensive for sometime to

p.t.o.

(81)

to come. It is also anticipated that the staff will be required to spend time in training for some of the courses and undergo reorientation programmes to keep themselves alert and up to date in new techniques. The staff problem is basically stemming up from the rapid growth of the University over the past one decade and due to specialisation.

The ill-equipped reprographic unit, run by the library shall be converted into a full-fledged reprographic division where more than one photocopying machine would be available and facility to reproduce quickly and conveniently perfect copies of parts of books, periodicals and articles; documents and records will be provided. It will increase the availability of text portion of standard books and classics included in the syllabi of various semester courses. Photocopying help may also be obtained to cut down certain library routines such as lists of overdue, processing of bills and correspondence of periodicals division etc. The photocopy department also makes micro-films of library material and there has been a large increase in the use of microfilms in the recent years. The work of photocopying and microfilming involves not only technical skill in photography but persons will be required who are well-versed in library techniques and documentation work and who can do the literature search retrieve information and can plan photocopying services. We shall require a reprography incharge of lecturer's status with suitable technical assistants.

It is also planned to prepare profile of the teachers, research scholars and of permanent members so that the library may provide a personal service to such members on the basis of the area of their interest. A programme is prepared to introduce Selective Decimation Information service by matching specific areas of interest of teachers and research scholars with the documents received by the library and a personal service will be extended on the basis of the readers profile. This service is included in our programme of Fifth Five Year Plan.

To give better facilities to the users regarding library resources; a union catalogue of departmental and institutional libraries of the University campus is planned. Owing to interdisciplinary research, area studies, multi-focal type of books, it

82

is essential that information about all resources of the library, irrespective of their location in the campus be brought forth to the readers. This cannot be achieved unless a sort of Union Catalogue is built up not only for the current acquisition but also for all previous holdings of the departments. The Union Catalogue will ensure better use of scattered collections. Documents shall be frequently obtained for users from departmental libraries or the reader shall be directed to particular departmental libraries where the material is available, if the latter have appropriate facilities. Most of the departmental library collections are not scientifically processed and do not have a scientific catalogue and wherever the catalogue exists it was prepared partially and was based on out of date methods and does not suit the needs of specialised collections. Through mechanised processing of books planned during the Fifth Five Year Plan, it will be possible to prepare two sets of dictionary catalogue cards on modern principles: one for the departmental libraries and another for compilation of Union Catalogue to be maintained at the Central Library.

In addition to a general public catalogue we have a plan to introduce sectional catalogue for various sequences we have in the Central Library. At present a reader, if he does not find material of his choice in any sequence of the library, has to consult again and again the catalogue kept at the Central Hall. If a catalogue is a key to collection the key should be available at every floor and for every sequence in library. This will be one of the most important facility rendered by the library to its readers.

The staffing problem cannot afford to neglect competence in favoured languages of the library i.e. the languages having enough collection of books and forming significant part of the library service. Apart from experienced and well-versed persons in library techniques, the library will also require language specialists such as in Urdu, Persian, Arabic, Hindi and Sanskrit and also staff having basic working knowledge of other Indian languages in which we have either collected material or are continuing to collect. Besides English language the occidental collection includes books in Russian, German and French languages which are of growing importance to research scholars. Thus, the library requires not only the persons having working knowledge of these languages but also the cooperation of the experts in these languages for translation work

83

frequently demanded by the research scholars. We may not go for a full-time appointment of translators but enough funds should be made available to the library to obtain services of such expertise whenever needed on payment of suitable remuneration.

Hitherto, the library staff working in the Central Library and in the departmental libraries is not frequently transferred with the result that a tendency to a rigid and inflexible compartmentalisation of the library staff has developed. Each member of the library staff does not feel that he is a member of the whole library team rather he thinks himself exclusively in terms of the work assigned to him in the departmental libraries, and even in the Central Library he thinks himself as a cataloguer or an orderer of books. This functional compartmentalisation of the Library staff is against the basic idea of staffing subject specialists. It is obvious that in the existing system the library gains very little benefits from whatever skills or knowledge of the library staff have. For instance, a classifier or a cataloguer with a considerable personal knowledge of social science might be able to bring such knowledge to bear on classifying books in the field but his opportunities to give reference and bibliographical help to the readers is almost nil. Thus the movement towards the organisation of the University library by subjects rather than by function requires complete administrative hold of the University Librarian on all the library staff irrespective of their placement.

The users in the University Library are mostly those who never had any library service worth the name at school and colleges where they have studied previously. This has made essential to offer instructions to the students in library use in all fields and it should remain a permanent feature throughout the year.

The departmental libraries which are more than forty on the campus are supposed to keep special reference collection for the post-graduates and research scholars. The departmental libraries usually do not contain textbooks to cater to the needs of students. The purpose of departmental library is limited to serve as reference library for the postgraduates and research scholars as well as to the teachers to cater for their immediate needs and to set-up liaison in between the printed world and in the

84

class lectures. Apart from its limited purpose, the staff and accommodation available in the departmental libraries is extremely limited and it is neither possible to provide staff on a larger scale nor to increase seating and reading facilities for the students of various standards. Thus, it is planned to reorganise the departmental collections and a library service programme be chalked out for the use of departmental collections through the Central Library.

The staff required for the departmental libraries is already covered in the note based on a detailed survey of the conditions in which the faculty libraries are run. Medical College, Engg. College, Womens' College and Polytechnic, are the institutions which are to be mentioned specially where additional staff is needed. Details of the requirements are given in the description of the respective libraries.

On the University campus, Maulana Azad Library is the only place where text-books and recommended books are provided. Due to the residential character of the University, the students used facilities on a larger scale than at present. Moreover, Aligarh being a small town offers no other place of entertainment. Thus, there is a greater opportunity for them to make use of the library resources. The cost of text-books is prohibitive to the students for purchasing their own text-books. Economic conditions do not permit the students to purchase the Asian Editions, which are comparatively cheaper. The residential halls are crowded and very often one room is shared by four or five students. Therefore, even those small number of students who possess or their own books do not find their hostel rooms congenial for study and, so have to use the text-books reading room of the Central Library as a place of study. Moreover, living conditions of the day scholars are so poor that they do not find it convenient to study in their houses mostly located in slum areas and they too look for better library facilities.

Apart from the departmental libraries the University has reading rooms run by various residential halls which are managed by the provosts and contains newspapers and a few books of recreation. Recently an idea was thrown to establish a text-book library in each hall of residence.

85

Establishment of text-book libraries in the halls of residence needs a second thought. Each hall in University is further divided into various hostels and each hostel accommodates students studying in various faculties, and every year the ratio of students of each faculty gets changed. Thus, practically it is not possible for each hall library to contain text-books for all courses of studies if so the multiplicity will lead to colossal waste of money, as many books may remain idle on the shelves of a hall.

The Central Library is the only place where attempts are made to provide facilities for text-books reading. The text book division is divided into two sections. The first contains text-books which are issued to the members for reading outside the library and for home study. The second section contains text-books to be studied within the Central Library and for this purpose a reading room is devoted with a seating capacity for about 300 readers and contains about 5,000 text-books. This text-book reading room ordinarily remains open from 7.30 to 10.00 P.M. i.e. for 14 hours daily throughout the year except for seven days in a year and for a brief period during summer vacations. The text-book reading room is used daily by 2,000 to 2,500 students. The books are kept under closed access and are constantly issued to the readers and restored on shelves soon after these are returned. It is a continuous process and about 3,000 books are used everyday.

In view of this situation, the facilities offered at present are neither satisfactory nor sufficient to meet the growing demands of the students specially in the text-book reading room. The semester system, introduced recently by the University, has a deep bearing on the library requirements. The students have to prepare term papers within scheduled time. Their student studies are now spread over throughout the year evenly. Emphasis is laid under the semester system on topics rather than on specific books and very frequently the relevant chapters of various classical and standard books are prescribed by the Departments of Studies instead of particular books. This has increased the activities of students consultation of larger number of books than in previous years.

A detailed programme to set up Text-book Library on the campus on a large scale has been worked out and is given in the enclosure. Requirements of a reading room in the city for the day scholar is also prepared.

p.t.o.

(86)

STAFF FOR BINDERY:

The increase in the use of library material, greater number of periodicals subscribed, inferior stuff used by the Indian book industry, brittle condition of old printed books and the huge arrears work of binding of manuscripts require immediate expansion of the bindery section of the library. Additional staff for bindery in suitable grades is badly needed. The details of bindery staff required and their daily output are given in the note related to binder staff for the second shift.

The present circulation hours usually ranging from 3.00 AM to 2.30 PM need longer opening duration. There is a regular demand from the students of Science, Engineering and Medicine that the circulation hours be increased and this facility be extended to second shift as well. This would require staff for the second shift for the whole circulation division and stack division of the library.. This is also included in our programme and plan.

STOCK-TAKING STAFF:

The stock-taking and physical verification can no more be conducted annually or periodically, rather it has to be made a continuous process round the year. This requires a separate squad of staff consisting of professional assistants and semi-professionals.

ADMINISTRATIVE STAFF:

With considerable increase in administrative work there is a pressing need for proper administrative assistance. The staff need not be professional libraries but competent in secretarial work. The staff required includes an Administrative Officer in Assistant Registrar's grade and some persons well versed in keeping records according to modern system.

ACCOUNTS STAFF:

The rapid increase in photocopying and microfilming, collection of overdue charges realisation of the cost of the missing books, preparation of bills for microfilms, disbursement of salaries, handling of contingent grants, processing of large number of bills

against huge sums of money on acquisition of books and periodicals, to attend to reminders for payments and to enter into correspondence with various agencies and exchange control authorities are the factors which involve numerous jobs for accounts section. This requires strengthening of the staff on the accounts side of the Library.

ATTENDANT:

The number of attendants and cleaners etc. is inadequate even for the present volume of work. On each stack one attendant is required. The inherent defects of the library building have made the library operations costly.

Vigilance on the material requires larger number of library attendants. This has become more important in view of the change in the social behaviour of the student towards their own property. Thus the problems of cleaning, dusting, shelving, pasting and labelling are increasing with the increase in the use of library material and by making the library material accessible to all.

\*SCC\*

(88)

Abstract of additional staff requirements  
of Azad Library

<u>POST</u>	<u>S C A L E S</u>	<u>NO. OF POST</u>
1. Deputy Librarian	Rs.740-50-1250 (pre-revised grade)	3
2. Asstt. Librarian	Rs.400-40-950 (pre-revised grade)	11
3. Professional Assistant	Rs.250-15-400( " )	10
4. Foreman Binder	Rs.550-25-750-EB-30-900 (proposed grade)	1
5. Personal Assistant (Sr.)	Rs.650-30-740-35-880-EB-40-960 (proposed grade)	1
6. Pooling Assistant	Rs.330-10-380-EB-12-500-EB-15-560 (proposed grade)	2
7. Stenographer	Rs.330-10-380-EB-12-500-EB-15-560 (revised grade)	1
8. Clerk Grade I	Rs.330-10-380-EB-12-500-EB-15-560 (revised grade)	10
9. Clerk Grade II	Rs.260-6-290-EB-6-326-8-366-EB-8-390-10-400 (revised grade)	5
0. Attendant	Rs.260-6-326-EB-8-350 (revised grade)	5
1. Daftri	Rs.210-4-250-EB-5-270	1

-----

Staff requirements of Maulana Azad Library for  
Fifth Plan

(89)

Librarian (A)	Deputy Librarian (B)	Assistant Librarian (C)	Professional Assistant (D)	Clerk Grade		Attendant (I)	Others
				I (G)	II (H)		
	(B) 1	1. Planning & Statistics, Publicity publications, exhibitions, town & Hall libraries, Audio-visual	1	1	-	-	P.A.(D) 1 Steno(G) 1
		2. Stock-taking & reserved collection	2	2	1	-	-
		3. Acquisition (Books and periodicals) Technical services	1 2	1 2	- 1	-	-
		4. Hindi, Sanskrit & other modern Indian languages & Union Catalogue	1	-	-	-	-
B) 2		2. <u>Social Sciences:</u>					
		5. Acquisition (Books & periodicals) Technical services & Union catalogue	1 2	2 2	- 1	-	-
		6. Documentation & Information retrieval.	1	-	-	-	-

90

	C	D	G	H	I	
(B) 2	3. <u>Natural &amp; Physical Sciences:</u>	7. Acquisition (Books and periodicals)	1	3	-	-
		Technical services & Union catalogue	2	3	1	-
		8. Documentation & Information retrieval	1	-	-	-
(B) 3	4. <u>Engg., Tech. &amp; Med.</u>	9. Acquisition (Books and periodicals)	1	3	-	-
		Gift & Exchange	1	1	-	-
		10. Technical services & Union catalogue	2	3	1	-
(B) 4	5. <u>Oriental:</u>	11. Arabic & Persian MSS	1	1	1	-
		12. Acquisition & Technical services (printed books Urdu Persian & Arabic)	2	2	-	-
	Undergraduate Reading Room	13. Assst. Librarian	2	-	2	3
	Extension Library in the Town	- -	1	-	-	2
	Office	14. General Administration	-	4	3	Daftri(J)

191

Accounts	-	-	1	2	-	-
Bindery	-	-	-	-	-	Foreman Binder (D) 1 Tooling Assistant (F) 2

---

Total:	1	4	14	25	32	15	37	6
Less existing	1	1	5	15	22	10	32	
Staff required	3	3	9	10	10	5	5	
	<u>3</u>	<u>3</u>	<u>9</u>	<u>10</u>	<u>10</u>	<u>5</u>	<u>5</u>	<u>6</u>

---

Staff requirements of maintained colleges

Assistant Librarian

- 1. Engg. College
- 2. Womens College

1
1
<u>2</u>

Thus total staff required is:-

1. Deputy Librarians	....	3
2. Assistant Librarians	....	11
3. Professional Asstt.	....	10
4. Clerk Gr.I	....	10
5. Clerk Gr.II	....	5
6. Attendants	....	5
7. Others	....	6
		<u>50</u>

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

92

Meeting:

Dated : 19th July, 1976.

Item No. 20 : To consider the proposal of the Nagpur University for a grant on the occasion of its Golden Jubilee.

....

The Nagpur University has approached the Commission for sanctioning grants on the eve of the Golden Jubilee celebration of the University, for the purpose of starting new departments under its Golden Jubilee Programme. The University has appointed a Golden Jubilee Project Committee to prepare the schemes to be taken up for implementation within the limit of Rs. 30 lakhs. The schemes proposed by the Golden Jubilee Project Committee are as under :-

- |   |                 |
|---|-----------------|
| i) Department of Cellulose Technology.  | Rs. 14,00,000 . |
| ii) Department of Microbiology  | Rs. 6,00,000    |
| iii) Department of Statistics   | Rs. 5,00,000    |
| iv) Elective Post-Graduate course at M.Sc. level in Geology or applied Geology as stated above. | Rs. 2,00,000*   |

\* If necessary this provision can be increased to Rs. 3,00,000/-

- |                              |              |
|------------------------------|--------------|
| v) "Suvarna Mahotsva Bhavan" | Rs. 3,00,000 |
|------------------------------|--------------|

The allocations mentioned above are expected to cover the recurring and capital expenditure during the initial 5 years of starting the courses/departments.

The State Govt. has sanctioned a grant of Rs. 20 lakhs for the projects to be taken up under Golden Jubilee Programme (the 1st instalment of Rs. 4 lakhs has already been received by the University from the State Government). In addition to this other collections will amount to Rs. 1 lakh. The University expects as already indicated to it, a grant of Rs. 10 lakhs from the University Grants Commission. The Commission at its meeting held on 14th April 1975, agreed that the present level of assistance i.e Rs. 10 lakhs may be provided to universities in connection with their Golden Jubilee Celebrations. The Commission however desired that the universities be advised that at least 2/3 of such a grant may be used for augmenting research facilities in the universities (Item 20). In this connection it may be mentioned that the Commission had agreed

p.t.o.

93

to the payment of the following special grants to the Universities on the occasion of their Golden Jubilee etc:-

1. Allahabad	RS. 10 lakhs
2. B.H.U.	Rs. 10 lakhs
3. Patna	Rs. 10 lakhs
4. Mysore	Rs. 10 lakhs
5. S.N.D.T.	Rs. 7.50 lakhs
6. Osmania	Rs. 10 lakhs
7. Gujarat Vidyapeeth.	Rs. 7.50 lakhs

The matter is placed before the Commission for consideration.

DS(D4)

---

\*SLK\*

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting :

94

Dated : 19th July, 1976

Item No. 21 : To consider the proposal of the Poona University  
(Deccan College Post-graduate & Research Institute)  
for further excavations at Inamgaon and Somnath.

-:-

At its meeting held on 22nd August, 1972, the Commission accepted the proposal of the Deccan College Post-graduate and Research Institute, Poona to enable Dr. H.D. Sankalia, Emeritus Professor, to undertake exploration work at Somnath and Inamgaon and agreed to provide a grant of Rs.1,70,000/- over a period of 2 years. This amount of Rs.1,70,000/- comprised of Rs.1,20,000/- for Somnath excavations and Rs.50,000/- for Inamgaon excavation.

The excavation work at Somnath could not be undertaken in the initial 2 years due to drought and disturbances in Gujarat State. As useful excavation work was carried out at Inamgaon, a sum of Rs.25,000/- was diverted from the allocation of Rs.1,20,000/- approved for the excavation work at Somnath, for excavation work at Inamgaon. The present position of the allocation for excavation work at Inamgaon and Somnath is as under :-

	<u>Approved expenditure</u>	<u>Grant paid</u>
i) Inamgaon Project	Rs.75,000/-	Rs.64,000/-
ii) Somnath Project	Rs.95,000/-	Rs.60,000/-
	<u>Rs.1,70,000/-</u>	<u>Rs.1,24,000/-</u>

The Poona University forwarded the proposal of the Deccan College of Post-graduate and Research Institute for a special grant of Rs.3,00,000/- for further excavation work at Inamgaon. A copy of the proposal is attached (Annexure I). The proposal in question was referred to Prof. R.S. Sharma, Head of the History Department, Delhi University, Delhi and Dr. M.N. Deshpande, Director General, Archaeological Survey of India, New Delhi for comments. Both the experts have recommended the proposal for financial assistance from the Commission. Dr. M.N. Deshpande has recommended that the grant of Rs.3 lakhs for the next 5 years may be given @ Rs.60,000/- per year to the Deccan College Post-graduate & Research Institute, Poona. A copy each of the letters of Prof. R.S. Sharma and Dr. M.N. Deshpande is attached (Annexure II & III).

The matter is placed before the Commission for consideration.

D.S.(D-4)

/mahajan/

45

EXCAVATION AT INAMGAON

INTRODUCTION

Our Institute has been conducting archaeological excavations at Inamgaon near Poona in Maharashtra from 1968 onwards. In the course of last five seasons work we have been able to recover plans of over 50 houses of the chalcolithic period dating from c.1600 B.C. to 700 B.C. besides other remains such as the fortification and embankment and many other artifacts throwing a flood of light on the material culture of the pioneering farmers of Maharashtra. The evidence from the excavations has helped us in the understanding of the prehistoric settlement pattern and also technology.

PREVIOUS WORK

In the first two seasons we concentrated on the houses of the Late Jorwe Phase (c.1000-700 B.C.) and in the next three seasons on the houses each of the Early Jorwe (c.1300-1000 B.C.) and the Malwa Period (c.1600-1300 B.C.). Our evidence shows that the richest occupational phase in the history of the site was during the Early Jorwe (c.1300-100 B.C.) when the habitation was extended all over the present area of the site (about 10 hectares) and the population probably crossed 1000 marks. The embankment was constructed in rubble masonry during this period and the flood water thus diverted was also possibly used for irrigating the fields.

What we are aiming at the course of our excavation is the total study of man or Bio-archaeology in order to reconstruct the prehistoric environment and the food economy of the first farmers in this part of the country. The grains from the excavations consist of wheat (including bread wheat), barley, rice, jowar, lentil and legumes. Among the domesticated animals there are cattle, sheep, goat, pig and above all horse. Bones of camel and rhino have also been identified. The flora and fauna helps us in the reconstruction of the prehistoric environment of Inamgaon.

FUTURE WORK

It is now proposed to excavate Early Jorwe levels on a large scale in order to study the settlement pattern and the material culture in great detail (sketch enclosed). The work is of such a nature that it proceeds slowly as the mud houses and their contents have to be recovered intact. It may not be out of place to mention here in all modesty that it is for the first time that such a carefully planned and patiently executed piece of work is being done in India. Even students from Europe, America and Asian countries have undergone training at Inamgaon only because the excavation was the only of its kind in the country. Besides, a number of our own students from different parts of the country have been associated in the field work. It is therefore necessary that with five more seasons work at the site, the excavation should be brought to a successful conclusion.

We are, however, preparing the report of the last five season's work for publication.

96

FINANCIAL OUTLAY

The total expenditure per season's work would be as follows:-

1.	Labour charges	Rs. 25,000/-
2.	T.A. & D.A. of staff	Rs. 15,000/-
3.	Equipment	Rs. 5,000/-
4.	Contingencies (Jeep etc.)	Rs. 15,000/-

Expenditure per season Rs. 60,000/-

Total expenditure for 5 season's work Rs.3,00,000/-

/mahajan/

Annexure II to item No. 21

97

Copy of letter No.FSS/HIST/30748 dated the 17th March, 1976 addressed by Prof. R.S. Sharma, Department of History, Delhi University to Shri B.R. Khatra, Assistant Secretary, University Grants Commission, New Delhi.

Thank you for your D.O. letter No.F.2-12/72(H.I/D.4-a) of 21 February, 1976.

I have looked into the proposal of Professor H.D. Sankalia for further excavations at Inamgaon. His proposal to excavate Early Jorwe levels in order to study the settlement pattern and the material culture (c.1300 - 1000 B.C.) seems to have been well conceived. The results which he has obtained so far seem to be very encouraging. I would be in favour of enabling him to carry on this excavation for 5 more seasons. I do not have much idea of the actual expenses involved in this work. This may be examined by Shri M.N. Deshpande of Shri B.K. Thapar. Meanwhile I have no hesitation in recommending the acceptance of his proposal on academic grounds.

In your letter you also speak of excavation at Somnath. But no such proposal has been forwarded to me by you.

With regards,

98

Annexure III to item No.21

Copy of letter No.25/6/76-M dated the 6th April, 1976 addressed by Dr. M.N. Dēshpande, Director General, Government of India, Archaeological Survey of India, New Delhi-11 to the Secretary, University Grants Commission, New Delhi.

-:-

With reference to your d.o. letter No.F.2-12/72(H.I/D.4-a) dated 21-2-1976 regarding the proposal of Dr. Sankalia for further excavations at Inamgaon and Somnath involving an expenditure of three lakhs over a period of 5 years, I am to inform you that this is an importance work and the Deccan College deserves to be supported financially to enable them to complete the project. In the circumstances it is recommended the grant of Rupees 3 lakhs for the next five years may please be given at the rate of R.60,000 (sixty thousand) per year to the Deccan College, Post Graduate & Research Institute.

-:-

University Grants Commission  
---

Meeting:  
Date : 19th July, 1976

Item No.22: To consider further the proposal of the Utkal University for change in the Specialisations for the post of Readers approved for the Fifth Plan period.

----

The University Grants Commission at its meeting held on 22nd March, 1976 considered (vide item No.26) the proposal of the Utkal University for the change in the specialisations for the posts of Readers approved for the Departments of English, Mathematics, Analytical and Applied Economics and Zoology for the 5th Plan period and resolved as under:-

"The Commission desired that the proposal from the Universities suggesting changes in the specialisation for the posts accepted on the recommendations of the 5th Visiting Committees may be placed before the Commission for consideration with all relevant information eg. (a) the Visiting Committee's recommendation (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.

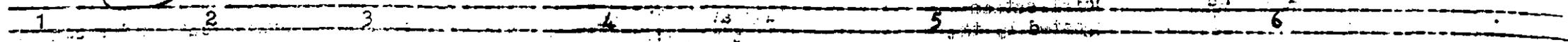
The Commission further desired that the proposal of Utkal University may be brought before it alongwith the information indicated above".

In pursuance of the above decision of the Commission, the Utkal University was requested to send the information viz. (a) Total staff available with each of the Departments (i.e., Professors, Readers, Lecturers and others) and (b) Name of each of teacher with details of academic qualifications and field of specialisation in respect of English, Mathematics, Zoology and Analytical and Applied Economics Departments. The Utkal University has now sent the requisite information and has again requested the Commission for allowing it to make changes in the specialisations as approved by the Commission.

A statement giving the details viz. (i) post recommended by the Visiting Committee, (ii) Specialisation suggested, (iii) posts already available in the Department and their specialisation, (iv) Change suggested by the University and (v) justifications for change required is attached Annexure.

The matter is placed before the Commission for consideration.

1. Post recommended by the 5th Plan Visiting Committee	Specialisation suggested by the Visiting Committee	Posts already available in the Department & their specialisation.	Change suggested by the University.	Justification for change as given by the University.
1	2	3	4	5
1. Reader in English	Linguistics.	1 P 14th Century literature 17th Century drama World drama especially Modern American & European Drama Translation. 1 R Linguistics, Criticism, Modern British Literature, Indian Literature. 2 L i) American Literature ii) Translation. 1 Research Scholar.	American Literature	The University feels that since it has already got a Reader in the Department of English with a background in Linguistics, it may not be necessary to have another Reader in Linguistics. The University, therefore, desires that the post of Reader may carry the specialisation in American Literature.
2. Reader in Mathematics	Astronomy	1 R Real Analysis and Magnetohydrodynamics. 2 R i) Fluid Dynamics. ii) Numerical Analysis and Complex variable theory. 2 L i) Magnetohydrodynamics and Complex Variable Theory. ii) Numerical Analysis and Real Analysis.	Fluid Dynamics	The University has stated that this department is actively engaged in research on Fluid Dynamics, Magnetohydrodynamics, non Newtonian Fluid, Mechanics, Numerical Analysis. So the post of the Reader in the 5th Plan should be on any one of the subjects like non Newtonian Fluids, Fluid dynamics, Electricity and Magnetism. Astronomy is neither taught at the Under-graduate level in the University nor at the P.G. level. So a Reader in Astronomy may be changed to any one of the subjects on which the departmental people are engaged in research. Since Dr. P. C. Nath was a Reader in this Department was engaged in research on Fluid Dynamics and there is a special paper on this subject on which teaching is imparted in the deptt.



3. Reader in Analytical and Applied Economics. Demography.

- 1 P i) Agricultural Economics. Agricultural Economics and Demography.
- 1 R ii) International Trade. Demography.
- 5 L i) Agricultural Economics.
- ii) International Economics.
- iii) Sociology and Demography.
- iv) Theory of Sampling (Statistics)
- v) Sociology.

the specialisation may be changed to Fluid Dynamics from Astronomy.

The University has suggested that the post of Reader should carry specialisation in Agricultural Economics and Demography since the Professor available in the Department who has specialised in Agricultural Economics is due to retire after some time. The University with a view has, therefore, suggested that to maintain the continuity of research, the post of Reader should carry the specialisation in Agricultural Economics as well as Demography.

4. Reader in Zoology Embryology

- 1 P i) Entomology.
- 2 R i) Endocrinology.
- ii) Embryology.
- 4 L i) Cytogenetics. (2 L)
- ii) Entomology.
- iii) Ecophysiology.
- 1 Sr. Lab. Asst. Entomology. Also has research publications in Cytology, Biostatistics and Ecology.

The University desires to keep the specialisation for this post open.

The University has informed that against the post of Reader which was approved in IV Plan, the Zoology Department has already appointed a person with specialisation in Embryology. The University has, therefore, approached the Commission for keeping the post of Reader now sanctioned in V Plan as open.

CONFIDENTIAL

102

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 19th July, 1976

Item No. 23 : To consider the proposal of Kohima Science College, Kohima for financial assistance for (a) purchase of library books and journals and (b) Laboratory Equipment and furniture under Rs. 5 lakh scheme in relaxation of the eligibility conditions of minimum enrolment.

.....

The Commission at its meeting held on 14th and 15th July, 1975 while considering the question of giving assistance to affiliated colleges for improvement of undergraduate facilities under Rs. 5 lakhs schemes, agreed that in the case of colleges located in the backward areas, as defined by the Planning Commission, the eligibility conditions with regard to enrolment and the faculty strength for purposes of assistance during V Plan may be as follows :-

	<u>Minimum</u>	
	<u>Enrolment</u>	<u>Faculty strength</u>
Three Year Degree Course	300 (in place of 400)	15 ( in Place of 20)
Two Year Degree Course	200 (in place of 270)	10 (in place of 15)

At its meeting held on 27th-28th October, 1975, the Commission further considered the question of relaxation in minimum enrolment to make colleges eligible for University Grants Commission assistance but the Commission was not in favour of further general relaxation regarding enrolment and faculty strength beyond what has already been agreed to as indicated above. The Commission, however, desired that the question of development of few selected colleges may be discussed with the State Governments concerned from the point of view of meeting the needs of students in the backward/tribal areas and developing a few selected colleges. Action in this regard has already been initiated.

The North Eastern Hill University has forwarded a proposal of Kohima Science College, Kohima for financial assistance for purchase of Library books/journals and furniture at an estimated cost of Rs. 1,01,000/- and (b) laboratory equipment and furniture at an estimated cost of Rs. 3,96,000/-. The sharing basis for equipment/

p.t.o.

103

books is 75 : 25 whereas for furniture it is 50 : 50. The North Eastern Hill University has stated that Science College, Kohima is the only college imparting instructions in Science subjects at the degree level in the whole of Nagaland and the college has got fairly satisfactory facilities as far as accommodation is concerned. But their libraries and laboratories require augmentation and the Govt. is unable to provide sufficient money.

The College has a faculty strength of 22 permanent teachers but there are only 43 students in degree classes. As per conditions of eligibility laid down in the V Plan guidelines the College does not become eligible for University Grants Commission grants as it does not have the minimum enrolment of 200 students in degree classes. The reason given for this low enrolment is that the people/students of Nagaland are still low in study of Science. Enrolment in the Pre-University Science is high but after passing Pre-University Science, the students tend to go for technical studies. Almost all the students are from scheduled tribes. In view of the fact that the College is the only College imparting Science education in degree level and considering the backwardness of the region in education as a whole and Science education in particular the North Eastern Hill University has requested the Commission to provide financial assistance to the college.

The matter is placed before the Commission for consideration.

AS(D-3b)/DS(D-3)

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

.....

Meeting :

Dated : 19th July, 1976

Item No.26 : To consider further the scheme of 'appointment of Professor of Eminence in universities.'

-----

The University Grants Commission at its meeting held on 24th-25th November, 1975 considered the decision of the Government of India regarding the procedure to be followed for the purpose of considering proposals for appointment of Professor of Eminence (item No. 38). The Commission in the light of the views of the Government of India agreed that the Scheme may be adopted and proposals invited from universities in accordance with the procedure prescribed therein. The Commission also noted that the additional expenditure involved in the implementation of the scheme would be met by the University Grants Commission and paid direct to the universities as part of the Plan expenditure. A copy of the letter sent to the Vice-Chancellors for sending proposals in accordance with the guidelines laid down in this respect is given in Annexure I.

The Jawaharlal Nehru University has informed that the matter was discussed in a meeting of Deans of the University and has sent a note regarding the institution of Professors of Eminence. An extract from the note is given below :-

It may be stated at the very outset that all professors are professors of eminence. The academic community the world over recognises professorship as the highest academic status and honour in the university system. It is no doubt true that the level of "eminence" of various professors are not the same. But, it does not follow from this that such differences are along the demarcation line between "eminence" and "non-eminence". They are differences of degree and not of kind.

We feel, moreover, that "eminence" is something which should come to a professor as a matter of consensus among his peers about his academic achievement in the normal course of his functioning in the university system and outside. It should not be made into a matter of evaluation and formal conferment through a "nomenclature" and pecuniary benefits.

With the introduction of the new grades, there is no need for extra pecuniary incentives to be given to members of the faculty. The grades have already become comparable with some of the other services.

p.t.o.

105

The proposal goes against the desirable tendency initiated since independence to reduce vertical disparities and gradations among the faculty as reflected in reduction in the number of faculty categories and the institution of overlapping grades.

If the idea behind the institution of professorships of eminence is to prevent, through higher incentives, the temporary or permanent outmigration of professors with highly specialised knowledge in certain academic areas from the university system, it is not well conceived. Such mobility, in fact, should be taken as a normal feature of the career of a university professor and as a healthy element in the development of proper relationship between the university and the community. This relationship should be conceived of as essentially symbiotic in nature whereby the faculty shoulder community responsibilities and bring back this experience to enrich scholarship in the university.

The experience of the institution of the senior grade of professors in the past has already left a sour taste in the mouth. It started with almost identical objectives, but did not produce the desired results. On the contrary, it introduced considerable tension and strain in the universities. There is no reason why a similar experiment should be tried again.

Even if there is some merit in the proposal, there is already an institution of national professors in the Ministry of Education; and there is no need to duplicate this arrangement.

There is an increasing tendency to build mechanisms outside the universities for the conferment of academic honours, which, in our opinion, is not desirable.

The real problems that professors face are not pecuniary. They pertain to the non-availability of adequate facilities for research. It is, therefore, suggested that even if professors of "eminence" can be identified, assistance and incentives given to them should not be in terms of addition in their salaries, but in terms of uncommitted grants for research, and secretarial and research assistance.

The matter is placed before the Commission for consideration.

EO(CP)

-----  
-----

\*SLK\*

A copy of University Grants Commission D.O. letter No. F.1-67/74(CD/CP) dated 20.12.1975 address to Vice Chancellors from Shri R.K. Chhabra, Secretary U.G.C.

.....

As you are aware, the Government of India while announcing in March, 1974 the revised salary scales of pay for university teachers had also announced the Government's decision that Professor of Eminence may be given a fixed Salary of Rs. 3,000/- p.m. This decision was based on a recommendation made to the Government by the University Grants Commission to this effect. The Sen Committee in its report had recommended that there should be a provision for outstanding teachers to be given a higher scale through assessment after lapse of a particular period and that the University Grants Commission may evolve a suitable machinery for selecting such eminent Professors.

The Commission has since finalised the procedure to be followed for considering proposals for appointment of Professors of Eminence, which has also been accepted by the Government of India. The guidelines laid down for purposes of consideration of proposals for appointment of Professors of Eminence as accepted by the Government of India is given at Appendix to this letter.

The Commission would like to invite the University in the light of these guidelines to propose name(s) of persons for being selected as Professors of Eminence in consultation with the appropriate agencies indicated in the guidelines. The terms and conditions governing the appointment of Professors of Eminence have also been indicated in the guidelines.

I should be grateful if the University could forward any proposal it has in this connection for consideration of the Commission not later than 31st March 1976.

With kind regards,

.....

Professors of Eminence

- A. i) A person selected as a professor of eminence will draw a salary of Rs. 3,000/- per month, but will not use the word 'Professors of eminence' as a title or as designation.
- ii) The total number of professors of eminence in the universities at any given time may not exceed 100 during the Fifth Plan period. This may be spread suitably over various disciplines or inter-disciplinary studies.
- iii) The selection of a professor as of eminence is basically a recognition of the meritorious contribution made by him to knowledge or to its promotion. It is expected that the selectors will demand the most exacting standards in making their choice. Self nomination and personal application for selection would, therefore, not be desirable.
- iv) Universities may propose names of persons for being selected as professors of eminence only when they have satisfied themselves fully that the professor concerned has reached a very high level of academic distinction and is capable of fruitful work himself as well as of guiding and inspiring others.
- B. i) Proposals will be invited by the UGC from time to time. Vice-Chancellors will be requested to make proposals in consultation with either the Dean of Faculty/School concerned in the university or with any professor of the subject concerned serving in that or any other university.
- ii) Only professors drawing the salary of at least Rs. 2,000/- per month in the revised scale of Rs. 1500-2500 (or in case they are in different scale they have been university professors for not less than seven years) will be eligible for being proposed for selection.
- iii) In addition, the UGC may also invite suggestions in this regard from outstanding professors, reputed scholars and scientists.
- C. When a proposal is made under 'B', the Commission will obtain from the universities or from the sponsoring individuals, properly documented information about the academic achievement of the professor concerned, including research/scientific work and contributions including published work, inventions, discoveries, reviews, monographs, books and such other materials giving necessary evidence of original work done either individually or in collaboration with a team. A brief note may also be obtained from the professor concerned about what he considers to be his main contribution to knowledge. The professor may also be requested to furnish the necessary reference about his published work.
- D. i) The Commission will constitute the following sub-committees to undertake a preliminary evaluation of the work done by the professors in the concerned areas:
- a) Humanities and Social Sciences

1.8

- b) Physical, Natural and Earth Sciences
- c) Agricultural Sciences, Engineering & Technology, Medical Sciences.

- ii) After the preliminary evaluation, the sub-committee may consult panels of referees before recommending suitable names to the Commission for consideration. The sub-committee shall inter-alia, point out the importance and the significance of the work of professor whose name is recommended.
- iii) The evaluation reports and recommendations of the sub-committees will be examined by a committee consisting of five members of the Commission with power to co-opt experts representing different disciplines to make final recommendations to the Commission.
- iv) Care will be taken that the names of persons suggested and the evaluation reports on the work of professors whose names are suggested are treated as personal and confidential. Canvassing by or on behalf of a professor will not be looked upon with favour by the Commission.

- E. . i) Where a proposal made by a university in respect of a professor is accepted by the Commission, the University Executive Council may appoint such person as a professor of eminence. In that case, the Commission will reimburse the university the difference in salary over and above the salary drawn by him at the time of selection and Rs. 3,000/- p.m. This difference will be paid by the Commission to the university on a recurring basis until the time of superannuation of the person concerned and will not be subject to fluctuation as a result of the increments earned by the professor.

However, the terminal benefits resulting from the increase in the salary of the professor concerned will be the responsibility of the university.

- ii) Universities participating in this scheme will be requested to make a provision, permitting such professors to hold part-time appointment in another University/Institute of Higher Learning.
- iii) The university which invites the professor of eminence would bear the **basic salary** of the professor and the Commission should pay only the difference in order to make salary of the professor equal to Rs.3,000/- instead of the UGC meeting the entire expenditure.
- iv) If a university desires to invite as Professor of Eminence, an outstanding person working in an institution other than a university in India or in a university or institution in foreign country (provided he is an Indian national) the University Grants Commission may assist such universities by providing for the

/ of

(109)

difference in order to make the salary of the Professor equal to Rs.3,000/- p.m. the university concerned agreeing to meet Rs. 2,000/- p.m. as basic salary and allowances as admissible for a University Professor.

Universities agreeing to participate in the scheme are requested to amend suitably their Statutes/Ordinances preferably in consultation with the Commission.

-----

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated: 19th July, 1976.

Time: 10.00 A.M.

Item No. 27 To consider the recommendations of the Committee appointed by the University Grants Commission to examine the proposal of Punjabi University, Patiala, for the continuation of scholarships for post-M.Sc./B.E., Diploma courses in Electronics and Television Engineering and Space Sciences.

1. In 1971, the department of physics, Punjabi University, Patiala, started as a pilot project, one-year job-oriented post M.Sc./B.E. diploma courses in (i) electronics and television engineering, and (ii) space sciences. The Government of Punjab met the initial expenditure with regard to staff, equipment etc. Simultaneously, the university approached the University Grants Commission with a request to provide teaching assistantships of Rs.250/-p.m. for 8 students in these two diploma courses.

2. On the recommendation of an expert committee which visited the department of physics, Punjabi University in August, 1971, the Commission agreed to provide scholarships of Rs.250/-p.m. to a maximum number of ten to both these courses together outside the fourth plan allocations. The courses were started in 1971-72.

3. The Punjabi University approached the Commission in 1974, to continue these scholarships during the fifth plan period also. It was decided that the visiting committee appointed to discuss the fifth plan development proposals of the Punjabi University, would also review the implementation of these courses and make suitable recommendations for the consideration of the Commission. The fifth plan visiting committee, however, could not make any recommendations in this regard.

4. The University Grants Commission, therefore, appointed a committee to examine the proposal of the Punjabi University Patiala, for the continuation of scholarships for one-year post-M.Sc. diploma courses in Television Engineering and Space Sciences. The committee consisted of the following:

1. Dr. A.P. Mitra,  
Head, Radio Science Division,  
National Physical Laboratory,  
New Delhi.

(111)

2. Professor C.S.G.K. Setty,  
Department of Physics and Astrophysics,  
Ionosphere Research Centre,  
University of Delhi,  
Delhi.

3. Shri Y.D. Sharma,  
Deputy Secretary,  
University Grants Commission,  
New Delhi.

5. The committee visited the Punjabi University, Patiala, on April 6, 1976 and held discussions with the Vice-Chancellor, Head and the faculty of the department of Physics, the Registrar and other officers of the University. A copy of the report of the committee is enclosed Appendix.

6. The main recommendations of the committee are summarised as under:-

(1) Both the diploma courses viz., (i) diploma course in electronics and TV Engineering, and (ii) diploma course in space sciences, may be encouraged to continue with improved syllabi and staff position.

(2) A total number of ten scholarships @ Rs.250/-p.m. should be continued for both the diploma courses till the end of fifty plan i.e. 1978-79. The distribution of these ten scholarships may be left entirely to the University.

(3) An additional four junior research fellowships of the value of Rs.400/-p.m. be made available for three-year period ending 1978-79 for the two courses for continued support to students, who after completing the courses, may like to stay on in the department for research and teaching purposes. A few of the students undergoing the diploma courses be retained in the department for Ph.D. work, this will strengthen the teaching potential in specialised courses.

(4) The department does not have any of the important journals on space science, electronic communication and TV Engineering. A sum of Rs.10,000/- may be set apart from the allocation already sanctioned by the U.G.C. for the purchase of books and journals and made available for subscribing to the following journals.

1. Journal of Atmospheric and Terrestrial Physics, London.
2. Planetary and space science physics, London.

p.t.o.

112

3. Journal of Geophysical Research, U.S.A.
4. Space Science Review.
5. Astrophysics Journal and Supplement.
6. Monthly Notices of Royal Astronomical Society.
7. Astrophysics and Space Sciences.
8. Journals of interest for Electronic Communication and TV Engineering.

(5) The Central Electronic Workshop facility must cater to the needs of the TV Engineering or Space Sciences course by way of test equipment and fabrication facility from the allocation already sanctioned by the U.G.C. on the recommendation of the Fifth Plan visiting committee.

(6) A review may be undertaken of these two diploma courses in 1978-79.

The matter is placed before the Commission for consideration.

D.S.(CP)

Report of the Committee appointed by the University Grants Commission to examine the proposal of Punjabi University Patiala, for the continuation of scholarships for Post M.Sc./B.E., Diploma courses in Electronics and Television Engineering, and Space Sciences.

113

----

INTRODUCTION

1. In 1971, the Department of Physics, Punjabi University, Patiala, started as a pilot project, one-year job-oriented post M.Sc./B.E. diploma courses in (i) electronics and television engineering, and (ii) space sciences. The Government of Punjab met the initial expenditure with regard to staff, equipment etc. Simultaneously, the university approached the University Grants Commission with a request to provide teaching assistantships of Rs.250 p.m. for 8 students in these two diploma courses.
2. On the recommendation of an expert committee which visited the Department of Physics, Punjabi University, in August, 1971, the University Grants Commission agreed to provide scholarships of Rs.250 p.m. to a maximum number of ten to both these courses together outside the Fourth Plan allocations. The courses were started in 1971-72.
3. The Punjabi University approached the Commission in 1974 to continue these scholarships during the Fifth Plan period also. It was decided that the Visiting Committee appointed to discuss the Fifth Plan development proposals of the Punjabi University would also review the implementation of these courses and make suitable recommendations for the consideration of the Commission. The Fifth Plan visiting Committee, however, did not make any recommendations in this regard.

II - APPOINTMENT OF A COMMITTEE

4. The University Grants Commission, therefore, appointed a Committee to examine the proposal of the Punjabi University, Patiala, for the continuation of scholarships for one-year Post-M.Sc. Diploma courses in Television Engineering and Space Sciences. The Committee consisted of the following members:

1. Dr. A.P. Mitra  
Head, Radio Science Division  
National Physical Laboratory,  
New Delhi.

114

2. Professor C.S.G.K. Setty  
Department of Physics and Astrophysics  
Ionosphere Research Centre  
University of Delhi,  
Delhi.

3. Shri Y.D. Sharma  
Deputy Secretary  
University Grants Commission  
New Delhi.

5. The Committee visited the Punjabi University, Patiala, on April 6, 1976 and held discussions with the Vice-Chancellor, Head and the Faculty of the Department of Physics, the Registrar and other officers of the University. The Committee went round the Department of Physics, its various laboratories, workshops, meteorological installations and saw the various facilities provided for the courses being conducted at the Department.

III - SOME BASIC FACTS

6. The Department of Physics was established in 1963. It has emerged as a school of pure as well as applied physics in the Punjab State. It provides instructions for B.Sc.(Hons.) (30 students) and M.Sc. (45 students) (with specialisations in nuclear science, modern optics, electronics, space science and material science) and facilities for research leading to Ph.D. degree. To meet the growing challenge of unemployment and the needs of the country, the Department also provides instructions for one-year Post-M.Sc./B.E. Diploma Courses in (i) Electronics and Television Engineering (ii) Space Science and (iii) Meteorology and Atmospheric Physics, One-year post-B.Sc. diploma course in maintenance and servicing of electronic instruments and One-Year post-higher secondary/pre-university certificate in fabrication and testing of optical components were started in 1974, with assistance from the State Government. The sanctioned staff strength was three professors, 12 readers and 20 lecturers and one senior technical assistant. The present strength in position is one professor, seven readers, 13 lecturers (two on leave) and three instructors. As at present the posts of two professors, five readers and seven lecturers are lying vacant. The faculty of the Department awarded 12 Ph.D. degrees and published 150 research papers since its inception.

7. According to the specialisations the position of the staff is as under:

(115)

S. No.	Specialisation	Staff				Total
		P	R	L	O	
1.	Atomic & Nuclear Physics	1	4	3	-	8
2.	Electronics (including T.V. Engineering)	-	-	1	3	4
3.	Optics	-	-	3	-	3
4.	Solid State & Material Science	-	1	3	-	4
5.	Space & Plasma Physics	-	2	2	-	4
		1	7	12	3	23

8. During 1975-76, the student enrolment in various courses was 37 in M.Sc., 6 in diploma course in electronics and TV engineering (3 M.Sc.s. and 3 B.E.s), 2 in diploma course in space sciences and 8 in diploma course in maintenance and servicing of electronic instruments.

9. To maintain existing equipment and fabricate new components of apparatus for use in the laboratories, metal and wood shops with lathe, milling and cutting machines, glass blowing shops, optics shop, and electronic have been provided. These are manned by qualified, trained and technical and maintenance staff.

10. The list of apparatus and equipment available in various laboratories of the department of physics and workshops is given in Annexure-

11. During the Fourth Plan, the Department of Physics reorganised the courses of M.Sc. classes and modified the system of annual examinations and introduced semester systems.

12. On the recommendation of the Fifth Plan Visiting Committee, the University Grants Commission sanctioned in the first phase the following:

A- Physics Department

- |                             |   |               |
|-----------------------------|---|---------------|
| (i) Staff                   | : | Two Readers   |
| (ii) Equipment              | : | Rs.2.00 lakhs |
| (iii) Books & Journals      | : | Rs.75,000     |
| (iv) Building (Observatory) | : | Rs.1.50 lakhs |

p.t.o.



15. The Department has the basic potential which if properly exploited can yield fruitful results.

16. It was reported that all the pass-outs of these diploma courses have been gainfully employed.

17. The head and faculty of the department were not even aware that of the sanctioned strength, the posts of two professors, seven readers (including two readers sanctioned by UGC in fifth plan) and seven lecturers were lying vacant. The Committee very strongly urges that all the vacant posts should be filled from experts in various fields such as space science, low temperature physics, nuclear physics, laser physics, modern spectroscopy, solid state physics, electronics etc. etc.

Post-M.Sc./B.E. Diploma course in Electronics and Television Engineering

18. It is a good and useful course and should be encouraged; the experimental course and projects proposed are good and adequate.

19. The existing staff is inadequate. It must be augmented by the inclusion of at least one reader and two lecturers in electronics engineering from the vacant positions already available out of sanctioned strength.

20. The theory course is generally adequate but is conspicuous by the absence of two topics : (a) noise consideration in T.V. systems and (b) some aspects of propagation of VHF waves and the medium through which they propagate. These aspects of study will give some physics orientation to the course which is otherwise purely application oriented.

Post-M.Sc./B.E. Diploma course in Space Sciences

21. The space science programme is serving a useful purpose and should be continued. The theory course needs restructuring. Space electronics must be included. The courses are oriented heavily on the astronomy side. There is nothing wrong in this but then the diploma may be renamed as diploma in astronomy and astrophysics. On the other hand if the name space science should be retained, it is necessary to reorient the course to include space electronics, near earth environment, plasma physics, geophysics etc. The syllabi may be prepared in consultation with other centres offering space science courses.

22. The experimental course and projects proposed cover too wide an area. It needs judicious curtailment both from

118

the point of utility and feasibility. An astronomical orientation is recommended until atleast the staff is augmented adequately to handle other projects and experiments.

23. The following suggestions could, however, be considered:

- (a) Paper III (first part) for the diploma in TV engineering, namely EM waves, antenas and transmission lines be suitably modified to include micro-electronic data processing for both the courses.
- (b) Papers V and VI of space science course could be combined together to form one paper.
- (c) There should be a number of introductory lectures, outlining the space science application areas currently available in the country, including a description of rockets available, institutions working on space science areas, the type of supporting facilities that space science needs etc.
- (d) A visit to the Thumba Rocket Range be made compulsory for the students in the space science course. Specific amount of money (say Rs.1500 p.a. should be made available for the visit.

24. The staff is inadequate and needs augmentation. Inclusion of one or preferably two lecturers (at least one in electronics) is recommended from filling the vacant positions.

#### General

25. Both the diploma courses may be encouraged to continue with improved syllabi and staff position as recommended.

26. A total number of ten scholarships @ Rs.400 p.m. should be continued for both the diploma courses till the end of Fifth Plan i.e. 1978-79. The distribution of these ten scholarships may be left entirely to the university.

27. Additional four junior research fellowships of the value of Rs.400 p.m. be made available for three-year period ending 1978-79 for the two courses for continued

p..t.o.

to students, who after completing the courses, may like to stay on in the department for research and teaching purposes. A few of the students undergoing the diploma courses be retained in the department for PH.D. work this will strengthen the teaching potential in specialised courses.

28. The department does not have any of the important journals on space science, electronic communication and TV engineering. A sum of Rs.10,000 may be set apart from the allocation already sanctioned by the University Grants Commission for the purchase of books and journals and made available for subscribing to the following journals :-

1. Journal of Atmospheric and Terrestrial Physics, London
2. Planetary and Space Science Physics, London.
3. Journal of Geophysical Research, USA. . . . .
4. Space Science Review.
5. Astrophysics Journal and Supplement.
6. Monthly Notices of Royal Astronomical Society.
7. Astrophysics and Space Sciences.
8. Journals of interest for Electronic Communication and TV Engineering.

29. The Central Electronic Workshop facility must cater to the needs of the TV Engineering or Space Sciences courses by way of test equipment and fabrication facility from the allocation already sanctioned by the University Grants Commission on the recommendation of the fifth plan visiting committee.

30. A review may be undertaken of these two diploma courses in 1978-79.

ACKNOWLEDGEMENT

31. The committee is grateful to the Vice-Chancellor, Registrar and other officers of the university, head, the faculty and other members of the staff of the department of physics and various laboratories, for their cooperation and assistance extended to it for the successful completion of the work.

-----

\*SLK\*

Annexure to Appendix

(120)

List of Apparatus and Equipment available in the  
various laboratories of the Physics Department,  
Panjabi University, Patiala (1976).

---

A - Nuclear Science Laboratory:

1. 400 kev Van de Graaff machine.
2. Neutron Howitzer with a 5 Curie Pu-Be source.
3. Multichannel analysers: two
4. Gamma-ray spectrometers: 15
5. Beta-ray spectrometer.
6. Radioactive sources.
7. Proportional Counting set-ups.

B - Electronics Laboratory & Workshops:

1. Experiments in Basic electronics covering various types of Amplifiers, Oscillator, Modulators, Demodulators, Regulated power supplies, Pulse, Digital and switching circuits, special electronic circuits (e.g. study of RC transients, clipping, clamping, trigger circuits, Multivibrators, Blocking oscillator and sweep circuits etc.). Both tube type and transistor circuits are studied.
2. Advanced electronics, experiments cover logic circuits, Analogue and digital computers, X and G-band Microwave & transmission line experiments and independent projects involving design, fabrication and testing of assembled circuits. In addition to the above, independent sections for the following are there:
3. Fabrication techniques, testing and servicing of all type of electronic instruments supported by an electronic workshop.
4. Complete assembly, testing and servicing procedure of TV Receivers, TV Cameras and closed circuit Television. This section has special equipment, namely, Sweep generators, pulse generators and TV service generators and high frequency oscilloscopes for an exhaustive training in TV Engineering.

(121)

C- Material Science

1. Variation of Ionic conductivity of sodium chloride with temperature
2. The avariation of dielectric constant of liquid with temperature
3. Electron spin reasonance in DPPH
4. Thermoelectricity in  $\text{Bi}_2 \text{Te}_3$
5. Magnetic susceptibility of rocks
6. Thermal analysis of Pb and Sh systems
7. Resistivity of a semiconductor using four prove technique
8. Hall coefficient and carrier concentration in Bismuth
9. Laue photograph of sodium chloride single crystal.
10. Powder photograph of metal wires. . . . .
11. X-ray photograph of amorphous metals
12. Thin film fabrication and physical properties measurements
13. Electrical properties of metals, semiconductors and insulators
14. Dielectric properties of Liquids and solids.
15. Structure characterization by x-ray techniques.
16. Mossbauer Spectroscopic measurements.

D- Space Science Laboratory

1. 600 mm Cassegrain Telescope
2. 150 mm Cass. egrain Telescope
3. 80 mm Refracting Telescope
4. Astro Camera
5. Microphotometer
6. Abbe Comparator
7. Coelostant 4" - under construction
8. Polarimeter for 140 MHz Arts Beacon
9. Receiver for 40 MHz for satellite Beacon

122

10. Receiver 2-16 MHz
11. Receiver 2-32 MHz
12. Receiver for 164 Khz
13. Recorders (seven ) one on loan from PRL
14. UV Spectrograph
15. Oscilloscope - One
16. 6" Telescope

E Optics Laboratory and workshop

In the optics laboratory, we have various interferometers for spectroscopic and refractive index measurements. Examples are Michelson, Fabry Perot, Interferometer and Etalon, Jamin Interferometer, Raleigh Interferometer, Lummer-Gehrecke Interferometer and Fizeau Interferometer, other than interferometry experiments, we have experiments for the measurements of optical properties of thin films. In addition to this the department has a well equipped optical workshop and optical measuring laboratory for testing optical components. Examples are, for measurements of the surface accuracies of optical flats and curved surfaces, optical spherometer for measuring short radii of curvature. Well set Foucault knife edge test for long radii of curvature measurements and for measurement of aberration of mirrors and lenses. The workshop is also availing the facility of Thermal evaporation Coating plant for thin film deposition.

-----

\*SLK\*

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

123

Meeting:

Dated : 19th July, 1976.

Item No. 28 : To consider a proposal on Teacher Training Programme in English.

.....

The Central Institute of English & Foreign Languages, Hyderabad, wrote to some Professors of English in the Universities to the effect:

"Universities that do not have, at the moment, programmes . . . . . that lead to teacher training within the university itself should be requested to set-up such programmes and UGC assistance by way of materials should be asked for initially, till they become independent and self-sufficient. This Institute (CIEFL) will be glad to offer whatever assistance it can in setting up such training programmes at your university. Further, any proposals for staff positions in your departments that will utilise training facilities of this Institute will be particularly welcome by the UGC."

A copy of the letter addressed by the C.I.E.F.L. is enclosed (Annexure-I). On the basis of this letter requests have been received from the Heads of Department of English, Sambalpur University and the Jammu University for provision of books, equipment and teaching staff. The Director C.I.E.F.L. has conveyed his views on these proposals as per his letter at Annexure II. The Scheme as proposed by the Central Institute of English & Foreign Languages seems to be basically sound and it is for consideration if proposals may be invited from the Universities and examined in consultation with the Central Institute of English & Foreign Languages and considered under the Faculty improvement Programmes- If accepted the basis on which assistance may be provided may also be decided. The Commission has also been providing admissible funds for the organization of seminars, symposia, conference under its scheme of Faculty Improvement Programmes.

It is for consideration as to whether proposals from universities pertaining to teacher training programme in English with provision of physical facilities, such as, equipment, books and teaching posts as asked for by the universities of Sambalpur and Jammu, for example, could be covered under the existing University Grants Commission programmes of COSIP/COHSIP or be dealt with under the newly introduced Faculty Improvement Programmes. A brochure on Faculty Improvement Programme is given in Annexure, III

The matter is placed before the Commission for consideration.

JS(II)

.....

Copy of Central Institute of English and Foreign Language Hyderabad  
letter No. CIEFL/ESD/236/7750/75 dated 19th December, 1975, from Professor  
R.K. Bansal, M.A. Ph.D. (London) to Professor P.K. Pati Head of the Deptt.  
of English, Sambalpur University, Jyoti Vihar.

.....

Dear Prof. Pati,

As you are probably aware, the programme of training teachers of English at this Institute is now granted almost exclusively to the needs of University and College teachers. As a result of this shift in emphasis most of the places available on our one year Diploma Courses in English are now taken up by University and colleges teachers. Even so, the intake facilities at this Institute being limited, it will perhaps never be possible for the Institute to train all Universities level teachers of English in the country. This ideal can be realised only when universities join hands with this Institute and undertake to train most of the college teachers of English in their respect areas. This Institute will therefore welcome the ideal of more and more universities introducing teacher training programmes for lecturers in English. Examining the present situation viz-a-vis the size of the training facilities available at this Institute, our Governing Body recently passed the following resolution;

"Universities that do not have, at the moment programmes that lead to teacher training within the University-itself should be requested to set up such programmes and U.G.C. assistance by way to staff and materials should be asked for them initially, till they become independent and self sufficient."

This Institute will be glad to offer whatever assistance it can in setting up such training programmes at your university. Further, any proposals for staff positions in English Departments that will utilize the training facilities of this Institute will be particularly welcome by the U.G.C.

We sincerely hope that you will take advantage of the offer being made by the U.G.C. and ask for assistance by way of staff and materials to set up teacher-training programmes (College level) in your Department. It may be said that such programmes will achieve success only if well-qualified people are appointed in fairly senior positions.

We wish you a happy New Year.

With kind regards.

Yours sincerely,

Sd/- R.K. Bansal.

-----

(12)

Copy of the Central Institute of English and Foreign Languages  
Letter No. 1933/91/ESD/CIEFL/76 dated 5 June, 1976. from Shri Ramesh Mohan  
to Shri R.K. Chhabra, Secretary, UGC, New Delhi.

.....

Dear Shri Chhabra,

The Head of the Department of English, Panjab University, Chandigarh, the Director, Birla Institute of Technology & Science, Pilani, and the Vice-Chancellor, University of Jammu, Jammu, have written to us to say that they have applied to the UGC for grants to set up college-level teacher training programmes in English. A broad outline of the proposals submitted by these institutions is as follows :-

Panjab University, Chandigarh

(Proposal submitted in February 1976)

The University wants to set up a teacher training programme in the Department of English on an on-going basis under the faculty improvement programme. It has about 100 affiliated colleges, in which more than 500 teachers of English are working. These teachers have practically no training in the teaching of English. The University intends to offer the training facilities to the neighbouring universities also as soon as this becomes possible.

The teacher training programme envisaged by the University is to serve the following purposes:

- i) training of college-level teachers in the teaching of English;
- ii) production of suitable teaching materials; and
- iii) reform of examination techniques.

The university says that the syllabi and the courses for training will be prepared in consultation with the CIEFL.

Requirements:

The University has asked for 1 Reader, 2 Lecturers and some supporting staff and books and equipment worth Rs. 50,000/-.

Birla Institute of Technology & Science, Pilani

(Proposal submitted on 21st April 1976)

This Institute wants to start a one-year Post-graduate Diploma in the Teaching of English with an annual intake of 20 college teachers as

p.t.o.

(126)

trainees from RAJASTHAN and the neighbouring States. The Department of Languages at this Institute has a number of teachers suitably qualified in the teaching of English.

Requirements :-

The Institute has asked for 1 Professor, 2 Assistant Professors, 2 Lecturers and some supporting staff. It has asked for a total financial assistance of Rs. 1,97,760/-.

University of Jammu, Jammu.

(Proposal submitted on 3rd May 1976).

The University desires to start a college-level English teacher training centre from 1977. It proposes to draw college teachers from about 95 colleges affiliated to the universities of Kashmir, Jammu and Guru Nanak Dev. In addition to this, the University wants to offer the training facility to some higher secondary school teachers teaching the top-most classes.

The University intends that the training should cover the syllabuses prescribed for the Diploma Courses in the Teaching of English by CIEFL. However, it adds that it will receive professional guidance regarding courses, etc., from the CIEFL.

The University claims that education in the colleges in Jammu & Kashmir is going to be restructured and new curricula and textbooks are going to be prescribed.

Requirements :-

The University has asked for 1 Reader/Professor, 4 Lecturers and books and equipment worth Rs. 35,000/-

In my opinion, the nature and the duration of the courses envisaged by these universities may have to be modified. There is no point, for instance, in universities starting full-length diploma courses, for these are available at this institute. They should instead concentrate on short-term training programmes, which can reach out to a large number of teachers, and concentrate on follow-up activities like improvement of the syllabus, the teaching materials and the examination techniques. Their actual needs, which will largely depend on the size of the programme and the present strength of their LET staff, if any, may have to be assessed in individual cases by competent committees. With this reservation, I consider the above proposals to be well conceived, and I would therefore like to support them for favourable consideration by the U.G.C.

With kind regards.

**UGC**

**FACULTY IMPROVEMENT PROGRAMMES  
PERTAINING TO  
TEACHERS IN AFFILIATED COLLEGES**

**UNIVERSITY GRANTS COMMISSION  
NEW DELHI**

## **FACULTY IMPROVEMENT PROGRAMMES PERTAINING TO TEACHERS IN AFFILIATED COLLEGES**

The University Grants Commission has been attaching great importance to Faculty Improvement Programmes by providing opportunities to teachers to keep abreast of modern developments in their fields of study and research and to exchange ideas with experts in similar or related fields. One of the major functions of the University Grants Commission pertains to the raising and maintenance of standards in higher education and the focal point in the improvement of standards centres around augmenting the professional competence of the teachers in affiliated colleges to make them better equipped to initiate and carry out high quality instructional programmes. With that object in view, the Commission has agreed to provide necessary financial support during the Fifth Five Year Plan for raising the professional competence of teachers in the affiliated colleges with the following programmes: The programmes have been designed to be implemented simultaneously to produce multiplying effect.

1. University Leadership Project
2. Refresher Courses or Short-term Institutes (University or State based) of about six weeks' duration each, during summer or other vacations
3. Refresher Courses or Institutes through Correspondence method in major subjects, statewise, with provision for two weeks' contact classes for laboratory or other allied work
4. All India Advanced Level Institutes in specialised topics or subjects, of about six weeks' duration
5. English Language Teaching Institutes on All India Level, of six weeks' duration
6. Fellowships for teachers in affiliated colleges at Rs. 250 p.m. as a living allowance in addition to the salary which they continue to get from the parent institution (when the teachers elect to carry out their higher studies and research at outstation centres)
7. National Associateships, for one year, with provision of visits to specialised laboratories or institutions for research work over a period of 8-12 weeks during the tenure of the award for one year
8. Seminars, symposia, conferences etc., in specialised topics or subjects of 1-2 weeks duration.

The Commission firmly believes that success of these programmes would be possible only with the whole hearted cooperation of the State Governments, the universities and the college authorities and the teachers concerned.

The Commission has formulated guidelines for the implementation of the faculty improvement programmes pertaining to teachers in the affiliated colleges as indicated below:

#### GUIDELINES IN THE IMPLEMENTATION OF FACULTY IMPROVEMENT PROGRAMMES PERTAINING TO TEACHERS IN AFFILIATED COLLEGES

##### 1. University Leadership Projects

The College Science Improvement Programme (COSIP) initiated during the Fourth Plan period has been mainly directed towards improvement of undergraduate science education and has, as its important component, provision for improvement of teachers' competence, qualifications and other opportunities to improve their teaching methods. The University Leadership Project is aimed to make a distinct contribution towards improvement of the professional competence of the teachers in the colleges and to make available to them the necessary curriculum (curriculum reform reflected in the syllabus and in examination reform) and other material required for better teaching and to establish a meaningful channel of communication between the university and college teachers.

*It is proposed that during the Fifth Plan period, every university which has more than 25 affiliated colleges providing undergraduate studies may be invited to take up a University Leadership Project in each of the major subjects where it has strong viable university departments, so that the instructional facilities and the material for curriculum and examination reform in the colleges with preparation of necessary textbooks, laboratory manuals, monographs etc., to bring about the reform in syllabus as well as in examinations at the undergraduate level are made available to the participating teachers.*

It is expected that about 40 additional University Leadership Projects would be initiated in science subjects and a similar number in Humanities and Social Sciences during the Fifth Plan period. Under the ULP, the university will have to take the responsibility of bringing about the improvement of professional competence of the teachers in its affiliated colleges through the organisation of seminars, symposia, summer institutes, workshop and actual participation of the university

faculty members in the reform of curriculum and examination and in the effective guidance in bringing about the reform in teaching at the undergraduate level. The preparation of text books with reformed syllabus, manual, monographs and other instructional materials and aids would be a major component of the activity under the ULP. *For this purpose a provision of financial support upto Rs 5 to 6 lakhs may be made available to each Leadership Project for a period of three years.*

The University has to submit concrete proposals in the implementation of the programme in the spirit it is intended.

## **2. Refresher Courses or Short-Term Institutes**

The Refresher Courses and Short Term Institutes would be about 8 weeks' duration to be held during the summer or other vacations of the university so that the normal teaching and research of the university are not affected. The universities would be free to organise such institutes at any time convenient to them throughout the year preferably during the vacations. It is proposed that each university or a group of universities within a State having affiliated colleges, may take up the responsibility to organise each year atleast one institute each in the Science subjects and one in Social Science subjects depending on the number of teachers and the colleges to be covered. Since the number of teachers and the number of affiliated colleges in the different universities and States would vary considerably, it is proposed that—

- (i) one institute each in Science subjects and one in Social Science subjects if the total number of teachers in the subject concerned in the State is less than 150;
- (ii) two institutes each in Science subjects and two in Social Science subjects if the total number of teachers in the subject concerned is between 150 and 400;
- (iii) three institutes each in Science subjects and three in Social Science subjects if the number of teachers is over 400.

Refresher Courses or Short-term Institutes may be organised by the universities and should be particularly directed towards improvement of curricula, teaching methods and examination reforms proposed to be introduced by the universities. Specific proposals for this purpose may be sent by the universities having affiliated colleges. Proposals relating to refresher courses catering to the needs arising from new curricula etc. that have been or in the process of being introduced will receive special attention.

In the organisation of this type of institutes, care should be taken to cover as many teachers as possible from a single college/institute so

that the training of 6-8 weeks' duration with revised curricula or in the reform of examination are made available to the majority if not to all the teachers in a State in a particular college. This would enable the colleges concerned to introduce the revised curricula and the methods for evaluation and examination reform to be put to practice. The previous method of picking one teacher from one college for a particular summer institute may not deliver the goods. Each institute may have an enrolment of about 50-60 college teachers as participants. The Commission will make a contribution of about Rs. 35,000 per institute to meet the boarding and travel expenses of the participating teachers and other incidental expenses. Since the institutes are university or state based, the expenses on travel in respect of teachers would not be much. The university concerned would be required to provide free accommodation with the necessary perquisites. Proforma for such courses is enclosed (3 copies).

The number of such institutes or refresher courses to be organised by the university concerned would depend on the number of teachers to be covered in a particular State in a particular subject and the convenience of the university concerned to organise such institutes.

It is expected that the performance of all participants in the Refresher Courses or Short term Institutes would be evaluated at the end of the course, and the evaluation (satisfactory or other-wise) should be sent to the college principal concerned. (This will also hold for All-India Advanced Level Institutes and English Language Teaching Institutes). The refresher course itself may be evaluated by the participants and suitable proforma may be prepared for this purpose.

### **3. In-Service post M.A. or M.Sc. Diploma Course through Correspondence in Major Subjects**

The programme is intended mainly for the undergraduate college teachers for raising their qualifications and to give them the subject-matter competence through correspondence course so as to enable them to become better teachers familiar with new subject material and the latest methods of teaching. The programme envisages a one-year course through correspondence covered in eight semesters and one independent project.

The correspondence course may be organised as an inter-university collaborative programme in each State. The course material to be sent to the participating teachers may be prepared by combined efforts of the department concerned in the state or the universities. But the responsibility of coordinating the work to cover the entire population of college

teachers in that subject in the State would be entrusted to one of the departments of the collaborating universities in the State.

Besides the provision of courses through correspondence, over one academic year, the participating teachers may be required to have about 2-4 weeks' contact classes and laboratory work in the form of a short-term institute to be organised by each of the participating departments of the universities in the State for the benefit of the teachers coming from the colleges affiliated to that particular university. The programme of Faculty Improvement through correspondence courses may be viable in such subjects where the number of teachers to be covered is 250 or more in a particular State. The universities may organise correspondence courses for one year or in a sequential manner covering 1-3 years depending upon its convenience and the facilities available and the extent of competence of teachers in the affiliated colleges.

On the successful completion of the courses through correspondence and the contact classes for about two weeks' duration and on assessment of the work done, a certificate or diploma would be awarded by the university concerned to the successful teachers from the affiliated colleges:

The estimated expenditure on the preparation of course materials etc. to be sent to the participating teachers may be Rs. 5,000 in a particular subject and the expenditure on the organisation of contact class of 2 weeks' duration may vary from Rs. 15,000 to Rs. 20,000.

#### **4. All-India Advanced Level Institutes**

The All-India Advanced Level Institutes would be of about six weeks' duration to be organised in selected university departments for organisation of advanced level institutes in specific fields or disciplines. A provision of Rs. 60,000 to Rs. 70,000 may be made by the Commission for the organisation of an advanced level institute of six weeks' duration. The selection of the All-India advanced level institutes would enable teachers from universities or colleges from different regions to avail themselves of the opportunities for getting acquainted with the latest developments in the subject concerned through lectures, seminars, discussions and possibly through project work. One or two such All-India Advanced Level Institutes may be organised in each major subject annually. It would be desirable for a college teacher to participate at the advanced level institute after he has attended at least one institute organised in his state by his university. The total number of participants in an All India Advanced Level Institute may be about 50 and not more than 25 percent should be drawn from the university teachers as participants, the majority being from the postgraduate colleges. The location of

the All-India Advanced Level Institutes could be determined on a regional basis to be organised in universities (affiliating or unitary type), IITs and other Institutes of National Importance.

#### **5. English Language Teaching Institutes**

About 6-8 institutes in English Language Teaching may be organised each year for the benefit of teachers of English in the colleges. The English Language Institutes may be of 6-8 weeks' duration to be located in different regions so as to cover as many college teachers as possible, region-wise. A provision of Rs. 60,000 to Rs. 70,000 may be made by the Commission for the organisation of an English Language Teaching Institute of 6-8 weeks' duration. The total number of institutes to be organised in each year, 2-3 may be of an advanced level on an All India basis for specialised purposes (teaching of professional courses through the medium of English).

#### **6. Teacher Fellowships**

Teacher Fellowships are specifically meant to provide opportunities for teachers to work towards either an M. Phil or M. Litt. or a Ph.D. degree and as such, may be of two types:

- (i) short term fellowship of one year's duration; and
- (ii) long term fellowship of a duration not exceeding three years.

The teachers from affiliated colleges selected for long-term fellowships should preferably be below the age of 35 years so that the benefit of their training would be available to the college for a reasonably long duration. In the case of short-term fellowships of one year's duration, preference may be given to teachers who are below the age of 45 years. More senior teachers will also be considered on merit. Such teachers either for long or short-term fellowships should be sponsored by the colleges concerned which should protect their total emoluments for the period of their academic leave and also give them the necessary increments as due and give an undertaking that such teachers would be taken back to their substantive posts without effecting their seniority etc. The teachers also may be required to give an undertaking to serve such institution for a period of atleast five years on their return from advanced study with fellowship. The Commission would provide funds to the college concerned for appointing suitable substitute in place of teachers selected for the fellowship. The Commission would also provide funds to the teacher concerned a living expenses allowance of Rs 250 per month in case the teacher decides to utilise the fellowship in a university not located in his place of duty. The teachers selected for the fellowships

would be entitled to continue to draw their total emoluments from the college concerned for the duration of their academic leave. The UGC will provide a maintenance grant of about Rs. 1,000 per annum to the university or institute where the teacher undertakes his research work. The prescribed application form for the purpose is attached (3 copies).

The teacher fellows may work either at a university department or at IITs and other Institutes of National Importance.

#### **7. National Associateship**

The Commission has decided to introduce a short-term National Associateship Programme wherein teachers from affiliated colleges or university departments may be selected for a single visit during a year to work in any of the universities or research institutions having specialised facilities connected with their research work over a period of 8-12 weeks. The selected National Associates would be entitled to get the actual first-class railway fare from their place of duty to the institution where they intend to work and back alongwith a living allowance of Rs. 500 p.m. for the duration of their stay at the host institution.

These National Associateships for a year are in addition to the existing programme of National associateships which are valid for a five year period.

#### **8. Seminars, Symposia, Workshops, Conference etc.**

These are proposed to be continued for enabling academic meetings on an All-India basis or regional basis for specified purposes. The selection of such institutes would be made, as at present, with the help of an advisory committee once a year prior to the beginning of the academic year. The seminars and workshops etc. should not be of less than one week's duration and not more than two weeks duration. The duration in respect of conferences etc. would however vary. The prescribed application form for the purpose is attached (3 copies).

UNIVERSITY GRANTS COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-1

**PROFORMA FOR REFRESHER COURSES, SHORT-TERM INSTITUTE AND POST M.A./M.Sc.  
CERTIFICATE/DIPLOMA COURSE THROUGH CORRESPONDENCE FOLLOWED  
BY TWO WEEKS CONTACT CLASSES**

1. Name of the University \_\_\_\_\_
2. Name of the Department \_\_\_\_\_
3. Number of colleges affiliated to the university offering undergraduate courses in the subject for which the Refresher Course/Post-M.A./M.Sc. course is proposed to be organised? \_\_\_\_\_
4. Number of teachers in the affiliated colleges in the subject:
  - (a) in the age group of 35 \_\_\_\_\_
  - (b) in the age group of 36 to 45 \_\_\_\_\_
  - (c) in the age group above 45 \_\_\_\_\_
5. Number of teachers in the affiliated colleges :
  - (a) having 1st or second class Master's degree in the subject concerned. (separate 1st class & high 2nd class (B+ and above) from mere 2nd class) \_\_\_\_\_
  - (b) having Ph. D. or other equivalent qualification \_\_\_\_\_
  - (c) concerned with teaching of undergraduate courses only \_\_\_\_\_
  - (d) concerned with teaching of both postgraduate and undergraduate courses \_\_\_\_\_
6. Details regarding the Refresher Course/ Short terms course:
  - (a) whether it covers a planned or recently introduced improvement of syllabus for curricular reform and examination reform with development of evaluation techniques \_\_\_\_\_
  - (b) organisation of post M.A./M.Sc. correspondence course for a year or so followed by two weeks' contact classes for laboratory or other reference work during vacation \_\_\_\_\_
7. Duration of the course with probable dates. \_\_\_\_\_
8. Number of participants to be enrolled indicating the number of teachers selected from each college \_\_\_\_\_
9. Whether free hostel accommodation would be available with necessary services :
  - (i) with board \_\_\_\_\_
  - (ii) without board \_\_\_\_\_
10. Name, designation and qualifications of the proposed Director of the Institute/ Correspondence Course. \_\_\_\_\_
11. Names and designation & qualifications of the members of the supporting staff. \_\_\_\_\_
12. Names with full address of the likely visiting lecturers, if any, to be invited and the duration of their stay with their T.A./D.A. \_\_\_\_\_
13. Support of participants:
  - (i) D.A. \_\_\_\_\_
  - (ii) T.A. \_\_\_\_\_
14. (i) Secretarial & clerical assistance \_\_\_\_\_  
(ii) Miscellaneous, office, communications contingent and publicity \_\_\_\_\_
15. Contribution from the university/participating colleges/participants if any (registration fee etc.) \_\_\_\_\_
16. Total estimates for the organisation of the Institute/Correspondence Course. \_\_\_\_\_

*Notes:* (i) Honorarium may be admissible to the Director, academic staff, guest lecturers and visiting lecturers in accordance with the norms prescribed, provided that it is met within the ceiling prescribed.  
(ii) Air travel for visiting lecturers is permissible only in exceptional cases with the prior concurrence of the Commission.  
(iii) There may be a provision for experimental kits, teaching aids etc. that may be fabricated at/for the refresher course to be taken by the participants to their respective colleges.

UNIVERSITY GRANTS COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-1

**PROFORMA FOR REFRESHER COURSES, SHORT-TERM INSTITUTE AND POST M.A./M.Sc.  
CERTIFICATE/DIPLOMA COURSE THROUGH CORRESPONDENCE FOLLOWED  
BY TWO WEEKS CONTACT CLASSES**

1. Name of the University \_\_\_\_\_
2. Name of the Department \_\_\_\_\_
3. Number of colleges affiliated to the university offering undergraduate courses in the subject for which the Refresher Course/Post-M.A./M.Sc. course is proposed to be organised? \_\_\_\_\_
4. Number of teachers in the affiliated colleges in the subject:
  - (a) in the age group of 35 \_\_\_\_\_
  - (b) in the age group of 36 to 45 \_\_\_\_\_
  - (c) in the age group above 45 \_\_\_\_\_
5. Number of teachers in the affiliated colleges :
  - (a) having 1st or second class Master's degree in the subject concerned. (separate 1st class & high 2nd class (B+ and above) from mere 2nd class) \_\_\_\_\_
  - (b) having Ph. D. or other equivalent qualification \_\_\_\_\_
  - (c) concerned with teaching of undergraduate courses only \_\_\_\_\_
  - (d) concerned with teaching of both postgraduate and undergraduate courses \_\_\_\_\_
6. Details regarding the Refresher Course/ Short terms course:
  - (a) whether it covers a planned or recently introduced improvement of syllabus for curricular reform and examination reform with development of evaluation techniques \_\_\_\_\_
  - (b) organisation of post M.A./M.Sc. correspondence course for a year or so followed by two weeks' contact classes for laboratory or other reference work during vacation \_\_\_\_\_
7. Duration of the course with probable dates. \_\_\_\_\_
8. Number of participants to be enrolled indicating the number of teachers selected from each college \_\_\_\_\_
9. Whether free hostel accommodation would be available with necessary services :
  - (i) with board \_\_\_\_\_
  - (ii) without board \_\_\_\_\_
10. Name, designation and qualifications of the proposed Director of the Institute/ Correspondence Course. \_\_\_\_\_
11. Names and designation & qualifications of the members of the supporting staff. \_\_\_\_\_
12. Names with full address of the likely visiting lecturers, if any, to be invited and the duration of their stay with their T.A./D.A. \_\_\_\_\_
13. Support of participants:
  - (i) D.A. \_\_\_\_\_
  - (ii) T.A. \_\_\_\_\_
14. (i) Secretarial & clerical assistance \_\_\_\_\_  
(ii) Miscellaneous, office, communications contingent and publicity \_\_\_\_\_
15. Contribution from the university/participating colleges/participants if any (registration fee etc.) \_\_\_\_\_
16. Total estimates for the organisation of the Institute/Correspondence Course. \_\_\_\_\_

*Notes:* (i) Honorarium may be admissible to the Director, academic staff, guest lecturers and visiting lecturers in accordance with the norms prescribed, provided that it is met within the ceiling prescribed.  
(ii) Air travel for visiting lecturers is permissible only in exceptional cases with the prior concurrence of the Commission.  
(iii) There may be a provision for experimental kits, teaching aids etc. that may be fabricated at/for the refresher course to be taken by the participants to their respective colleges.

UNIVERSITY GRANTS COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-1

**PROFORMA FOR REFRESHER COURSES, SHORT-TERM INSTITUTE AND POST M.A./M.Sc.  
CERTIFICATE/DIPLOMA COURSE THROUGH CORRESPONDENCE FOLLOWED  
BY TWO WEEKS CONTACT CLASSES**

1. Name of the University \_\_\_\_\_
2. Name of the Department \_\_\_\_\_
3. Number of colleges affiliated to the university offering undergraduate courses in the subject for which the Refresher Course/Post-M.A./M.Sc. course is proposed to be organised? \_\_\_\_\_
4. Number of teachers in the affiliated colleges in the subject:
  - (a) in the age group of 35 \_\_\_\_\_
  - (b) in the age group of 36 to 45 \_\_\_\_\_
  - (c) in the age group above 45 \_\_\_\_\_
5. Number of teachers in the affiliated colleges :
  - (a) having 1st or second class Master's degree in the subject concerned. (separate 1st class & high 2nd class (B+ and above) from mere 2nd class) \_\_\_\_\_
  - (b) having Ph. D. or other equivalent qualification \_\_\_\_\_
  - (c) concerned with teaching of undergraduate courses only \_\_\_\_\_
  - (d) concerned with teaching of both postgraduate and undergraduate courses \_\_\_\_\_
6. Details regarding the Refresher Course/ Short terms course:
  - (a) whether it covers a planned or recently introduced improvement of syllabus for curricular reform and examination reform with development of evaluation techniques \_\_\_\_\_
  - (b) organisation of post M.A./M.Sc. correspondence course for a year or so followed by two weeks' contact classes for laboratory or other reference work during vacation \_\_\_\_\_
7. Duration of the course with probable dates. \_\_\_\_\_
8. Number of participants to be enrolled indicating the number of teachers selected from each college \_\_\_\_\_
9. Whether free hostel accommodation would be available with necessary services :
  - (i) with board \_\_\_\_\_
  - (ii) without board \_\_\_\_\_
10. Name, designation and qualifications of the proposed Director of the Institute/ Correspondence Course. \_\_\_\_\_
11. Names and designation & qualifications of the members of the supporting staff. \_\_\_\_\_
12. Names with full address of the likely visiting lecturers, if any, to be invited and the duration of their stay with their T.A./D.A. \_\_\_\_\_
13. Support of participants:
  - (i) D.A. \_\_\_\_\_
  - (ii) T.A. \_\_\_\_\_
14. (i) Secretarial & clerical assistance \_\_\_\_\_  
(ii) Miscellaneous, office, communications contingent and publicity \_\_\_\_\_
15. Contribution from the university/participating colleges/participants if any (registration fee etc.) \_\_\_\_\_
16. Total estimates for the organisation of the Institute/Correspondence Course. \_\_\_\_\_

- Notes:*
- (i) Honorarium may be admissible to the Director, academic staff, guest lecturers and visiting lecturers in accordance with the norms prescribed, provided that it is met within the ceiling prescribed.
  - (ii) Air travel for visiting lecturers is permissible only in exceptional cases with the prior concurrence of the Commission.
  - (iii) There may be a provision for experimental kits, teaching aids etc. that may be fabricated at/for the refresher course to be taken by the participants to their respective colleges.

UNIVERSITY GRANTS COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-1

APPLICATION FORM FOR TEACHER FELLOWSHIPS IN  
SCIENCE/HUMANITIES (INCLUDING SOCIAL SCIENCES)

(The form must be filled carefully. Incomplete form is liable to be rejected).

1. Name (IN BLOCK LETTERS with surname underlined) State Dr./Shri/Smt./Kumari: \_\_\_\_\_
2. Date of birth: \_\_\_\_\_
3. Nationality: \_\_\_\_\_
4. Father/Husband's name (Strike off one not relevant): \_\_\_\_\_
5. (a) Present Address: \_\_\_\_\_  
(b) Permanent Address: \_\_\_\_\_
6. If belonging to Scheduled Caste/Tribe, state name of the Caste/Tribe. \_\_\_\_\_
7. Particulars of Educational qualifications (starting with Matriculation or equivalent onward): \_\_\_\_\_

<i>Examination passed and the year of passing</i>	<i>School/College/University</i>	<i>Subject offered</i>	<i>Division/Grade</i>	<i>Percentage of marks/cumulative grade point</i>

8. Name of the Department, College/University where you propose to do research: \_\_\_\_\_  
(a) Department: \_\_\_\_\_  
(b) College/University: \_\_\_\_\_
9. Give particulars of the Research problem: \_\_\_\_\_  
(a) Subjects: \_\_\_\_\_  
(b) Specialisation within the subject: \_\_\_\_\_  
(c) Title of Research problem: \_\_\_\_\_

(A brief abstract not exceeding 500 words on the proposed research work, methods of approach etc. must be sent alongwith the application, without which the application will be treated as incomplete).

- (d) Name and designation of the Supervisor with whom the research is proposed to be undertaken: \_\_\_\_\_

10. Please state whether you are already registered or propose to register for M.Phil or for research work leading to award of a doctorate degree: \_\_\_\_\_
11. Present Occupation, indicating the date of appointment to the permanent post and emoluments drawn per month: \_\_\_\_\_

12. Do you suffer from any physical disability? If so, please give details: \_\_\_\_\_  
 \_\_\_\_\_
13. Any other information relevant to the research work, which you may like to give in support of your application; including details of papers published if any (copies of papers may be enclosed): \_\_\_\_\_  
 \_\_\_\_\_
14. List of enclosures:
- 1.
  - 2.
  - 3.
  - 4.

### DECLARATION

I hereby declare:

That I have read the rules regarding the award of Teacher Fellowship of the University Grants Commission and in the event of a Fellowship being awarded, I undertake to engage myself whole time for work on the subject under the direction of the supervisor during the tenure of fellowship. I further declare that to the best of my knowledge and belief, the particulars given in the form are correct.

I also hereby undertake to serve the Institution (mention the name of the institution) for a period of five years on my return from advanced study with fellowship.

Place:

(Signature of the candidate)

Date:

**For use by University/College (where the teacher is employed)**

The college/the university hereby undertakes to protect the total emoluments of the teacher (mention the name of the teacher) for the period of his/her academic leave and also to give him/her the necessary increments as and when due. It further undertakes to take back the teacher to his/her substantive post without affecting his/her seniority and other benefit enjoyed previously.

**Recommendation of the forwarding authority**

Views of the Head of the Department and of the Principal of the College regarding the candidate's suitability for the award should be obtained separately and enclosed with the application.

Place:

Signature  
 Registrar/Principal  
 University/College

Date:

**For use by University/College where the teacher desires to pursue his/her higher studies/research with Teacher Fellowship**

It is certified that necessary facilities will be provided for the work of (name of the teacher fellowship applicant) \_\_\_\_\_ in pursuit of his/her higher studies/research leading to M.Phil/Ph.D.

Signature  
 Head of the Deptt./Supervisor  
 University/College

Counter signature:

Registrar, University of \_\_\_\_\_  
 Principal, \_\_\_\_\_ College

Place:

Date:

UNIVERSITY GRANTS COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-1

APPLICATION FORM FOR TEACHER FELLOWSHIPS IN  
SCIENCE/HUMANITIES (INCLUDING SOCIAL SCIENCES)

(The form must be filled carefully. Incomplete form is liable to be rejected).

1. Name (IN BLOCK LETTERS with surname underlined) State Dr./Shri/Smt./Kumari: \_\_\_\_\_
2. Date of birth: \_\_\_\_\_
3. Nationality: \_\_\_\_\_
4. Father/Husband's name (Strike off one not relevant): \_\_\_\_\_
5. (a) Present Address: \_\_\_\_\_  
(b) Permanent Address: \_\_\_\_\_
6. If belonging to Scheduled Caste/Tribe, state name of the Caste/Tribe. \_\_\_\_\_
7. Particulars of Educational qualifications (starting with Matriculation or equivalent onward): \_\_\_\_\_  
\_\_\_\_\_

<i>Examination passed and the year of passing</i>	<i>School/College/University</i>	<i>Subject offered</i>	<i>Division/Grade</i>	<i>Percentage of marks/cumulative grade point</i>

8. Name of the Department, College/University where you propose to do research: \_\_\_\_\_  
(a) Department: \_\_\_\_\_  
(b) College/University: \_\_\_\_\_
9. Give particulars of the Research problem: \_\_\_\_\_  
(a) Subjects: \_\_\_\_\_  
(b) Specialisation within the subject: \_\_\_\_\_  
(c) Title of Research problem: \_\_\_\_\_

(A brief abstract not exceeding 500 words on the proposed research work, methods of approach etc. must be sent alongwith the application, without which the application will be treated as incomplete).

(d) Name and designation of the Supervisor with whom the research is proposed to be undertaken: \_\_\_\_\_

10. Please state whether you are already registered or propose to register for M.Phil or for research work leading to award of a doctorate degree: \_\_\_\_\_
11. Present Occupation, indicating the date of appointment to the permanent post and emoluments drawn per month: \_\_\_\_\_  
\_\_\_\_\_

12. Do you suffer from any physical disability? If so, please give details: \_\_\_\_\_

13. Any other information relevant to the research work, which you may like to give in support of your application; including details of papers published if any (copies of papers may be enclosed): \_\_\_\_\_

14. List of enclosures:

- 1.
- 2.
- 3.
- 4.

### DECLARATION

I hereby declare:

That I have read the rules regarding the award of Teacher Fellowship of the University Grants Commission and in the event of a Fellowship being awarded, I undertake to engage myself whole time for work on the subject under the direction of the supervisor during the tenure of fellowship. I further declare that to the best of my knowledge and belief, the particulars given in the form are correct.

I also hereby undertake to serve the Institution (mention the name of the institution) for a period of five years on my return from advanced study with fellowship.

Place:

(Signature of the candidate)

Date:

**For use by University/College (where the teacher is employed)**

The college/the university hereby undertakes to protect the total emoluments of the teacher (mention the name of the teacher) for the period of his/her academic leave and also to give him/her the necessary increments as and when due. It further undertakes to take back the teacher to his/her substantive post without affecting his/her seniority and other benefit enjoyed previously.

**Recommendation of the forwarding authority**

Views of the Head of the Department and of the Principal of the College regarding the candidate's suitability for the award should be obtained separately and enclosed with the application.

Place:

Signature  
Registrar/Principal  
University/College

Date:

**For use by University/College where the teacher desires to pursue his/her higher studies/research with Teacher Fellowship**

It is certified that necessary facilities will be provided for the work of (name of the teacher fellowship applicant) \_\_\_\_\_ in pursuit of his/her higher studies/research leading to M.Phil/Ph.D.

Signature  
Head of the Deptt./Supervisor  
University/College

Counter signature:

Registrar, University of \_\_\_\_\_  
Principal, \_\_\_\_\_ College

Place:

Date:

UNIVERSITY GRANTS COMMISSION  
BAHADUR SHAH ZAFAR MARG  
NEW DELHI-1

**APPLICATION FORM FOR TEACHER FELLOWSHIPS IN  
SCIENCE/HUMANITIES (INCLUDING SOCIAL SCIENCES)**

(The form must be filled carefully. Incomplete form is liable to be rejected).

1. Name (IN BLOCK LETTERS with surname underlined) State Dr./Shri/Smt./Kumari: \_\_\_\_\_
2. Date of birth: \_\_\_\_\_
3. Nationality: \_\_\_\_\_
4. Father/Husband's name (Strike off one not relevant): \_\_\_\_\_
5. (a) Present Address: \_\_\_\_\_  
(b) Permanent Address: \_\_\_\_\_
6. If belonging to Scheduled Caste/Tribe, state name of the Caste/Tribe. \_\_\_\_\_
7. Particulars of Educational qualifications (starting with Matriculation or equivalent onward): \_\_\_\_\_

<i>Examination passed and the year of passing</i>	<i>School/College/ University</i>	<i>Subject offered</i>	<i>Division/ Grade</i>	<i>Percentage of marks/cumula- tive grade point</i>

8. Name of the Department, College/University where you propose to do research: \_\_\_\_\_  
(a) Department: \_\_\_\_\_  
(b) College/University: \_\_\_\_\_
9. Give particulars of the Research problem: \_\_\_\_\_  
(a) Subjects: \_\_\_\_\_  
(b) Specialisation within the subject: \_\_\_\_\_  
(c) Title of Research problem: \_\_\_\_\_  
  
(A brief abstract not exceeding 500 words on the proposed research work, methods of approach etc. must be sent alongwith the application, without which the application will be treated as incomplete).  
  
(d) Name and designation of the Supervisor with whom the research is proposed to be undertaken: \_\_\_\_\_
10. Please state whether you are already registered or propose to register for M.Phil or for research work leading to award of a doctorate degree: \_\_\_\_\_
11. Present Occupation, indicating the date of appointment to the permanent post and emoluments drawn per month: \_\_\_\_\_

12. Do you suffer from any physical disability? If so, please give details: \_\_\_\_\_  
 \_\_\_\_\_
13. Any other information relevant to the research work, which you may like to give in support of your application; including details of papers published if any (copies of papers may be enclosed): \_\_\_\_\_  
 \_\_\_\_\_
14. List of enclosures:
- 1.
  - 2.
  - 3.
  - 4.

### DECLARATION

I hereby declare:

That I have read the rules regarding the award of Teacher Fellowship of the University Grants Commission and in the event of a Fellowship being awarded, I undertake to engage myself whole time for work on the subject under the direction of the supervisor during the tenure of fellowship. I further declare that to the best of my knowledge and belief, the particulars given in the form are correct.

I also hereby undertake to serve the Institution (mention the name of the institution) for a period of five years on my return from advanced study with fellowship.

Place:

(Signature of the candidate)

Date:

**For use by University/College (where the teacher is employed)**

The college/the university hereby undertakes to protect the total emoluments of the teacher (mention the name of the teacher) for the period of his/her academic leave and also to give him/her the necessary increments as and when due. It further undertakes to take back the teacher to his/her substantive post without affecting his/her seniority and other benefit enjoyed previously.

**Recommendation of the forwarding authority**

Views of the Head of the Department and of the Principal of the College regarding the candidate's suitability for the award should be obtained separately and enclosed with the application.

Place:

Signature  
Registrar/Principal  
University/College

Date:

**For use by University/College where the teacher desires to pursue his/her higher studies/research with Teacher Fellowship**

It is certified that necessary facilities will be provided for the work of (name of the teacher fellowship applicant) \_\_\_\_\_ in pursuit of his/her higher studies/research leading to M.Phil/Ph.D.

Signature  
Head of the Deptt./Supervisor  
University/College

Counter signature:

Registrar, University of \_\_\_\_\_  
Principal, \_\_\_\_\_ College

Place:

Date:

UNIVERSITY GRANTS COMMISSION  
(SUMMER INSTITUTES SECTION)

**P R O F O R M A**

**DETAILS REGARDING SEMINARS, SYMPOSIA, WORKSHOPS AND CONFERENCES**

Proposed to be held at \_\_\_\_\_ under the auspices of \_\_\_\_\_  
during the year 1975-76.

1. Title of the Project \_\_\_\_\_
2. Scope and area to be covered \_\_\_\_\_
3. Duration of the course in days :  
(a) Opening date \_\_\_\_\_  
(b) Closing date \_\_\_\_\_
4. Number of participants expected to be enrolled :  
(a) Outstation \_\_\_\_\_  
(b) Local \_\_\_\_\_
5. Whether hostel accommodation would be available: Yes/No\*  
(a) With board Yes/No\*  
(b) Without board Yes/No\*
6. Name and the signature of the proposed Director of the Project \_\_\_\_\_
7. Names and designation of members of supporting staff \_\_\_\_\_
8. Names with full addresses of the likely visiting Lecturers, if any, to be invited and the duration of their visits \_\_\_\_\_
9. Support of participants:  
(i) D.A. Rs. \_\_\_\_\_  
(ii) T.A. Rs. \_\_\_\_\_
10. (i) Secretarial and clerical including class IV (not exceeding 5% of TA & DA) Rs. \_\_\_\_\_  
(ii) Miscellaneous, office supplies, communications, publicity, contingent expenses. (not exceeding 10% of TA & DA). Rs. \_\_\_\_\_
11. Total estimated amount Rs. \_\_\_\_\_
12. Contributions, if any, from sources other than UGC. Rs. \_\_\_\_\_

\*Strike whichever is not applicable

*Notes:*

- (i) No honorarium is admissible to the Director, academic staff, guest lecturers and visiting lecturers.
- (ii) Air travel for visiting lecturers is permissible only in exceptional cases with the prior approval of the Commission.
- (iii) Printing/publication of the proceedings of the project is not an approved charge on grant funds. The original papers contributed to the project may be published in professional journals in the normal course.

UNIVERSITY GRANTS COMMISSION  
(SUMMER INSTITUTES SECTION)

**P R O F O R M A**

**DETAILS REGARDING SEMINARS, SYMPOSIA, WORKSHOPS AND CONFERENCES**

Proposed to be held at \_\_\_\_\_ under the auspices of \_\_\_\_\_  
during the year 1975-76.

1. Title of the Project \_\_\_\_\_
2. Scope and area to be covered \_\_\_\_\_
3. Duration of the course in days :  
(a) Opening date \_\_\_\_\_  
(b) Closing date \_\_\_\_\_
4. Number of participants expected to be enrolled :  
(a) Outstation \_\_\_\_\_  
(b) Local \_\_\_\_\_
5. Whether hostel accommodation would be available: Yes/No\*  
(a) With board Yes/No\*  
(b) Without board Yes/No\*
6. Name and the signature of the proposed Director of the Project \_\_\_\_\_
7. Names and designation of members of supporting staff \_\_\_\_\_
8. Names with full addresses of the likely visiting Lecturers, if any, to be invited and the duration of their visits \_\_\_\_\_
9. Support of participants:  
(i) D.A. Rs. \_\_\_\_\_  
(ii) T.A. Rs. \_\_\_\_\_
10. (i) Secretarial and clerical including class IV (not exceeding 5% of TA & DA) Rs. \_\_\_\_\_  
(ii) Miscellaneous, office supplies, communications, publicity, contingent expenses. (not exceeding 10% of TA & DA). Rs. \_\_\_\_\_
11. Total estimated amount Rs. \_\_\_\_\_
12. Contributions, if any, from sources other than UGC. Rs. \_\_\_\_\_

\*Strike whichever is not applicable

*Notes:*

- (i) No honorarium is admissible to the Director, academic staff, guest lecturers and visiting lecturers.
- (ii) Air travel for visiting lecturers is permissible only in exceptional cases with the prior approval of the Commission.
- (iii) Printing/publication of the proceedings of the project is not an approved charge on grant funds. The original papers contributed to the project may be published in professional journals in the normal course.

Confidential

University Grants Commission

127

Meeting :

Dated : 19th of July, 1976.

Item No. 29 : To consider the proposal of the department of Ancient History, Culture and Archaeology of the Allahabad University for participation in the programme of Centres of Advanced Study/Departments of Special Assistance.

.....

The Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences, at its meeting held on May 9, 1975 recommended, inter-alia, that the Committee of the Conveners of the Panels in the Humanities and Social Sciences may be requested to identify the departments in each subject which could be considered for support under the programme of special assistance to selected departments. The Conveners of the Panels at their meeting held on July 22, 1975 considered the recommendations of the Advisory Committee and recommended that proposals may be invited from the department of Ancient History, Culture and Archaeology, University of Allahabad for support under the above programme. The UGC Panel on History, at its meeting held on November 26, 1975 agreed with the above recommendation of the Conveners of the Panels. It was decided that a Committee may be constituted to examine the proposal of the department of Ancient History, Culture and Archaeology of Allahabad University for support under the scheme of C.S./DSA. Accordingly, the University Grants Commission constituted a committee consisting of the following members to examine the proposal :

1. Professor R.S. Shama  
Department of History  
Delhi University
2. Professor B.N. Puri  
Department of Ancient Indian History  
Lucknow University
3. Shri B.K. Thapar  
Joint Director General  
Archaeological Survey of India

The Committee visited the department of Ancient History, Culture and Archaeology of the Allahabad University from the 22nd to 24th of December, 1975. A copy of the report of the Committee is attached (Appendix).

The report of the committee was considered by the Standing Advisory Committee for Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on July 6, 1976. The Advisory Committee, on the basis of the recommendations of the Visiting Committee, made the following recommendations :

1. The department of Ancient History, Culture and Archaeology of Allahabad University may be given special assistance under the programme of C.S.

P.T.C.

- 2. The Commission's assistance will be made available only after the syllabi at the undergraduate and post-graduate levels are revised keeping in view the guidelines provided by the Commission's panel on History in this regard.
- 3. The department had a very large body of undergraduate and postgraduate students. The Commission's support may be provided only if the University agrees to drastically reduce the enrolment at both the levels so that the teacher-pupil ratio which is 1:101 is improved considerably.
- 4. The main focus of study and research should be on social and economic history. The other area of concentration may be historical archaeology and comparative history of religion.
- 5. An amount of Rs. 1 lakh for a period of 5 years may be provided for digging on excavation sites.

The Advisory Committee, on the basis of the recommendations of the Visiting Committee, suggested that the Commission may provide assistance to the department of Ancient History, Culture and Archaeology of the Allahabad University for the purposes as given below :-

A. Recurring :

- 1. Professors - 2 (one for socio-economic history ancient India).
- 2. Readers - 3 (one for pre-history, one for socio-economic history and one for comparative history of religion).
- 3. Research Associates - 3
- 4. Senior Research Fellows - 4 at any one time.
- 5. Junior Research Fellows - 4 at any one time.
- 6. National Scholarships - 4 at any one time.
- 7. Teacher Fellowships - 4 at any one time.
- 8. Technical/excavation staff Rs.  
2,50,000  
(for the entire period)
- 9. Visiting Professors 1,00,000
- 10. Books & Journals 50,000

	Rs.
11. Contingencies	25,000
12. Seminars and group discussions	50,000
13. Equipment for the laboratories (Geology, Anthropology and Archaeological Chemistry) - glass wares, chemicals and other working expenses.	50,000

(129)

B. Non-Recurring :

1. Books & Journals	1,00,000
2. Equipment for the laboratories (geology, anthropology and Archaeological Chemistry)	50,000
3. Excavation (digging)	1,00,000
4. Publication of excavation reports	1,00,000

The matter is placed before the Commission for consideration.

AS(HR)/JS(I)

Appendix to Item no 29.

UNIVERSITY GRANTS COMMISSION

Report of the Committee which visited the Department of Ancient History, Culture & Archaeology, Allahabad University to examine its proposal for assistance under the scheme of Centre of Advanced Study/ Department of Special Assistance.

130

.....

The Advisory Committee for the Centres of Advanced Studies in the Humanities and Social Sciences at its meeting held on 9th May, 1975 recommended inter-alia that the Committee of the conveners of the Panels in the Humanities and Social Sciences may be requested to identify the departments in each subject which could be considered for support under the programme of special assistance to selected departments. The Committee of the Panels at its meeting held on 22nd July, 1975 considered the recommendations of the Advisory Committee and recommended inter-alia that proposals may be invited from the University of Allahabad (Ancient History) for support under the above scheme. The Panel on History at its meeting held on 26th November, 1975 agreed with the above recommendation of the conveners of the Panels. It was decided that a Committee may be constituted to examine the proposal of the Department of Ancient History, Culture and Archaeology of Allahabad University for support under the scheme of Special Assistance to selected departments. Accordingly, the University Grants Commission constituted a Committee consisting of the following members to examine this :-

1. Professor R.S. Sharma,  
Department of History,  
Delhi University,  
Delhi.
2. Professor B.N. Puri,  
Department of Ancient Indian History  
Lucknow University,  
Lucknow.
3. Shri B.K. Thapar,  
Joint Director General,  
Archaeological Survey of India,  
New Delhi.

The Committee visited the department of Ancient History, Culture and Archaeology of the Allahabad University from 23rd to 24th December, 1975. Shri B.K. Thapar joined the Committee on the 24th. Shri C.M. Ramachandran, Assistant Secretary, also accompanied the Committee as UGC's representative. The Committee had separate meetings with the Head of the Department of Ancient History, Culture and Archaeology, members of the teaching staff of the Department, postgraduate students and research scholars, and had a general

discussion with them on various problems relating to the development of teaching and research. The Committee could not meet the Vice-Chancellor as he was out of station in connection with the Vice-Chancellor's Conference at Lucknow. It, however, met the Registrar of the University - It also visited the Central Library, Departmental Library and the Departmental Museum of Archaeology of the University. The Committee also visited the stratified deposits of the Belan Valley in the districts of Allahabad and Mirzapur.

The department of Ancient History, Culture and Archaeology of the University of Allahabad, supplied the following material :-

1. A note on the academic perspectives and the achievement of the department of Ancient History, Culture and Archaeology.
2. A statement indicating the position of students, staff, examination research, research activities etc. in the department.
3. Details of teaching/research staff in the department in the form prescribed by the University Grants Commission.
4. Educational qualifications of teachers in the department.
5. List of D.Phil. theses produced so far alongwith their topics.
6. List of research scholars in the department.
7. Syllabus in B.A. and M.A.

Basic Facts :

The department of Ancient History, Culture and Archaeology, Allahabad University, which came into existence in the year 1955, has now emerged as a Centre in the field of archaeology. It carries on work in prehistory, proto-history and historical archaeology.

The department has at present in position, two professors, three readers and 15 lecturers. Of the 15 posts of lecturers, one lecturer is working against the post of a reader (fallen vacant) on account of one reader having been appointed as professor. A statement indicating the educational qualifications of readers and lecturers in the above department is attached (Annexure I).

The department offer courses at B.A., M.A. and Ph.D. levels. In 1975-76 the enrolment of students was 1698 in B.A., 297 in M.A. and 23 in Ph.D. The enrolment of students in undergraduate, postgraduate and Ph.D. during the years 1971-72 to 1975-76 is given below :-

132

Enrolment	<u>Undergraduate</u>			<u>Postgraduate</u>			<u>Ph.D.</u>	<u>Total</u>	
	Ist yr.	2nd yr.	3rd yr.	Total	Prev.	Final	Total		
1971-72	759	455	-	1214	141	125	266	19	1499
1972-73	920	674	-	1594	138	130	268	24	1886
1973-74	972	759	-	1731	164	142	306	27	2064
1974-75	987	835	-	1822	173	148	321	24	2167
1975-76	870	828	-	1698	153	144	297	23	2018

The teacher pupil ratio during 1975-76 is worked out to be 1:101. The results of examination in B.A. and M.A. final during the year 1974-75 are given below:-

<u>Examination</u>	<u>Appeared</u>	<u>Passed</u>	<u>Ist Class</u>	<u>2nd Class</u>	<u>3rd Class</u>	<u>Pass %</u>
B.A. Final	785	628	112	Figures not available (of them 33 students were admitted to M.A. previous)		80%
M.A. Final	154	147	10	121	16	97.5%

The eligibility for admission to M.A. is graduate or its equivalent degree of a University. One seminar for each paper per week is conducted for M.A. students. There are no research seminars. No inter-departmental work is being arranged. The minimum eligibility condition for admission to the Ph.D. degree is a Master's degree in the subject (first or high second class). The department has accepted 7 Ph.D. dissertations during the last 4 years as per details given below:

1971-72	-	2
1972-73	-	1
1973-74	-	1
1974-75	-	4

A list of D.Phil. theses produced so far along with their topics is attached (Annexure II). The faculty of the department is research oriented. A list of research scholars in the department is attached (Annexure III). It is observed that 25 D.Phil. theses has so far been produced and 57 research scholars are working in the department.

A list of research workers (teachers and research scholars) in the above department is attached (Annexure-IV).

It is observed from the prospectus of the University for Faculty of Arts that for B.A. examination in Ancient History, Culture and Archaeology, the following papers each year in Part I and Part II are taught :

133

Part I :

- Paper I - History of Civilization from the earliest time to 323 B.C.  
- Paper II - History of Ancient India - 660 B.C. - 319 A.D.

Part II :

- Paper I - History of Civilization - 323 B.C. - 476 A.D. including the civilization of China to 1200 A.D.  
Paper II - History of Ancient India - 320 A.D. to 1200 A.D.

For M.A. examination (previous) there are two groups :

Group A - comprising of a mixed course in Ancient History, Culture and Archaeology, and Group B - with specialised course in Archaeology. For each group there are 4 papers and a viva-voce test. Paper I and II are compulsory and common to both the groups.

- Paper I - Political History of India - (600 B.C. to 319 A.D.)  
Paper II - Palaeography and numismatic.  
Paper III - History of Western Political ideas, (Group A) or Historical Archaeology including compulsory training in field Archaeology (for group B).  
Paper IV - Philosophy of History with special reference to the main current of Modern World History (1789 - 1919) (for group A) or Art and Architecture for group B.

For M.A. Final there are 5 papers and a viva-voce test - Paper I - Political History of Ancient India from 319 to 650 A.D. Paper II - Asian History and Archaeology. Paper III & IV (for group A). Two of the following papers may be offered :-

- (i) Archaeology and Field Archaeology
- (ii) Art and Literature
- (iii) Ancient Indian Culture and Philosophy (up to 1200 A.D.)
- (iv) Political History of Northern India (7th century A.D. to 12th century A.D.)
- (v) Political History of Southern India (from the Chalukyas to the Cholas).
- (vi) Ancient Indian Social Ideas and Institutions
- (vii) Ancient Indian Political Ideas and Institutions.

134

Paper III and IV for group B :

Paper III - Pre-history and Proto history. There are two sections (a) general Pre History and Proto History and (b) Indian Pre history and Proto history. Field training in archaeology is compulsory.

Paper IV - As above for group 'A'

Paper V - Essay

Work done at the Department of Ancient History, Culture and Archeology.

The major areas of research in the department are given below:

- (a) Archaeology - (a) Pre history  
(b) Proto history  
(c) Historical Archaeology.
- (2) Social and Economic History
- (3) Epic and Puranic Studies
- (4) Ancient Indian Polity
- (5) Comparative Religion with special reference to Indian Religious Study.
- (6) Art and Architecture.
- (7) History and Culture of South East Asia and Nepal.

The Department has so far published 152 research papers/articles and 23 books by the Faculty members. 20 Books and 32 articles/papers are under publication. A list of the members of the teaching and technical staff actively engaged in excavation exploration etc., is attached (Annexure V). The particulars about the research staff who have worked (not casual visits) in other institutions in India or abroad during the past 10 years are given below:-

Name of the Teacher Scholars	Institution in India	Activity Research or Teaching	Subject of Research
1	2	3	4
Dr. U.N. Roy	National Library, Calcutta	Research	"India in the age of Raj Shekhara".

135

1	2	3	4
Sri U.P. Arora	Greece	Research	"Comparative Study of Greek & Indian Myths and Motives".
Dr. S.C. Bhattacharya	Scholar of Oriental & African Studies London.	-do-	"Personal Names in Easter India from 7th to 12th Cent. A.D.".
Dr. V.C. Srivastava	National Library, Calcutta, Asiatic Society Calcutta.	-do-	"Ancient Indian Solar Iconography"
Dr. R.K. Verma	Deccan College Poona.	-do-	"A Critical Study of the Manuscripts of Purana".
Sri V.D. Misra	-do-	-do-	"Some Aspects of Historic Archaeology".
Dr. Om Prakash	National Library, Calcutta.	-do-	"Some Aspects of Pre historic and Proto historic Archaeology".
Dr. S.C. Bhattacharya	-do-	-do-	"Some Aspects of Ancient Indian Polity".
Dr. S.C. Bhattacharya	-do-	-do-	"Society in Northern India (2c.B.C.-4 c.A. D.)"

The research schemes supported by different agencies on which work has been done in the department during the past 5 years is listed below:

Sponsor of the Scheme	Name and theme of the Project	Duration	Principal workers	Nature of Assistance	Total grant
1	2	3	4	5	6
Department of Ancient History Culture and Archaeology.	1) Studies in the stratigraphy of the rivers Belan and the Son.	5 yrs.	Prof. G.R. Sharma (Director) Dr. R.K. Verma	1. Recurring yearly grant by U.P. Govt. 1972-73	46.100*

....7.

1	2	3	4	5	6
	2) Work in the Sarai-Nahar-Rai area where from skeletons dated to 9th Mill B.C.	5 yrs.	Sri V.D. Misra Sh.D. Mandal	2. Grant-in-aid Non-Recur-	6,000/- 1973-74
	3) have been recovered.		Sri B.B. Misra	ring by Archaeo-	
	3) Horizontal Excavations at Mathura.		Sri J. Pal Dr. Ranjit Singh	logical Survey of India	7,500/- 1974-75 20,000/-
	4) Excavations at Kausambi.				1975-76 25,000/-

\*Budgetary provision subject to reduction by 70%

Department of Ancient History Culture & Archaeology	The Development of Historiography in Ancient India.	2 yrs.	Dr.S.C. Bhatta-charya	U.G.C. Book-Writing Scheme	4,700/- (Released so far.)
---	---	--------	-----------------------	----------------------------	----------------------------

The department has no other financial resources for supporting its research. The department has programme of research collaboration with the Botany Department of the University and the following other departments in other universities:

- (a) Departments in the University: Botany Department
- (b) Departments in Other Universities:
  - Birbal Sahni Institute of Palaeobotany, Lucknow.
  - Physical Research Laboratory, Ahmedabad.
  - Geological Survey of India (Palaeontology section).
  - Anthropological Survey of India.
  - Archaeological Survey of India for horizontal excavation at Kausambi Department of Archaeology, U.P.
  - Government, B:H:U. for Horizontal Excavation at Kausambi
  - Smithsonian Institution, USA had offered collaboration and financial support for Horizontal Excavation at Kausambi but the Govt. of India did not accord permission.

(137)

The following distinguished scholars visited the department:-

1. Dr. & (Mrs.) Dr. Allchins of Cambridge University
2. Sir Mortimor Wheeler of U.K.
3. Prof. A.L. Basham, Australia.
4. Prof. Jakobson, University of Columbia
5. Mr. Burton Page of U.K.
6. Dr. C.M. Bongard Levin, USSR
7. Prof. Zadnoprovosky USSR
8. Prof. H.D. Sankalia, Poona
9. Dr. Grover, Institute of Archaeology, London.
10. Prof. Codrington, U.K.
11. Prof. Diakov, USSR.
12. Dr. Krasa of Czechoslovakia
13. Dr. J.N. Banerjee
14. Prof. Zeuner of U.K.
15. Prof. Dhillon, Dublin.
16. Dr. A.S. Altekar
17. Dr. V.S. Agrawal
18. Prof. R.S. Sharma
19. Dr. Potter Leiden.
20. Prof. Schmidt. Berlin.
21. Dr. Bhabha
22. Dr. Rajbali Pandey, and many others of different countries of the world.

No research seminars are conducted by the department.

During the last 10 years 3 Ph.D. dissertations have been accepted by the University for financial assistance by UGC and Indian Council of Historical Research - Five have been published by other agencies, and two are under print. It has been stated that those who have secured Ph.D. degree from the department during the past 10 years got jobs in institutions of higher learning. The total number of Ph.D. research students registered with the department at present is 80 including 23 recommended for the current session. Out of these, 4 scholars were provided fellowship by the UGC at the rate of Rs.400/- per month with some contingency grant for two years. One scholar got a fellowship of Rs.150/- per month for a year from the University through the department. Others are not getting any fellowship/scholarship. However, a good number of research scholars is getting national loan scholarships. The maximum number of Ph.D. scholars which a recognised teacher can supervise at a time is 9 for head, and 6 for others. The number of Ph.D. students being supervised at present by each of the member of the Faculty, who are recognised research guides is 5 research scholars, on an average, the total number of supervisors being 12 in all.

The department has carried out large scale excavations of Kausambi areas and discovered evidence of Neolithic and Megalithic Cultures in the Vindhya. The department museum displays exhibits obtained from various excavations. An enormous number of antiquities collected and excavated so far are lying stacked for want of space, furniture and equipment. The Committee was deeply impressed by the collection of artifacts, fossils and objects of art in the museum.

Plans for development

The following projects with the department of Ancient History Culture and Archaeology either as a principal agency or in collaboration with other organisations in the country are proposed to be undertaken by the department during the 5th plan period:-

ARCHAEOLOGY

1. Studies in the stratigraphy of the rivers Belan and the Son.
2. Work in the Sarai - Nahar - RAI area where from skeletons dated to the 29th mill. B.C. have been recovered.
3. Horizontal excavation at Mathura.
4. Excavations at Kausambi

The department has excavated a good number of fossilized human skeletons and animal bones including more recent ones. It proposes to have a well equipped anthropological laboratory to enable it to study the structure and development of man and their bearing on the evolution of culture. (The UGC has already sanctioned a post of lecturer in Anthropology and also some equipment in the 4th five year plan).

The department proposes to set up a properly equipped chemical laboratory for conducting scientific archeaeological studies. The department has at present one chemical assistant in the scale of Rs.325 - 575. It proposes to have a lecturer in this branch and also necessary chemicals and appliances.

The department wants to establish a well equipped geological section and laboratory. So far it has been depending on the help from the Palaeontology section in the Geological Survey of India.

The department proposes to acquire aerial photographs of the areas of its archaeological interest and also to get them surveyed by the Survey of India, especially in the Central Ganga valley and the Vindhyas.

The department proposes to set up a micro photographic analysis section comprising the necessary technical equipment to enable it to analyse the tools collected by the department.

139

The department also proposes to have a separate section of statistical analysis to work in collaboration with the Statistics Section of the Mathematics department of the University. The projected scheme of work will involve a statistical analysis of pre-historic data of various stages, protohistoric material and antiquities of historical archaeology. The study will consider the distribution of types in terms of time and location and other factors such as shape, technique, density, smoothness etc. The essential requirements for such a Section are detailed below:

Library	:	Statistical Literature (Books, tables & other references).	
Equipment	:	Facit Calculators (Mechanical)	Rs. 12,000
		Electrical Calculator	Rs. 30,000
Staff	:	Two statistical Assistants.	

The department proposes to have periodic seminars and small (two or three days) conferences for the purpose of forming inter-departmental links within the university and inter university links outside.

## II. Social and Economic History :

The department proposes to strengthen the teaching of social and economic history at the postgraduate level. The following two papers are proposed to be introduced if necessary facilities are available:

- a) Social and Economic History of Ancient India up to 5th - 6th Century A.D.
- b) Social and Economic History of India from the 6th-7th up to the 12th Century A.D.

In the present syllabus of this branch is included in a general paper called Ancient Indian Culture and Philosophy. A considerable part of the research work done by the teachers and students of the department relates to social and economic history of Ancient and late Ancient period of Indian History. The Department seems to be fairly strong in this branch. Quite a good number of useful dissertation and papers has been produced, and many of them are already published. Several teachers and research students of the department are currently working in the field. Their topics are connected with agrarian system, corporate organisations in trade and industry, economy of temples and monasteries, socio-economic formations in ancient and early medieval periods, social classes and groups, social relations, social mobility including social change and transition, social history of art, social study of religions, etc.

## III. Epic and Puranic Studies

In order to strengthen the teaching of the Epic and Puranas at the

p.t.o.

11/1/75

postgraduate level, the following papers are proposed to be introduced if necessary facilities are available :

- 1. Epic Mythology
- 2. Puranic Culture

IV. Ancient Indian Polity

The department proposes to introduce at the postgraduate level, the optional paper - Ancient Indian Political Ideas and Institutions provided in the prospectus, if necessary facilities are made available. At the level of research some work has already been done and a number of research students are working on different topics. The department proposes to strengthen this branch of study in the Fifth Five Year plan.

V. Comparative Religion with special reference to Indian Religious Studies

The study of religion is intimately related to other branches of knowledge such as psychology, anthropology, sociology, archaeology, etc. At present the study of Indian religion forms a part of Paper IV (M.A. Final) on Ancient Indian Culture and Philosophy in the department. It is proposed to strengthen the study of religion in general and Indian religions in particular at the postgraduate and research levels. With this objective in view, the department proposes to introduce the following two papers at the postgraduate level :

- |    |                                      |  |
|----|--------------------------------------|--|
| 1. | <u>Comparative Study of Religion</u> | Philosophy and Science of religion into a general background of world religion |
| 2. | <u>Indian Religions</u>              | Religion and development of religions in India.                                |

VI. Art and Architecture :

But it may be necessary to give further thought to the framing of the syllabus. In any case it may not be advisable for the department to start too many new courses without adequate preparation and facilities.

The following papers are proposed to be introduced if necessary facilities are available in order to expand and strengthen the teaching of Art and Architecture at the postgraduate level :

- 1. History of Ancient Indian Architecture;
- 2. Ancient Indian Sculpture and Iconography;
- 3. Ancient Indian Painting;
- 4. Terracotta Art.

(141)

Besides, advanced research in different branches of the subject will be organised on scientific lines in a broad-based conspectus in accordance with the methods and objectives so as to correlate the library and archaeological evidence in the light of a critical study of the technical texts on the subject and in the light of upto date archaeological data, greater attention will be paid to the socio-economic base of art etc.

#### VII. Study of History and Culture of Nepal and South-East Asia.

The Department was intimately connected with the teaching of History and Culture of Nepal in the recent past, as it had a Nepal Chair financed and endowed by the Government of Nepal for this purpose. The following papers on Nepal's History Culture and Archaeology at the postgraduate level are proposed to be introduced with a view to strengthening the cultural relations between India and Nepal :

1. Pre-history and proto-history of Nepal and field Archaeology
2. Historical Archaeology of Nepal
3. Cultural History of Nepal

The Department associates itself with the teaching of South-East Asian History and Culture at the postgraduate level. For strengthening teaching of this subject at the postgraduate level, it wants specialists in the History and Culture of South-East Asia with good background of Indian History and Culture.

#### VIII. Library Requirements :

Besides the University Library, there are two departmental libraries to meet the needs of the undergraduate and postgraduate students. They contain 1811 text books and reference books and journals (1021 in undergraduate section and 790 in postgraduate section).

The only source of their finance of these libraries is the annual subscription from students at the rate of Rs.2/- per student (undergraduate) and Rs.5/- (postgraduate). Their management is looked after by the teachers of the department. The total number of books is much less than the requirements of the students, as the number of users is increasingly high. The department is facing difficulties in providing essential library facilities. It has been proposed that the resources of departmental may be augmented by adding more books and learned journals as well as other necessary equipments.

#### Meeting of 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 department of Ancient History, Culture and Archaeology to enable it to not only strengthen the existing fields but also to undertake special studies in new areas. It was also pointed out that the needs of the department should be assessed on the same basis as is done in the case of science department.

Meeting with the Faculty members/postgraduate students/research scholars

The Committee had separate meetings with the faculty members, postgraduate students and research students of the department of Ancient History, Culture and Archaeology. During the discussions, it was pointed out that the load of teaching was too heavy to allow time for conducting research or guiding it. The committee was told that there were more than 140 students for each year of the postgraduate courses, and in a specialised subject like archaeology unless there is a rapport between the teachers and the taught, the purpose of the course is defeated. More staff is, therefore, required to achieve these ends. Furthermore, archaeology which seems to be very well organised University, requires both training and experience. The present staff employed to do this work consists of lecturers who have to do 3 to 4 months field work and also to undertake teaching. The augmentation of the staff, therefore, is necessary if both field work and teaching have to reach an optimum level of efficiency. It was emphasised that major areas which are strong and should be developed are Socio-Economic History and Archaeology. The existing fields of study in the department are also to be strengthened and developed. The Committee found that there were very few occasions in which the faculty met to discuss problems of teaching and research. The Committee was told that a small committee has since been constituted by the department to consider the question of re-organisation of courses. The courses were last revised in 1961. The Chairman of the Committee suggested that some new areas of study should be introduced namely History of Material Culture, History of Science and Technology etc. The Committee was also informed that in the next 5 to 10 years the Department would like to concentrate on the existing fields of specialisation.

Observations and Recommendations of the Committee :

The department of Ancient History has no doubt made valuable contributions to prehistory and historical archaeology, and in order to keep up and improve its work it should be provided with special assistance. In addition to archaeology they would be well advised to strengthen study and research in Social and economic history. It would not be advisable to concentrate on all the areas at the same time, as the department proposes to do.

At present, excavations and explorations are carried out under the direction of the professor and the head of the department and a team of workers at the lower rank of research assistants, excavation assistants, and lecturers. This may be strengthened with an experienced full-time Director of the status of a reader assisted by two lecturers in prehistory and historical archaeology.

One professor for history of ancient Indian art and architecture, political ideas and institutions may also be provided.

The other areas which could be developed are the socio-economic history and comparative religion. One professorship, one readership and one lecturership may be provided in this branch. There could be also a reader for religious history with a lecturer to assist him making a total of one professor, two readers and two lecturers. The department has already been given a few superior posts under the general development grant.

123

The syllabus of studies for M.A. could be so shaped as to make it more academically oriented instead of making it oriented for competitive examinations. Papers dealing with European history and modern political thought should be replaced by papers on ancient history.

The Committee feels that the chemical and geological laboratories in the university should be developed and strengthened for conducting scientific archaeological and geological studies.

The central library has an adequate number of books and journals, but these are to be properly displayed. Unfortunately, there is no dearth of space but that of adequate staff. This is a matter which should receive the urgent attention of the University. But so far as Ancient Indian History and Archaeology is concerned, some assistance should be provided for books & journals.

The Committee appreciates the idea of a separate section of statistical analysis to work in collaboration with the statistics section of the mathematics department. But no recommendation has been made by this committee as the Visiting Committee to assess the 5th plan development proposals of the University has already looked into this.

#### Museum

The museum is being organised on scientific lines from the angles of display as well as subject matter. As such, its usefulness to the students undertaking the courses is obvious. A university department which has such rich material both for display and for reserve collection can also exchange collections with other institutions. This will enable them to make their museum a Centre for comparative study. Proposals to organise the galleries need encouragement.

The department during the last 24 years or so has done work on the prehistory, protohistory and historical archaeology. It must be admitted that the results of all this work have been of far-reaching importance to Indian archaeology. The work on prehistory undertaken in the Belan and Son valleys seems to be very promising and may eventually provide data for earliest stages, in the prehistory of India. Work is in progress on some aspects relating to the late Stone-Age Culture (Lake dwellings) and the Neolithic Culture (Koldihwa) which need further collaboration. A summary report of all this work has no doubt been published in the proceedings of the prehistoric Society, but a full report with all the data and the illustrative material, river profiles, etc. is certainly due. So far, the department has undertaken work at Kausambi at four principal areas; (i) around the Ashokan Pillar; (ii) Fortifications; (iii) Goshitaram Monastery and (iv) Palace.

The report on (i) and (ii) have already been published - one as a memoir of the Archaeological Survey of India and the other as a publication of the University. The remaining reports are still due. On examining the matter further it was learnt that the preparations of the full report on Kausambi is at a fairly advanced stage. Some of the sub-chapters had been

finally typed. What is needed is respite from teaching work and funds for the publication of reports. Whatever be the reasons, there has been inordinate delay in the publication of the Kausambi reports. The Committee feels that consideration of the proposal of the University for conducting a large scale excavation at Kausambi may be deferred till the report on the excavations at Kausambi is published. Although the four areas so far excavated by the Allahabad University at Kausambi do not permit the re-construction of the city lay out or the building up of the economic pattern, the Committee feels that this aspect need not over ride the requirements of the report. In order to enable the department to publish the excavation reports a grant of Rs.1 lakh may be given.

No assistance will be provided by the Commission for excavation and exploration. The University may approach the Archaeological Survey of India for this purpose. Excavation may be undertaken only after the approval of the University Grants Commission and the Archaeological Survey of India is taken. The Commission may, however, provide assistance for staff meant for the excavation. A sum of Rs.1 lakh for the plan period may be provided for this purpose.

The Committee noted that the question of providing assistance to universities for development of museums and audio-visual aids is being taken up separately by the University Grants Commission, and recommends that suitable assistance should be provided for this museum.

The Committee also noted that the Visiting Committee set up by the Commission to assess the general developmental needs of the University during the 5th plan period has already visited the University and submitted its report. In the light of the recommendations of that Committee the University has already been requested to submit revised proposals for the consideration of the Commission further.

The Committee examined the proposals of the department of Ancient History, Culture and Archaeology of the University for support under the scheme of special assistance to selected departments and recommended that the Commission may provide assistance, to the department under the above programme as detailed below :

Recurring :

- Professors - 2 (One for Socio-economic history of ancient India and one for history of ancient Indian art and architecture, political ideas and institutions).
- Readers - 3 (One for prehistory, one for socio-economic history and one for religious history).
- Lecturers - 5 (one for prehistory, one for historical archaeology, one for social economic history, one for religious history and one for geology/chemistry).

145

Sr. Research Fellows - 4

Jr. Research Fellows - 4

Technical Staff Rs. 30,000/- (Details to be approved by the UGC).

Excavation Staff Rs. 1,00,000/- (for the entire plan period)

Visiting Professor Rs. 5,000/-

Books & Journals Rs. 10,000/-

Seminars and group discussions Rs. 10,000/-

Contingencies Rs. 5,000/-

the Equipment for Laboratories (Geology, Anthropology and Archaeological Chemistry) - glass wares, chemicals and other working expenses. Rs. 10,000/-

Non-recurring :

Books & Journals Rs. 1,00,000/-

Equipment for the laboratories (Geology, Anthropology and Archaeological Chemistry) Rs. 50,000/-

Publication of excavation reports Rs. 1,00,000/-

The Committee is grateful to the Head of the department of Ancient History, Culture and Archaeology, the Registrar of the University and other University authorities for providing all facilities to its members at the time of their visit to the department.

Annexure I.

EDUCATIONAL QUALIFICATIONS OF READERS & LECTURERS

DEPARTMENT OF ANCIENT HISTORY, CULTURE AND ARCHAEOLOGY.

146

S. No.	Name	H.S.	Inter.	B.A.	M.A.	Research Degree
<b>READERS</b>						
1.	Dr. U. N. Roy	I	II	I	II	D. Phil
2.	Dr. B. N. S. Yadava	I	I	I	II	D. Phil
3.	Dr. S. N. Roy	I	I	II	II	Sans. D. Phil Anct. Hist.
<b>LECTURERS</b>						
4.	Dr. (Km) Sandhya Mukerji	II	III	II	II	Ph. D.
5.	Dr. S. C. Bhattacharya	II	II	II	I	D. Phil
6.	Dr. V. C. Srivastava	I	I	II	I	D. Phil
7.	Sri V. D. Misra	I	I	I	I	
8.	Dr. R. K. Varma	I	I	II	II	D. Phil
9.	Sri R. K. Dwivedi	I	I	II	I	
10.	Sri U. P. Arora	I	II	II	I	
11.	Dr. (Km) Geeta Devi	II	II	II	II	D. Phil
12.	Dr. Om Prakash	I	II	II	I	D. Phil
13.	Sri B. B. Misra	I	II	II	II	
14.	Sri R. P. Tripathi	I	I	I	I	
15.	Sri D. Mandal	II	III	III	II	
16.	Sri Jai Narain	I	I	I	I	
17.	Dr. M. S. Shukla	I	I	I	I	Ph. D.
18.	Sri Sushil Kumar	I	I	I	I	

147

UNIVERSITY GRANTS COMMISSION

Annexure II

LIST OF D.PHIL. THESES PRODUCED SO FAR, ALONG WITH  
THEIR TOPICS

1. Dr. GC Pande - Studies in the Origins of Buddhism (Published in 1957).
2. Dr. AP Pande - History of Bundelkhand under the Chandellas (1955).
3. Dr. VC Pande - Social Conditions of India from 6th Century B.C. to 2nd Century A.D. (1955) Pub.
4. Dr. KC Ojha - History of North-West India from the Earliest Times to the 7th Century A.D. (1956) Pub.
5. Dr. HNS Yadava - Some Aspects of Society in Northern India in the Twelfth Century A.D. (1956) Pub.
6. Dr. UN Roy - Cities & City-life in Ancient India (1957) Pub.
7. Dr. Lallanji Gopal - Some aspects of Economic Development in Ancient India from C.400 BC to C.700 AD (1957) Pub.
8. Dr. S.N. Roy - Religious & Social Data in the Puranas (1959) Pub.
9. Dr. SN Pande - Position of Brahmanas in Ancient India (1963)
10. Dr. R.K. Verma - Stone-Age Cultures of Mirzapur (1965)
11. Dr. V.C. Srivastava - Sun-Worship in Ancient India (1968) Pub.
12. Dr. R.C. Mishra - Cultural Data in the Artharvaveda Samhita (1965) Pub.
13. Dr. (Km) Geeta Devi - Educational system in Northern India from 6th to the 12th Century AD (1966):
14. Dr. Om Prakash - Polity in the Puranas (1966).
15. Dr. Ranjeet Singh - Hindu Concept of Dharma (1966).
16. Dr. KN Chaudhary - Origin and Development of Vaishnavism upto the Gupta Period (1966).
17. Km. Sudha Verma - Indian Society as known from Inscriptions c. 300-600 AD (1969).
18. Om Prakash Shama - Life as Depicted in the Krishna Yajurveda (1969).
19. Dr. (Km.) Usha Srivastava - Aspects of Social Life as Depicted in Indian Art from the Post Mauryan to the Gupta period (1970).
20. Dr. SC Bhattacharya - Some Aspects of Society in Northern India from 2nd century A.D. to the 4th century A.D. (1972).
21. Dr. Sidh Nath - The Katha-Sarita-Sagara and Indian Culture (1973).
22. Dr. M Srivastava - Some Auspicious Motifs in Ancient Indian Art (1975).
23. Dr. Ram Nihere Pande - Life as Depicted in the Shukla Yajurveda (1974).
24. Sri U.P. Arora - A Study of Indian Mythology with particular reference to the Greek Parallels (1975) - submitted for evaluation.
25. Km. Pushpa Shukla - History of the Pasupati System in Ancient India (1975) - report awaited.

UNIVERSITY GRANTS COMMISSION

Annexure III

LIST OF THE RESEARCH SCHOLARS IN THE DEPARTMENT

<u>Name of Research Student</u>	<u>Topic of Research</u>	<u>Name of Supervisor</u>
1. Bimal Chandra Shukla	Prayascitta in Ancient India	Dr. UN Roy
2. Smt. Madhu Shama	Corporate Organisations in the Economic Life of Ancient India.	Dr. BNS Yadava
3. Gyanendra Kumar Rai	Patterns of Economy in Northern India from 7th to 12th C. A.D.	Dr. BNS Yadava
4. Hridaya Narain Rao	Rural Life and Economy in Ancient India upto circa 600 A.D.	Prof. G.R. Shama
5. Jagannath Pal	Studies in the Ceramic Industries of Uttar Pradesh upto 2nd cent. B.C.	Prof. G.R. Shama
6. Km. Manjul Bhatnagar	Origin and Evolution of Avatarvada in Ancient India.	Prof. G.R. Shama
7. Rakesh Kumar	Development of Vaishnava Iconography in Ancient India.	Prof. G.R. Shama
8. Geeta Bagchi	Myths and Symbols as Reflected in Early Brahmanical Art.	Dr. Sandhya Mukerji
9. Ujjwala Shama	Myths and Symbols as Reflected in the Art of the Post-Gupta Period.	Dr. Sandhya Mukerji
10. Smt. Manju Kumari	Social and Legal Status of Slaves in Ancient India	Dr. Sandhya Mukerji
11. Hausila Prasad	A Cultural Study of Agni Purana.	Prof. J.S. Negi
12. Vijai Bahadur Singh	State and Religion in Ancient India.	Prof. J.S. Negi
13. Chandrika Ram	Political System in the Early Smritis.	Prof. J.S. Negi
14. Smt. Shanti Srivastava	Monarchy in Ancient India upto from 7th to 12th AD.	Prof. J.S. Negi
15. Abyeeta Ram Mishra	Monarchy in Ancient India upto 6th Century A.D.	Prof. J.S. Negi
16. Ram Karen Yadava	Occupational Groups in the Inscriptions of Ancient India.	Dr. SC Bhattacharya
17. Km. Rajey Mathur	A Study of Religious Syncretism in India from 7th to 12th cen. A.D.	Dr. VC Srivastava
18. Chandra Deo Pandey	Cultural Study of the Samba Purana.	Dr. VC Srivastava

(p.t.o.)

19. Shail Prabha Gupta	A Critical Study of Foreign Influence in Ancient India from the 6th century B.c. to 2nd century A.D.	Dr. VC Srivastav
20. Km. Prabha Srivastava	Vaisnavism in India from 7th to 12th century A.D.	Dr. VC Srivastav
21. Surendra Pratap Singh	Geographical data in the Inscriptions of Northern India from c. 600 to 1200 A.D.	Sri V.D. Misra
22. Purushottam Das Agrawal	Origin of Caste in Ancient India.	Sri V.D. Misra
23. Jitendra Nath Misra	Cultural History of the Inscriptions of Northern India from 7th to 10th century A.D.	Sri V.D. Misra
24. Visva Nath Pandey	Minor Religious Cults in the Mahabharata.	Sri R.K. Dwivedi
25. Ragho Ram Pandey	Polity in the Mahabharata	Sri R.K. Dwivedi
26. Km. Manju Agrawal	Trade and Commerce in Ancient India upto circa 3rd c. A.D.	Sri R.K. Dwivedi
27. Krishna Chandra Srivastava	Motifs and Symbols in Maurya-Sunga Art.	Dr. U.N. Roy
28. Kamalakar Thekur	Socio-Cultural Study of the Khajuraho Art.	Dr. U.N. Roy
29. Ramapati Tripathi	Religious Ideas and Institutions in the Gupta Age.	Dr. U.N. Roy
30. Moharram Ali	Social and Religious Life as Depicted in the Gupta Art.	Dr. U.N. Roy
31. Kashi Nath Singh	Women Administrators in Ancient India.	Dr. U.N. Roy
32. Rakesh Sinha	Vamashrama System in the Puranas.	Dr. BNS Yadava
33. Shashi Dhar Misra	Social Life as Depicted in Ancient Art from 7th Cen. A.D. to 12th Cen. A.D.	Dr. BNS Yadava
34. Smt. Sunanda Kar	Agrarian System in Northern India from 7th to 12th Cen. A.D.	Dr. BNS Yadava
35. Devendra Kumar Rai	Development of Historiography in Ancient India	Dr. BNS Yadava
36. Kuldeep Dutta	Historical Studies of the Tirthas in Ancient India.	Dr. S.N. Roy
37. Smt. Rita Rani Pandey	Games and Sports in Ancient India.	Dr. B.N.S. Yadava
38. Km. Mamta Chaturvedi	Ethical Ideas in the Puranas	Dr. S.N. Roy
39. Usha Singh	Geographical Data in Inscriptions of Northern India	Dr. S.N. Roy
40. Jiwan Lal Shukla	Races and Tribes in the Puranas.	Dr. S.N. Roy

41. Jai Prakash Dubey	Economic Data in the Puranas	Dr. G.N. Roy
42. Manju Malaviya	Palace Architecture in Ancient India.	Dr. R.K. Vama
43. Deo Prakash Sharma	Rock Shelters of Allahabad District.	Dr. R.K. Vama
44. Atmananda Rai	Studies in the Ceramic Industries of Northern India upto the end of NEP Period.	Dr. R.K. Vama
45. Km. Shubha Ghildiyal	Studies in the Mahayan Art of Ancient India.	Dr. BNS Yadava
46. Km. Manju Tripathi	Proprietary Rights of Women in Yajnavalkya and his commentators.	Dr. Om Prakash
47. Km. Pankej Agrawal	Saktism in the Puranas	Dr. Om Prakash
48. Smt. Chandra Prabha Devi	Ethical Ideas in the Puranas	Dr. Om Prakash
49. Devendra Nath Shukla	Revenue System in Northern India during 11th and 12th Cen. A.D.	Dr. Om Prakash
50. Shivaji Sankar	Social data in the Skandpurana.	Dr. Om Prakash
51. Krishna Mehrotra	Studies in the Post-Gupta Sculpture	Dr. Sandhya Mukerji
52. Purnima Agrawal	Female Education in Ancient India	Dr. Sandhya Mukerji
53. Ranjana Kochar	Symbols and Symbolism in Ancient Indian Art	Dr. Sandhya Mukerji
54. Kumud Vama	Folk Life as Reflected in Ancient Indian Art	Dr. Sandhya Mukerji
55. Ganga Sagar Tiwari	Political Thought in the Niti Works of Early Medieval Period	Prof. J.S. Negi
56. Dinesh Chandra Regmi	Archaeology of Nepal	Prof. G.R. Sharma
57. Rama Shankar	Studies in the Archaeology of Pratapgarh	Sri V.D. Misra

...

19. Shail Prabha Gupta	A Critical Study of Foreign Influence in Ancient India from the 6th century B.c. to 2nd century A.D.	Dr. VC Srivastava
20. Km. Prabha Srivastava	Vaisnavism in India from 7th to 12th century A.D.	Dr. VC Srivastava
21. Surendra Pratap Singh	Geographical data in the Inscriptions of Northern India from c. 600 to 1200 A.D.	Sri V.D. Misra
22. Purushottam Das Agrawal	Origin of Caste in Ancient India.	Sri V.D. Misra
23. Jitendra Nath Misra	Cultural History of the Inscriptions of Northern India from 7th to 10th century A.D.	Sri V.D. Misra
24. Visva Nath Pandey	Minor Religious Cults in the Mahabharat.	Sri R.K. Dwivedi
25. Ragho Ram Pandey	Polity in the Mahabharata	Sri R.K. Dwivedi
26. Km. Manju Agrawal	Trade and Commerce in Ancient India upto circa 3rd c. A.D.	Sri R.K. Dwivedi
27. Krishna Chandra Srivastava	Motifs and Symbols in Maurya-Sunga Art.	Dr. U.N. Roy
28. Kamalakar Thakur	Socio-Cultural Study of the Khajuraho Art.	Dr. U.N. Roy
29. Ramapati Tripathi	Religious Ideas and Institutions in the Gupta Age.	Dr. U.N. Roy
30. Moharram Ali	Social and Religious Life as Depicted in the Gupta Art.	Dr. U.N. Roy
31. Kashi Nath Singh	Women Administrators in Ancient India.	Dr. U.N. Roy
32. Rakesh Sinha	Vamasrama System in the Puranas.	Dr. BNS Yadava
33. Shashi Dhar Misra	Social Life as Depicted in Ancient Art from 7th Cen. A.D. to 12th Cen. A.D.	Dr. BNS Yadava
34. Smt. Sunanda Kar	Agrarian System in Northern India from 7th to 12th Cen. A.D.	Dr. BNS Yadava
35. Devendra Kumar Rai	Development of Historiography in Ancient India	Dr. BNS Yadava
36. Kuldeep Dutta	Historical Studies of the Tirthas in Ancient India.	Dr. S.N. Roy
37. Smt. Rita Rani Pandey	Games and Sports in Ancient India.	Dr. B.N.S. Yadava
38. Km. Manta Chaturvedi	Ethical Ideas in the Puranas	Dr. S.N. Roy
39. Usha Singh	Geographical Data in Inscriptions of Northern India	Dr. S.N. Roy
40. Jiwan Lal Shukla	Races and Tribes in the Puranas.	Dr. S.N. Roy

41. Jai Prakash Dubey	Economic Data in the Puranas	Dr. S.N. Roy
42. Manju Malaviya	Palace Architecture in Ancient India.	Dr. R.K. Vama
43. Deo Prakash Shama	Rock Shelters of Allahabad District.	Dr. R.K. Vama
44. Atmananda Rai	Studies in the Ceramic Industries of Northern India upto the end of NEP Period.	Dr. R.K. Vama
45. Km. Shubha Ghildiyal	Studies in the Mahayan Art of Ancient India.	Dr. BNS Yadava
46. Km. Manju Tripathi	Proprietary Rights of Women in Yajnavalkya and his commentators.	Dr. Om Prakash
47. Km. Pankaj Agrawal	Saktism in the Puranas	Dr. Om Prakash
48. Smt. Chandra Prabha Devi	Ethical Ideas in the Puranas	Dr. Om Prakash
49. Devendra Nath Shukla	Revenue System in Northern India during 11th and 12th Cen. A.D.	Dr. Om Prakash
50. Shivaji Sankar	Social data in the Skandapurana.	Dr. Om Prakash
51. Krishna Mehrotra	Studies in the Post-Gupta Sculpture	Dr. Sandhya Mukerji
52. Purnima Agrawal	Female Education in Ancient India	Dr. Sandhya Mukerji
53. Ranjana Kochar	Symbols and Symbolism in Ancient Indian Art	Dr. Sandhya Mukerji
54. Kumud Vama	Folk Life as Reflected in Ancient Indian Art	Dr. Sandhya Mukerji
55. Ganga Sagar Tiwari	Political Thought in the Niti Works of Early Medieval Period	Prof. J.S. Negi
56. Dinesh Chandra Regmi	Archaeology of Nepal	Prof. G.R. Shama
57. Rama Shankar	Studies in the Archaeology of Pratapgarh	Sri V.D. Misra

...

UNIVERSITY GRANTS COMMISSION

Annexure IV

151

LIST OF RESEARCH WORKERS (TEACHERS AND RESEARCH SCHOLARS) WORKING IN THE DEPARTMENT

Major Area :      Archaeology

- (a) Pre-history  
(b) Proto-history  
(c) Historical Archaeology

Prof. G.R. Shama	Professor and Head of the Deptt. and Director, Institute of Archaeology
Prof. J.S. Negi	Professor
Dr. R.K. Vama	Lecturer
Sri V.D. Misra	Lecturer
Sri B.B. Misra	Lecturer
Sri D. Mandal	Lecturer
Sri Jagannath Pal	Research Scholar (Curator)
Dr. Ranjit Singh	Pottery Assistant
Jai Prakash Sriv.	Research Scholar
Rama Shankar	Research Scholar
Atma Nand Rai	Research Scholar
Dinesh Ch. Regmi	Research Scholar

Socio-economic History

Prof. J.S. Negi	Professor
Dr. U.N. Roy	Reader
Dr. B.N.S. Yadava	Reader
Dr. S.C. Bhattacharya	Lecturer
Dr. (Km) S. Mukerji	Lecturer
Bharti Dixit	Research Scholar
Madhu Shama	Research Scholar
Moharran Ali	Research Scholar
Hridaya Narain Rao	Research Scholar
Madhu Kumari	Research Scholar
Ram Krana Yadava	Research Scholar
Kamlakar Thakur	Research Scholar
Rakesh Sinha	Research Scholar
Jai Prakash Dubey	Research Scholar
Madhu Tripathi	Research Scholar
Devendra Nath Shukla	Research Scholar
G.K. Rai	Research Scholar
Sunanda Kar	Research Scholar
Shiveji Sankar	Research Scholar

(p. t. o.)

152

Epic and Puranic Studies

Dr. S.N. Rai	Reader
Dr. V.C. Srivastava	Lecturer
Sri R.K. Dwivedi	-do-
Dr. OmPrakash	-do-
Sri V.D. Misra	-do-
Haushila Prasad	Research Scholar
Chandradeo Pandey	-do-
Rakesh Sinha	-do-
Mamta Chaturvedi	-do-
Ramdarshan Misra	-do-
Usha Singh	-do-
Jiwanlal Shukla	-do-
Jai prakash Dubey	-do-
Chandraprabha Devi	-do-
Shivaji Sarkar	-do-

Ancient Indian Polity

Prof. J.S. Negi	Professor
Dr. Om Prakash	Lecturer
Sri R.P. Tripathi	-do-
Satyadeo Trivedi	Research Scholar
Rajendra Prasad	-do-
Devendra Kumar Shukla	-do-
Vijai Bahadur Singh	-do-
Shanti Srivastava	-do-
Abyakta Ram Misra	-do-
Ganga Sagar Tiwari	-do-

Comparative Religion (with special reference to Indian Religious Studies)

Dr. B.N.S. Yadava	Reader
Dr. S.N. Roy	-do-
Dr. V.C. Srivastava	Lecturer
Sri U.P. Arora	-do-
Dr. M.S. Shukla	-do-
Prabha Srivastava	Research Scholar
Pushpa Shukla	-do-
Rajey Mathur	-do-
Ramapati Tripathi	-do-
Vishwa Nath Pandey	-do-
Mamta Chaturvedi	-do-
Chandraprabha Devi	-do-
Manju Bhatnagar	-do-
Bimal Chandra Shukla	-do-

(p.t.o.)

Art and Architecture

Dr. U.N. Roy	Reader
Dr. (Km) S. Mukerji	Lecturer
Dr. V.C. Srivastava	-do-
Dr. R.K. Varma	-do-
Geeta Bagchi	Research Scholar
Ujjwala Sharma	-do-
Maju Kumari	-do-
Krishna Chatterji . . . . .	-do- . . . . .
Krishna Chandra Sriv.	-do-
Sudha Ghildyal	-do-
Manju Malaviya	-do-
Ranjana Kochar	-do-
Kumud Varma	-do-

History and Culture of South-East Asia and Nepal.

Prof. J.S. Negi	Professor
Dr. V.C. Srivastava	Lecturer
Sri R.K. Dwivedi	-do-
Dinesh Ch. Regmi	Research Scholar

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 19th July, 1976.

154

Item No. 30 : To consider the proposal of the department of History of the M.S. University of Baroda for participation in the programme of CAS/DSA.

----

The Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences, at its meeting held on May 9, 1975 recommended, inter-alia, that the conveners of the subject panels in the Humanities and Social Science may be requested to identify the departments in each subject which could be considered for support under the programme of special assistance to selected departments. The Conveners of the Panels at their meeting held on July 22, 1975 considered the recommendations of the Advisory Committee and recommended that proposals may be invited among others, from the department of History of the M.S. University of Baroda for support under the above programme. The University Grants Commission Panel on History at its meeting held on the 26th of November, 1975 agreed with the above recommendation of the Conveners of the Panels. It was later decided that a Committee may be constituted to examine the proposal of the department of History of the M.S. University of Baroda under the above scheme. Accordingly, a Committee consisting of Professor B.P. Saxena, Professor JS Grewal, Department of History, Guru Nanak University and Shri M.N. Deshpande Director General, Archaeological Survey of India, New Delhi was appointed to examine the proposal.

The Committee visited the department of History of the M.S. University of Baroda on May 12, 1976. A copy of the report of the committee is attached (Annexure).

The report of the Committee was considered by the Standing Advisory Committee for the Centres of Advanced Study in the Humanities and Social Sciences at its meeting held on July 6, 1976. The Advisory Committee, on the basis of the recommendations of the Visiting Committee, made the following recommendations :-

1. The department of History, M.S. University of Baroda may be invited as department of special assistance under the CAS programme.
2. The University may not appoint peons etc. under this Programme.
3. The proposal of the department for building and furniture may be received after the additional staff recommended by the Committee is in position.
4. The question of providing assistance for the department

p. t. o.

(15)

for reprographic and other equipments may be taken up with the Vice-Chancellor and the Head of the Department and keeping in view the facilities already available in the department and in the University.

5. Assistance may be provided to the department for various purposes as given below :

A- Recurring:

(I) Teaching and Research Staff:

(i) One Professor- Social and Economic History of Modern India

(ii) Three Readers- One each for Archaeology with specialisation in Persian/Arabic Inscriptions; social and economic history of medieval India; and historiography.

(iii) Three Research Associates.

(iv) Four Senior Research Fellows.- At any one time.

(v) Four Junior Research Fellows- At any one time.

(vi) National Scholarships - 4- At any one time.

(vii) Teacher Fellowships. - 4- At any one time.

(viii) Visiting Teachers - -- Rs.1,00,000/- }

(II) Technical Staff - Rs.1,00,000/- } For the  
(III) Excavation - Rs. 50,000/- } entire  
period

(IV) Other Items :

(i) Annual replenishment grant for periodicals and books- Rs. 20,000/-

(ii) Annual grant for purchase of manuscripts, documents and archival material - Rs. 10,000/-

(iii) Field grant and contingency - Rs. 25,000/-

B. Non - Recurring:

(I) Station Wagon with trailer - Rs. 70,000/-

(II ) Block library grant - Rs.1,50,000/-

(III) Block Publication grant - Rs. 50,000/-

The matter is placed before the Commission for consideration.

AS(HR)/JS(I)

RECOMMENDATIONS OF THE U.G.C. COMMITTEE FOR  
SPECIAL ASSISTANCE TO THE DEPARTMENT OF  
HISTORY, THE M.S. UNIVERSITY OF BARODA.

The Committee consisting of the following members met in the Department of History, The M.S. University of Baroda, on May 12, 1976:

1. Dr. B.P. Saxena (Convener)
2. Professor J.S. Grewal
3. Mr. M.N. Deshpande
4. Mr. C.M. Ramachandran

The Committee examined in detail the proposals submitted by the M.S. University, elicited further relevant information and clarification from Professor S.C. Misra, Head of the Department of History, and discussed matters relating to the development of medieval archaeology with Professor R.N. Mehta, Head of the Department of Ancient History and Archaeology. The Committee also met the teachers of the Department to know their teaching and research interests. The members of the Committee called on the Vice-Chancellor to discuss matters of broad policy before their own consultation for submitting recommendations to the University Grants Commission regarding the Department of History.

The Committee is of the view that the Department of History has not been able to realize its full potential because of inadequate facilities and pressure of work due to teaching load at the undergraduate level, in addition to teaching at postgraduate level and pursuing individual research and collective projects. In two areas, nevertheless, the Department of History has made considerable progress in terms of research output and acquisition and publication of source materials: in medieval archaeology, with the collaboration of the Department of Ancient History and Archaeology, and in the History of West India. The Committee came to the conclusion that the Department of History should be adequately strengthened in these two areas of research as well as for postgraduate teaching. It should be enabled to develop specialized postgraduate teaching in the fields of both medieval and modern Indian history, to undertake research in medieval art and archaeology, and to concentrate on the urban and socio-economic history of West India. An intensive study of the art and architecture of medieval India, epigraphy and numismatics, and a thorough study of the sources available in Portuguese, Dutch, French, Gujarati and Marathi languages as well as Arabic and Persian should form an essential part of the future programme of the Department of History.

(157)

The Committee appreciates the collaboration between the Department of History and the Department of Ancient History and Archaeology in their work on Champaner, and feels that a close co-operation between these two Departments in the field of archaeology would be very fruitful in the future. But let this co-operation be formally institutionalized to ensure permanence of co-operative effort. The Department of History should become a working-partner with the Department of Ancient History and Archaeology. A museum of antiquities, coins, inscriptions, etc., may be maintained jointly by the two Departments, though the materials excavated from a medieval site may remain with the Department of Ancient History and Archaeology. The Department of History should have a separate specialized staff for architectural surveys and drawings, photo-documentation, and the preservation of reprographic materials. This component would strengthen the Department of History at teaching and research levels in the areas of its specialized interests.

The Committee noted with regret the absolute inadequacy of building and space available at present to the Department of History and recommends a special non-recurring grant for a first-rate postgraduate teaching and research block of not less than 12,000 square feet of carpet area, including a departmental library, adequately equipped rooms for the technical staff, rooms for seminars and discussions and rooms for the teaching and research staff. As the Department of History shall become more and more involved in field work, it should have a vehicle with a trailer.

In making these recommendations the Committee taking a realistic view of the situation feel that they would meet the minimum requirements of the Department of History in implementing and promoting the commendable programme which it has chalked out for encouraging research and for raising the academic standard. These recommendations are detailed as under:-

I. Teaching and Research Staff:

1. One Professor : Social & economic history of modern India.
2. Three Readers : One each for archaeology with specialisation in Persian/Arabic inscriptions; Social & economic history of medieval India; & Historiography.
3. Eight Lecturers : Three of whom will be for Archaeology (medieval), Numismatics & Epigraphy. Five for other branches of research and post-graduate teaching.

Contd...3.

I. Teaching and Research Staff

4. Four Senior Research Fellows
5. Four Junior Research Fellows
6. Two Research Assistants
7. Six M.Phil./Ph.D. Fellowships

158

II. Ancillary Staff:

1. One Architectural draftsman
2. One Surveyor-cum-draftsman
3. One Photographer
4. One Photoprinter
5. One Antiquity Assistant
6. One Library Superintendent/Assistant
7. One Semi-Professional Junior
8. One Library Attendant
9. Two Stenographers
10. One Clerk
11. One Driver
12. One Cleaner
13. Three Peons

Non-Recurring: Building & Furniture and Equipment:

1. Building & Furniture : 12,000 Square feet of Carpet area.
2. Repr ographic & other Equipment : Rs.1,00,000
3. Station Wagon with Trailer : Rs. 70,000

Non-Recurring: Library & Publication:

1. Block Library Grant : Rs.1,50,000
2. Block Publication Grant : Rs. 50,000

Recurring:

- Annual replenishment grant for periodicals and books : Rs. 20,000
- Annual grant for purchase of manuscripts, documents and Archival material : Rs. 10,000
- Field grant & Contingency : Rs. 25,000

NOTE: For teaching and research staff, estimates may be based on U.G.C. norms. For ancillary staff, the grades of the U.G.C. may be applied, wherever they exist; wherever the posts do not exist in the University, the grades of the Government may form the basis of calculating the estimates.

Contd...4.

159 -

The above requirements are presented in a tabulated form on the attached sheet (Appendix).

Lastly, it is expected that the above recommendations would be implemented within the span of next five years. They may be phased to the best advantage of the Department. The priorities in the view of the members of the Committee can be as follows:

- (a) Strengthening of post-graduate teaching;
- (b) Medieval archaeology;
- (c) Urban and socio-economic history of Western India.

Sd/-  
(B.P.Saxena)  
13.5.76

Sd/-  
(J.S.Grewal)  
13.5.76

Sd/-  
(M.N.Deshpande)  
13.5.76

RECOMMENDATIONS OF THE COMMITTEE FOR SPECIAL ASSISTANCE TO THE  
DEPARTMENT OF HISTORY, THE MS UNIVERSITY OF BARODA, BARODA.

I. Non-Recurring:

(1) Building- 12,000 Sq.ft.	(2) Reproductive and other equipment- Rs.1,00,000/-	(3) Station Wagon- Rs.70,000/-	(4) Library V Block Grant- Rs.1,50,000/-	(5) Publication Block Grant- Rs.50,000
--------------------------------	---	-----------------------------------	--	--

II. Recurring :

(1) Books & Periodicals Rs.20,000/-	(2) Manuscripts & Documents Rs.10,000/-	(3) Field Grant & Contingency Rs.25,000/-	Total Rs.55,000/-
--	--	--	----------------------

III. Recurring: Teaching & Research Staff:

(1) Professor One	(2) Readers Three	(3) Lecturers Eight	(4) Research Assistants Two	(5) Senior Research Fellows Four	(6) Junior Research Fellows Four	(7) Scholar- ships (M.Phil) Six
----------------------	----------------------	------------------------	-----------------------------------	---	---	--

IV. Recurring: Ancillary Staff:

(1) Architectural Draftsman One	(2) Surveyor-cum- Draftsman One	(3) Photographer One	(4) Photoprinter One	(5) Antiquity Assistant One	(6) Library Assistant One	
(7) Semi-Profe- ssional Junior One	(8) Library Attendant One	(9) Stenographers Two	(10) Clerk One	(11) Driver One	(12) Cleaner One	(13) Poonis Two

NOTE: For I(1) the cost may be calculated according to the UGC norms. For III & IV the grades of the UGC wherever applicable and the grades of the Government where the post does not exist in the University may form the basis of calculating the expenditure.

Sd/- B.P.Saxena  
13.5.76

Sd/- J.S. Grewal  
13.5.76

Sd/- M.N.Deshpande  
13.5.76

*Confidential*

University Grants Commission

(161)

Meeting:

Dated : July 19, 1976

Item No.31: To consider the proposal of the Psychology Department of Utkal University for participation in the programme of CAS/DSA.

.....

The Advisory Committee for Centres of Advanced Study in the Humanities and Social Sciences, at its meeting held on 9th May, 1975 recommended, inter alia, that the Committee of the Conveners of the Panels in the Humanities and Social Sciences may be requested to identify the departments in each subject which could be considered for support under the programme of CAS/ special assistance to selected departments. The Conveners of the Panels at their meeting held on July 22, 1975 considered the recommendations of the Advisory Committee and recommended, inter alia, that proposals may be invited from the Psychology Department of the University of Utkal for support under the above scheme. The Panel on Psychology at its meeting held on 17th November, 1975 agreed with the above recommendations of the Conveners of the Panels. It was decided that a Committee may be set up to examine the proposal of the department of Psychology, Utkal University for support under the scheme of Centres of Advanced Study/Department of Special Assistance. Accordingly, the University Grants Commission constituted a Committee consisting of the following members to examine this:

1. Professor S.M. Mohsin  
Retd. Head of the Deptt. of Psychology  
Patna University
2. Professor P.K. Roy  
Dean (Academic)  
M.C.E.R.T.,  
New Delhi
3. Professor H.S. Asthana  
Head of the Deptt. of Psychology  
Saugar University

The Report of the Visiting Committee is attached (Annexure). The Visiting Committee has made the following recommendations :-

1. The Department of Psychology, Utkal University may be directly recognised as a Centre of Advanced Study in Psychology and for the following reasons :
  - (i) This is the only Psychology department in India which has such a large staff and at a fairly senior level and with viable groups of research workers.

p.t.o.

(162)

- (ii) The merit of the department has been recognised abroad. The research work of its former teachers and its present staff has been accepted for publication by Indian and foreign journals.
- (iii) There are three to four viable research groups which have done and which are doing good work and which is not done anywhere else in the country on this scale or so intensively. Most of these research areas are inter-related and inter-connected which makes all these units more viable than they would be in isolation. The department has taken up research related to primary education with special emphasis on the education of the socially disadvantaged children, namely, scheduled castes, scheduled tribes, etc. The work of the department is, therefore, in the main stream of the present developing national life.
- (iv) The UCC itself has already recognised the merit of the department when it supported it to establish a unit on Educational Psychology during the IV Plan and again when the Commission selected this department for collaboration with British Universities in the V Plan. The IV and V Plan Visiting Committees have also given high praise to the work being done here.
- (v) It has so far undertaken 21 research projects financed by the UCC, NCERT and ICSSR and other national organisations.

2. The Department may, under the programme of U.S., give special emphasis to two main areas of study and research namely (a) Educational Psychology with special reference to cognitive growth and development of primary school children and (b) social psychology with special reference to development of attitudes and prejudices, areas of resistance, social change in a developing situation, rural leadership and effect of social deprivation of cognitive growth.

The report of the Visiting Committee was considered by the Standing Advisory Committee for the U.S. in the Humanities and Social Sciences at its meeting held on July 6, 1976. The Advisory Committee has made the following recommendations:

- (i) The Department of Psychology, Utkal University may be supported as a department for special assistance and not as a centre for advanced study as recommended by the Visiting Committee. Assistance may be provided to the department for various purposes as given below:
  - (a) 1 Reader in Educational Psychology (he should have a postgraduate degree both in education and in Psychology)

1 Reader with specialisation in Cognitive Growth of children and

1 Reader with specialisation in Social Psychology

- (b) 3 Research Associates may be provided to the Department and they will be associated with the specific research projects for the purpose of teaching and research.
- (c) (i) 4 senior research fellows every year.  
(ii) 4 Junior research fellows every year.
- (d) 8 National Scholarships each year (according to the UGC rules 50% of these fellowships are to be earmarked for students coming from outside the state where the university is located. But in this case we recommend that 75% of the scholarships may be earmarked for outside students.)
- (e) 6 teachers' fellowships each year.
- (f) Visiting teachers: Rs. 30,000/- p.a.
- (g) The following further grants for the purposes given below are recommended.

(i) Administration & Technical staff	20,000 p.a.
(ii) Library Books & Journals	25,000 p.a.
(iii) Research & Field Work	25,000 p.a.
(iv) Publications	20,000 p.a.
(v) Miscellaneous Expenditure	10,000 p.a.

(h) Other Items (Non-Recurring)

(i) Equipment	-	1,00,000
(ii) Building (space for the departmental library, 2 seminar rooms and space for academic staff) 5,000 sq.ft.		2,50,000
(iii) Furniture, Fixtures & Fittings		50,000
(iv) Books & Journals		1,50,000

The matter is placed before the Commission for consideration.

Report of the Committee appointed by the UGC to examine the proposal of the Psychology Department of the Utkal University for participation in the Programme of Centres of Advanced Study.

164

A Committee consisting of the following members was appointed by the University Grants Commission to examine the possibility of inviting the Department of Psychology, Utkal University to participate in the Programme of CAS:-

1. Professor S.M. Mohanta  
Retired Head of the Deptt. of Psychology  
Patna University.  
(currently working under the scheme of Retired Teachers).
2. Professor P.K. Roy  
Dean (Academic)  
NCERT, New Delhi.
3. Professor H.S. Asthana  
Head of the Deptt. of Psychology  
Saugar University
4. Dr. J.N. Kaul  
Joint Secretary,  
U.G.C.

The Committee visited the Utkal University on June 22 and completed its work on the afternoon of June 24. The Committee had a series of discussions with (a) the Administrator of the University, (b) the Head of the Department of Psychology, (c) staff and (d) postgraduate and research students of the department. The report of the Committee follows:-

- present  
tion:
- (i) The postgraduate department of Psychology, Utkal University was set up in 1958 with a sanctioned strength of 16 students in each year. At present the intake is 56 students per year; total enrolment in 1975-76 was 103.

10/10/77

p.t.o.

(115)

- ii) The staff of the department consists of three professors, two readers and six lecturers, in addition to a supporting staff of seven others.
- iii) The present teacher-student ratio is 1:9 and has ranged between 1:8 and 1:10 during the past 5 years.
- iv) Examination result of the postgraduate students has been 100 percent pass during the past five years.  
In 1974-75, 46 students appeared for M.A. examination; all passed, 4 in 1st division, 39 in the 2nd division and 3 in the 3rd division. This has been the pattern since the establishment of the department.
- v) During the past 10 years, two students of the department were awarded Ph.D. degree. At present eight scholars are registered for Ph.D. work.
- vi) During the past 20 years or so, 16 teachers of the department obtained foreign scholarships for their Ph.D. work abroad. Of them, eight obtained Commonwealth Scholarships and the rest secured foreign scholarships for doctoral work in several countries. If these teachers had continued in the department and completed their Ph.D. work, the number of Ph.Ds produced by the department would have been much larger. The fact that of the 15 commonwealth scholarships obtained by Indian scholars during the past few years, as many as 8 were secured by one single department shows the basic strength of this department.

- vii) The Department has published 23 books in English and Oriya and about 100 research papers both in Indian and foreign journals. It has undertaken so far 21 major research projects supported by national agencies like the UGC, ICSSR, etc. The Department has also conducted eight Summer Institutes in Psychology and methodological courses in Social Sciences during the last decade.
- viii) The Psychology Department of Utkal University was selected by the UGC for special assistance during the IV plan period for setting up a unit on educational psychology to improve its teaching and research in educational psychology.
- ix) In 1975-76 the University Grants Commission selected two university departments in India for collaboration with British Universities; the Psychology Department of Utkal University was one of them. The Head of the Department was recently on a visit to the U.K. to finalise collaborative arrangements in this regard.
- x) The IV Plan and V Plan UGC Visiting Committees of the Utkal University have highlighted the good work done by the Psychology Department of this university. Both these visiting committees recommended that the department was already functioning as an advanced study and should be recognised as such to help it work at a higher level of efficiency.

167

II. RESEARCH  
AREAS :

The Department has three professors two readers, eight lecturers, three research assistants, three research fellows and one demonstrator. The three professors have a viable group of five to six teachers and research scholars working with them on the three main areas of research in the department.

a) Prof. R. Rath, the head of the department, has done outstanding work in social psychology and has published his work in books and research journals both in India and abroad. His work in this area has been well recognized. During the past few years he and his department organized a massive study on the cognitive growth and classroom achievement of primary school children in Orissa. Prof. B.B. Chatterji who has joined the department will give a helping hand in this project and this will provide considerable relief to Prof. Rath who will now concentrate on his main area of research, namely, social psychology.

b) This project on cognitive growth of children has developed links with child psychology across the developmental context in developing countries. There is supporting work in the field of development of methodological concepts for study of childhood years across cultural analysis. Another branch investigation in this main field is the correlational study of intelligence, creativity and scholastic achievement of high school tribal

and non-tribal children. Another related investigation in this main area is the comparative assessment of intelligence, conceptual and linguistic ability of primary school children across three socio-economic status groups. When completed, this group of related studies should result in a distinctive Indian contribution to child psychology. We see in these studies a beginning towards the making of Indian psychology in a typically developing Indian situation and for that . . . . . reason alone, this department merits . . . . . commendation. Cognitive growth of children in India has been studied very rarely in India and wherever it has been studied, the norms has always been western psychology, western models and western methods. We are glad to note that that the department of Psychology, Utkal University is breaking new ground.

- c) The third group of research workers is engaged in comparative and physiological psychology and is headed by Prof. S.K. Misra who has had advanced training in this area in reputed foreign universities. This group has 5 members and some supporting staff and is at present engaged in (1) exploratory behaviour of rats, (2) Physiological basis of exploratory behaviour and (3) electric convulsive shocks on rats. A series of experiments were conducted on exploratory behaviour of rats with a view to discovering a reliable measure of this behaviour. This goal has been achieved, appropriate apparatus has been fabricated in the laboratory and

(169)

some-parameters of exploratory behaviour have been discovered. With funds provided by the UGC, this Unit has started the 2nd phase which is to study the physiological basis of exploratory behaviour. A surgeon of the local veterinary College is helping the group. We see a promising future for this unit. We discussed the present and future possibilities of this department with the head of the department with Prof. S.K. Mishra who is incharge of the Unit and finally with the Administrator. It has agreed that this unit on comparative and physiology should be helped to consolidate its momentum and need not be given the first priority at present. The unit should be able to benefit by the superstructure and infra-structure which the department will develop as a consequence of being recognised as a centre of advanced study. This together with the assistance already available from the UGC should enable it to function at a competent level for the next 2 or 3 years. It should be possible for the Unit to request the UGC for project support under its advanced research schemes. This will help the Unit in increasing the quality of its research during the present plan period.

- d) There are two other small units of research in the department, one on Psychometry and other on developmental psychology. The readers and lecturers engaged in research in these units are doing extremely good work and should be encouraged. It is understood that two teachers of the department, who are at present completing their doctoral work in foreign countries, will be returning soon and they should be a great help to these 2 units as their special interest coincide with the work of these 2 units.

We discussed the research work, already completed and now under way, with the members of the staff of the department. It was explained to us that the major areas of teaching and research in the department are the following:-

- (1) Cognitive growth of children
- (2) Educational and Child Psychology and
- (3) Comparative and Physiological Psychology.
- (4) Social Psychology

It was noted that the department started with specialisation in social psychology and even now some good work is being carried on in this area. It was agreed that the expertise in social psychology developed by the department will stand it in good stead in investigating cognitive growth of children which is a function as much of individual inheritance as of social and community environment. The department has already invested a significant part of its resources in research on child psychology and this should continue as one of the major areas of research. We, therefore, recommend that emphasis should be given in the coming five years or so to these two areas and comparative and Physiological psychology should continue, as at present, as an aid to teaching and research. The staff engaged in guidance, and psychometry should be integrated with the 2 main research areas, namely (a) Cognitive growth of children and child

It was noted that the department started with specialisation in psychology, and (b) Social Psychology.

Research  
Output:

The research work of the senior members of the staff and some lecturers is indeed very outstanding. Prof. Rath has published 38 papers, 21 in Indian Journals and 17 in foreign journals, and only 9 of them are in collaboration

(173)

- V. GENERAL : (a) We wish to record our deep appreciation of the cohesiveness of the department as a whole. We met all the teachers and research scholars of the department and discussed with them the problems and difficulties experienced by them. We did not hear a single discordant note. Everyone agreed about the ultimate emergence of the Psychology Department of Utkal University as a major centre of teaching and research. Everyone of the teachers and research scholars is not only pulling his own weight but also putting himself to extra work which is outside his special field. For example, teachers are looking after the accounts of the research project, departmental libraries, stores, equipment, and volumes of correspondence which cannot be handled by one clerk who is at present at the disposal of the department.
- (b) We wish to point out that almost the entire staff of the department is a product of the Department of Psychology, Utkal University. The student body is also generally from Orissa. It is hoped that the Department would make a deliberate effort to encourage students and teachers from all parts of the country to participate in its programme of studies and research.
- (1) We wish to recommend that the department of Psychology, Utkal University may be directly recognised as a Centre of Advanced Study in Psychology and for

RECOMMENDATIONS:

the following reasons:-

- (i) This is the only psychology department in India which has such a large staff and at a fairly senior level and with viable groups of research workers.
- (ii) The merit of the department has been recognised abroad. The research work of its former teachers and its present staff has been accepted for publication by Indian foreign journals.
- (iii) There are three to four viable research groups which have done and which are doing good work and which is not done anywhere else in the country on this scale or so intensively. Most of these research areas are inter-related and inter-connected which makes all these units more viable than they would be in isolation. The department has taken up research related to primary education with special emphasis on the education of the socially disadvantaged children, namely, scheduled castes, scheduled tribes, etc. The work of the department is, therefore, in the main stream of the present developing national life.
- (iv) The UGC itself <sup>has</sup> already recognised the merit of the department when it supported it to establish a unit on Educational Psychology during the IV Plan and again when the Commission selected this department for collaboration with British Universities in the V Plan. The IV and V Plan

175

visiting committee have also given high praise to the work being done here.

(v) It has so far undertaken 21 research projects financed by the UGC, NCERT and ICSSR and other national organisations.

(2) The department has suggested development of research in the following 4 areas:-

- (a) Social Psychology - Development of attitudes and prejudices; areas of resistance with special reference to social change, rural leadership.
- (b) Educational Psychology - with special reference to cognitive growth of primary school children.
- (c) Developmental and Child Psychology.- relating to socially disadvantaged and mentally defectives.
- (d) Comparative and Physiological Psychology - Role of amygdala and septum in exploratory behaviour; Retrograde Amnesia.

We suggest that the comparative and physiological psychology should be given a lower priority for the present.

Other 3 main areas can be grouped under 2 main heads, namely

(1) Educational Psychology with special reference to cognitive growth and development of primary school children and (2) social psychology with special reference to development of attitudes and prejudices; areas of resistance, social change in a developing situation, rural leadership etc. A separate unit of

Effect of social deprivation on cognitive growth

Psychometry need not be established just now. Research personnel of this psychometry/unit should help and serve the main research areas mentioned above. It should be a supporting activity and not an independent field of research.

p.t.o.

(3) We recommend the following staff:

(a) 1 Reader in Educational Psychology (he should have a postgraduate degree both in education and in Psychology)

1 Reader with specialisation in Cognitive Growth or children and

1 Reader with specialisation in Social Psychology.

(b) 3 Research Associates may be provided to the Department and they will be associated with the senior staff for the purposes of teaching and research.

(c) (i) 2 Senior Research Fellows every year . . . . .

(ii) 4 Junior Research Fellows every year

(d) 3 senior research assistants who will provide lower-level support and documentalist service to the research areas of the department.

(e) 8 National Scholarships each year (according to the UGC rules 50% of these fellowships are to be earmarked for students coming from outside the state where the university is located. But in this case we recommend that 75% of the scholarships may be earmarked for outside students).

(f) 6 teachers fellowships each year.

(g) The department receives a large number of teachers from Indian and other universities. But we understand it has been difficult to consolidate this programme on an institutional basis for want of funds. We recommend a sum of Rs. 30,000/- p.a. for this purpose.

177

(h) We recommend the following further grants for the purposes given below:-

(i) Administration & Technical Staff	Rs. 20,000 p.a.
(ii) Library books and journals	Rs. 25,000 p.a.
(iii) Research & Field work	Rs. 25,000 p.a.
(iv) Publications	Rs. 20,000 p.a.
(v) Miscellaneous Expenditure	Rs. 10,000 p.a.
(i) <u>Other Items</u> (Non-Recurring)	
(i) Equipment	Rs. 1,00,000
(ii) Building (space for the departmental library, 2 seminar rooms and space for academic staff) 5,000 sq. ft.	Rs. 2,50,000
(iii) Furniture, fixtures & fittings	Rs. 50,000
(iv) Books and Journals	Rs. 1,50,000

The department, it is hoped will make use of the facilities recommended by us, especially national scholarships and teachers fellowships, to attract outstanding students and teachers from outside the State. Special effort should be made to ensure the participation of teachers colleges in Orissa and outside the state. Only then shall it develop into a real Centre of advanced study.

We are grateful to the Administrator and Registrar of the Utkal University and to the Head of the Department of Psychology, his colleagues and his students for the kindness and courtesy shown to us during our visit to Bhubaneswar.

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

178

Meeting:

Dated : 19th July, 1976

Item 32: To consider the report of the Fifth Plan Visiting Committee for the University of Jabalpur.

.....

The University Grants Commission appointed a Visiting Committee consisting of the following to assess the Fifth Plan requirements of the Jabalpur University:

1. Professor J.B. Chitambar - Convener  
Principal,  
Allahabad Agricultural Institute,  
Allahabad
2. Professor Nagendra  
Department of Hindi,  
Delhi University,  
Delhi.
3. Professor B.N. Puri,  
Department of Ancient History  
Lucknow University,  
Lucknow
4. Professor K.R. Nanekar  
Department of Economics,  
Nagpur University,  
Nagpur.
5. Shri A.K. Day  
Department of Chemistry  
Allahabad University  
Allahabad.
6. Professor K.K. Nanda  
Department of Botany  
Panjab University,  
Chandigarh.
7. Professor U.S. Srivastava  
Department of Zoology  
Allahabad University  
Allahabad
8. Professor M.R. Bhiday  
Department of Physics,  
Poona University,  
Poona.

Contd.

179

9. Shri S.P. Gupta  
Deputy Secretary  
University Grants Commission Secretary

Professor A.B. Lal, Chairman of the M.P. UChCha Shiksha Anudan Ayog and Shri Samar Singh, Special Secretary, Department of Education, Government of Madhya Pradesh were associated with the Committee as representatives of the Madhya Pradesh Uchcha Shiksha Ayog and the Government of Madhya Pradesh respectively.

The Committee visited the Jabalpur University on March 18-19, 1976 and held discussions with the Vice-Chancellor, members of the staff, students etc. The main observations and recommendations of the Visiting Committee are given below:

1. The Jabalpur University has not made much headway since its inception in 1957 even though it received assistance from the UGC right from the Second Five Year Plan. During the Fourth Plan a number of schemes of the second and Third Plans had to be carried forward as spillover. However, most of the schemes have been completed and there is spillover of only Rs. 21 lakhs in the V plan. Yet, the Visiting Committee felt depressed at the state of affair of the University. The maintenance work of the buildings and roads was found to be totally neglected. The library is in a bad shape and subscriptions to important journals have been stopped. The departments have practically no perspective of what ought to be done in higher education and research. The posts of Professors in the departments of English, History, Mathematics, Hindi and Sanskrit are vacant i.e. 5 out of 11 posts of Professors in the University are at present vacant. The department of English has only one Lecturer/Research Associate out of the sanctioned core of staff of 1 Professor, 1 Reader and 2 Lecturers. The posts of Readers in the departments of Economics, Political Science, Sociology and Law are also vacant at present. The Committee would urge upon the University to fill in the vacant posts as early as possible. The Professors may be appointed without delay so that they can provide leadership in the departments in their future development.

2. A State Committee consisting of Professor A.B. Lal, Chairman, M.P. USAA and Shri Samar Singh, Special Secretary to the Government of Madhya Pradesh examined the possibilities of collaboration between the University teaching departments and the departments of the colleges concerned, thereby avoiding duplication and effecting economy in expenditure as well as paving the way for strengthening postgraduate teaching and research. The Committee inter alia recommended

merger of the University departments of Sanskrit and Pali-Prakrit, Hindi and Linguistics, and History and Ancient History. The Committee further recommended that post-graduate teaching in Sanskrit Hindi, English, Philosophy, Sociology and Mathematics may be conducted only in the University teaching departments, and be discontinued in the Maha Koshal Arts Mahavidyalaya. The University and colleges may both conduct teaching of History, Political Science, Economics, Physics and Chemistry but there should be full collaboration between them. The Visiting Committee was happy to note that the University of Jabalpur has implemented these recommendations of the Committee and hopes that this would lead to improvement of standards of teaching and research in the University teaching departments as well as in the colleges.

3. There is a great need for consolidation and improvement of facilities in the existing teaching departments. All departments except Chemistry, appear to be ill-equipped at present for advanced work. The Committee recommends that facilities by way of equipment etc. should be strengthened as early as possible and efforts should be made to utilise the facilities already available with the Government Science College in the concerned departments.

4. The Visiting Committee noticed that some of the teachers had an abnormally large number of research students under them working for Ph.D. In order to provide effective guidance it may be desirable to restrict the number of research scholars per teacher to a manageable limit.

5. The Visiting Committee found that the Campus of the University presented a shabby and deserted look. There exist a few buildings without approach roads, street lights and appropriate surroundings. There are no facilities for games, sports and lights and other recreational activities. Whatever be the number of students and teachers residing in the campus, facilities must be created for a healthy living and corporate life and basic civic amenities have got to be provided. The Visiting Committee would urge upon the State Government to give a serious consideration to this matter and help the university to develop its campus facilities at an early date.

6. The Visiting Committee would suggest that University would do well to prepare a long term plan indicating the different stages of development with the resources likely to be available from the UGC, State Government etc. Even the V plan proposals placed before the Visiting Committee did not reflect any perspective and academic planning on behalf of the university despite the fact that there exists an Academic Planning and Evaluation Board of the University.

7. The Committee felt that the postgraduate teaching should concentrate at the university, but in view of the existing situation in which postgraduate teaching is also carried on in affiliated colleges this concentration of postgraduate teaching at the university should be done in phases and at the same time restricted in colleges. This should not pose a very large problem in the case of science subjects. Academic control of colleges by the university is essential.

The financial implications of the recommendations of the Visiting Committee are given below:

A.	Spillover	Rs. 2.00 lakhs
	Basic Grants	Rs. 8.00 lakhs (Rs. 5.00 lakhs for equipment Rs. 3.00 lakhs for books and journals)
B.	New allocations	Rs. 73.18 lakhs
i)	Books & Journals	Rs. 20.00 lakhs
ii)	Equipment	Rs. 23.95 lakhs
iii)	Buildings	Rs. 15.20 lakhs
iv)	Junior Research Fellowships (Ten)	Rs. 1.00 lakhs
v)	Visiting Professorship	Rs. 1.00 lakhs
vi)	Others	Rs. 2.95 lakhs
vii)	Staff	Rs. 9.08 lakhs (Estimated for IP, 1OR, 1OL, 2TA, 3 Tech. and 1 Microanalyst)

Of the above staff IP, 7R, 4L and 2 others are in the first priority and 3R, 6L and 4 other in second priority. The share of the State Government in all the three priorities for recurring expenditure is estimated at Rs. 1.00 lakh, during the V plan period and for non-recurring expenditure Rs. 13.45 lakhs (approximately).

The ceiling for the Jabalpur University is Rs. 100.00 lakhs. The distribution of this amount in three priorities including spill over is as follows:

<u>Ist Priority</u>	<u>II Priority</u>	<u>III Priority</u>
Rs. 49.94 lakhs	Rs. 18.88 lakhs	Rs. 14.36 lakhs

The report, approved by members, is given as Annexure. The matter is placed before the Commission for consideration.

# ANNEXURE

## REPORT OF THE FIFTH PLAN VISITING COMMITTEE FOR JABALPUR UNIVERSITY

...

The University Grants Commission appointed a Visiting Committee consisting of the following to assess the Fifth Plan requirements of the Jabalpur University :

1. Professor J. B. Chitambar .. Convener  
Principal  
Allahabad Agricultural Institute  
Allahabad &  
Member, U.G.C.
2. Professor Nagendra  
Department of Hindi  
Delhi University  
Delhi.
3. Professor B. N. Puri  
Department of Ancient History  
Lucknow University  
Lucknow.
4. Professor A. R. Nanekar  
Department of Economics  
Nagpur University  
Nagpur.
5. Shri A. K. Dey  
Department of Chemistry  
Allahabad University  
Allahabad.
6. Professor K. K. Nanda  
Department of Botany  
Panjab University  
Chandigarh.
7. Professor U. S. Srivastava  
Professor of Zoology  
Allahabad University  
Allahabad.
8. Professor M. R. Bhiday  
Department of Physics  
Poona University  
Poona.
9. Shri S. P. Gupta .. Secretary  
Deputy Secretary  
University Grants Commission.

Professor A. B. Lal, Chairman, Madhya Pradesh Uchcha Shiksha Anudan Ayog and Shri Samar Singh, Special Secretary, Department of Education, Government of Madhya Pradesh were associated with the Committee as representatives of the Madhya Pradesh Uchcha Shiksha

pto

Andhra Pradesh and the Government of Madhya Pradesh respectively. The Committee visited the Jabalpur University on March 18-19, 1976 and held discussions with the Vice-Chancellor, Members of the Staff, Students etc. The Committee also went round the various department, Laboratories, Central Library, Hostels etc.

### Background Information

The University of Jabalpur was established in 1957. It has a campus of about 69 acres at foot of the hills to the East of the Old Robertson College (now named as Government Science College and Maha Kaushal Arts Mahavidyalaya). It has the following faculties and departments :

1. Faculty of Arts

- (i) English (ii) History, (iii) Economics  
(iv) Political Science, (v) Philosophy  
(vi) Sociology, (vii) Sanskrit, Pali & Prakrit,  
(viii) Hindi.

2. Faculty of Science

- (i) Chemistry, (ii) Mathematics  
(iii) Physics (iv) Botany

3. Faculty of Law: Department of Law.

Besides the above department the University is also running diploma courses in Journalism and Physical Education. The total number of students in the various teaching departments of the University is 472. The teaching staff consists of 12 Professors, 15 Readers, and 29 Lecturers. The distribution of the students and teaching staff in the various departments is as shown below :

<u>Subject</u>	<u>No. of Students</u>	<u>Staff</u>		
		<u>P</u>	<u>R</u>	<u>L</u>
Sanskrit	10	1	1	2
Pali & Prakrit				
Hindi & Linguistics	12	1	1	3
English	22	1	1	2
Philosophy	12	1	1	2
History	21	1	2	4
Political Science	29	1	1	2
Economics	52	1	1	3
Sociology	38	1	1	2
Mathematics	24	1	1	2
Physics	32	1	2	1
Chemistry	42	1	3	2
Botany	15	-	1	-
Law	132	1	1	4
Journalism	38	-	-	-

The University of Jabalpur is a ~~teaching-cum~~ affiliating university and has under its jurisdiction the colleges in the district of Jabalpur.

There are 29 colleges affiliated to the university with an enrolment of about 30,000 students. Ten of these colleges are under the management of the State Government. The University has a Health Centre, Non-Resident Students' Centre, Students Home, University Press and a Guest House.

#### Progress during the Fourth Plan

During the Fourth Plan the University received development grants amounting to Rs. 33.53 lakhs from the UCC and Rs. 11.22 lakhs from the State Government. These grants enabled the University to construct the following buildings :

University Printing Press, 4 quarters for professors, 4 quarters for Readers, 8 quarters for Lecturers, 18 quarters for Class IV Employees and Girls Hostel.

The following departments of postgraduate studies and research in Science were started during the Fourth Plan - Physics, Botany, Zoology and Geology. On the recommendations of an expert committee in 1971 the UGC sanctioned non-recurring and recurring grants for these departments amounting to Rs. 20 lakhs and Rs. 1.70 lakhs respectively. But the University could not utilise the same for want of approval of the State Government. All the four departments were however started. But the departments of Zoology and Botany were closed when the teachers got better jobs elsewhere.

Under the Fourth Plan the Commission sanctioned posts of 4 Professors, 14 Readers and 9 Lecturers of which all but 3 Readers and 3 Lecturers posts were filled in by the University by selection of all-India basis. However, due to financial stringency the University did not fill in the vacancies caused by the departure of the incumbents.

The spillover of the grants to Fifth Plan is about Rs. 2 lakhs only vide Appendix-I.

#### Fifth Plan Proposals

The total Fifth Plan allocation for the Jabalpur University is Rs. 1 crore. In addition to Rs. 2 lakhs of spill-over, basic grants amounting to Rs. 8 lakhs for books and equipment have been approved. This leave a balance of Rs. 90 lakhs for new schemes in the V Plan. The Jabalpur University sent its Fifth Plan proposals involving a total outlay of Rs. 111 lakhs of which the Commission's share was Rs. 92 lakhs as detailed below :

- |                        |   |   |
|------------------------|---|---|
| <u>First Priority</u>  | - | Rs. 50.55 lakhs for Spillover Schemes, equipment and books for science departments, press machinery, students home, staff quarters etc. |
| <u>Second Priority</u> | - | Rs. 25.83 lakhs for additional staff, scientific equipment, books, staff quarters, building for Science and Law Departments etc.        |

Third Priority - Rs. 15.36 lakhs for additional staff, buildings, scientific equipment, books, staff quarters etc.

General Observations -

1. The Jabalpur University has not made much headway since its inception in 1957 even though it received assistance from the UGC right from the Second Five Year Plan. During the Fourth Plan a number of schemes approved in the Second and Third Plans had to be carried forward as spillover. However, most of the schemes have been completed and there is a spillover of only Rs. 2 lakhs in the V Plan. Yet, the Visiting Committee felt depressed at the state of affair of the University. The maintenance work of the buildings and roads was found to be totally neglected. The Library is in a bad shape and subscription to important journals have been stopped. The departments have practically no perspective of what ought to be done in higher education and research. The posts of Professors in the department of English, History, Mathematics, Hindi and Sanskrit are vacant i.e. 5 out of 11 posts of Professors in the University are at present vacant. The department of English has only one Lecturer/Research Associate out of the sanctioned core of staff of 1 Professor, 1 Reader and 2 Lecturers. The posts of Readers in the departments of Economics, Political Science, Sociology and Law are also vacant at present. The Committee would urge upon the University to fill in the vacant posts as early as possible. The Professors may be appointed without delay so that they can provide leadership in the departments in their future development.

State

2. A Committee consisting of Professor A. B. Lal, Chairman, MP USAA and Shri Samar Singh, Special Secretary to the Government of Madhya Pradesh examined the possibilities of collaboration between the University teaching departments and the departments of the colleges concerned, thereby avoiding duplication and effecting economy in expenditure as well as paving the way for strengthening postgraduate teaching and research. The Committee inter alia recommended merger of the University departments of Sanskrit and Pali-Prakrit, Hindi and Linguistics, and History and Ancient History. The Committee further recommended that postgraduate teaching in Sanskrit, Hindi, English, Philosophy, Sociology and Mathematics may be conducted only in the University teaching departments and be discontinued in the MahaKoshal Arts Mahavidyalaya. The University and colleges may both conduct teaching of History, Political Science, Economics, Physics and Chemistry but there should be full collaboration between them. The Visiting Committee was happy to note that the University of Jabalpur has implemented these recommendations of the Committee and hopes that this would lead to improvement of standards of teaching and research in the university teaching departments as well as in the colleges.

3. There is a great need for consolidation and improvement of facilities in the existing teaching departments, except Chemistry, appear to be ill-equipped at present for advanced work. The Committee recommends that facilities by way of equipment etc. should be strengthened as early as possible and efforts should be made to utilise the facilities already available with the Government Science College in the concerned departments.

4) The Visiting Committee noticed that some of the teachers had an abnormally large number of research students under them working for Ph.D. In order to provide effective guidance it may be desirable to restruct the number of research scholars per teacher to a manageable limit.

5. The Visiting Committee found that the Campus of the University presented a shabby and deserted look. There exist a few buildings without approach roads, street lights and appropriate surroundings. There are no facilities for games, sports and other recreational activities. Whatever be the number of students and teachers residing in the campus, facilities must be created for a healthy living and corporate life and basic civic amenities have got to be provided. The Visiting Committee would urge upon the State Government to give a serious consideration to this matter and help the university to develop its campus facilities at an early date.

6. The Visiting Committee would suggest that University would do well to prepare a long term plan indicating the different stages of development with the resources likely to be available from the UGC, State Government etc. Even the V Plan proposals placed before the Visiting Committee did not reflect any perspective and academic planning on behalf of the university despite the fact that there exists an Academic Planning and Evaluation Board of the University.

7. The Committee felt that the postgraduate teaching should concentrate at the university, but in view of the existing situation in which postgraduate teaching is also carried on in affiliated colleges this concentration of postgraduate teaching at the university should be done in phases and at the same time restricted in colleges. This should not pose a very large problem in the case of science subjects. Academic control of colleges by the university is essential.

#### Specific Observations & Recommendations

##### Department of Economic

The Department has 28 students (18 English medium and 10 Hindi medium) in M.A. Part-I and 25 (18 English and 7 Hindi) in M.A. Part-II classes during the session 1975-76. The small number of students in the Department is explained by the fact that there are 5 other colleges in the city which are doing M.A. teaching in the subject. The department is teaching only two optional papers besides 4 compulsory papers. The Department is headed by Dr. Nag who has a reputation in the subject. He has written a number of books on problems of growth and development. Besides the professor, the sanctioned staff consists of 1 Reader and 3 Lecturers. The Department has completed research projects on such subjects as 'Imbalances in the economy of M.P.', 'Impact of Credit Policy of Banks in Jabalpur' etc. Some 8 students have obtained Ph.D. degree under the guidance of teachers in the department. The teachers also guide dissertation work at Postgraduate level. The department publishes a Journal 'Kautilya' from time to time. The department has been active in the past in organizing seminars and symposia on subjects of topical interest. The department has done quite well in the context of various shortcomings from which the University as a whole suffers.

The department has adequate space at its disposal. The furniture and fittings are, however, in dilapidated conditions. Book and Journal sections were greatly suffered in the past for want of adequate funds.

In view of growing importance of Mathematics in Economics it is recommended that the unfilled post of a Reader may be filled with specialization in Econometrics. (which includes Mathematical Economics and Economic Statistics).

In addition to this, one more post of a Reader may also be sanctioned. This post should have specialization in Economics of Planning. It is expected that the availability of this expertise in the department may enable it to undertake further researches not only in regional planning but also in problems of planning in general. It may give an impetus to study of planning on all India basis and also in other countries.

It appears from the existing staff that it is not possible for the department to teach all optional groups. One additional post of a lecturer is therefore also recommended.

The Economics Section of the Library may be strengthened with new books and back volumes of some of the important journals, especially books on Econometrics, Mathematical Economics and Economic Planning.

The department may be sanctioned an equipment grant of Rs. 25,000 for purchase of electronic calculators and hand-operated calculators.

Summary of Recommendations

Priority	I	II	III
Staff	1 Reader	1 Lecturer	-
<u>Equipment</u>			
	Rs. 25,000	-	-

Department of Sociology

In spite of the fact that Sociology is not taught in any of the coll. in the city and that the department is the only unit doing this work, the department has not been able to attract many students. There were in all 40 students, during 1975-76 of whom 21 were in M.A. previous and 19 in M. final. According to a statement supplied by the department there were in all 22 registrations for Ph.D. Of these 5 had received Ph.D. degree till 1976. Though individually the teachers of the department have been doing some research work and publishing their work, there has been no departmental research work taken so far. When asked about it, we were informed that the department was not able to work in this direction due to paucity of funds and a limited number of teachers in the department. The department, however, has prepared a list of research projects which it would like to take up in future.

There is no problem of accommodation in the department. Furniture and other fittings however require immediate repairs and replacement. Further, the state of library is pitiable. Subscriptions to some important journals have been stopped. The sanctioned strength of the department is one professor, one reader and 2 Lecturers. The reader's post is lying vacant.

The department has some importance because this subject is not taught in any other college in the University. It is necessary that this department teaches the maximum possible optional papers.

The post of a Reader (at present lying vacant) should be immediately filled up. As there is none in the department with mathematical background this post should be filled with an eye on this shortcoming. The Reader may also have specialisation in those new branches which the department might like to take up for teaching.

#### Summary of Recommendations

Priority	I	II	III
Equipment	Rs. 20,000/-	-	-

#### Department of Political Science

The department came into existence in 1960. It had 15 students in M.A. Previous and 18 in MA Final during 1975-76. The faculty consists of 1 Professor, 1 Reader and 2 Lecturers. There are 4 other colleges in the city which are teaching this subject at postgraduate level. Though according to information supplied by the department, there have been some registration for Ph.D. and some (15) have obtained Ph.D. degree. On the whole, the department seemed to be indifferent towards research activities. It had no research project in hand; nor was it interested in taking up any research project.

The Committee recommends that the unfilled post of a Reader may be filled up. He may have specialisation in Area Studies (particularly West Asia or Africa). This was the request made by the department and may be granted to keep up at least some interest in the subject.

#### Department of Hindi and Linguistics

The Department of Hindi and Linguistics has 12 students in the MA classes, 55 candidates are working for the Ph.D. degree and 7 for the D.Litt. degree. The sanctioned strength of staff is 1 Professor, 1 Reader and 3 Lecturers. The department has a good research outturn: 30 Ph.D's and 10 D.Litt's have been produced from 1967 to 1974.

At present 4 colleges are also giving postgraduate course in Hindi at Jabalpur. The Committee recommends that primarily the University department should give this course, but another centre may be set up at the Women's College in view of the large number of students taking admission there, long distances and poor transport arrangements in the town. The department should have one full-fledged course in Hindi Literature and another composite course in Hindi Literature and Linguistics. The composite course should have four basic papers in Hindi Literature and four in Linguistics comprising general linguistics and the study of Hindi language. Besides, in view of the growing need of teaching Hindi as a language, there should be a diploma course based on new techniques of language teaching - for which a qualified lecturer should be appointed in addition to the staff already sanctioned. A grant of Rs.50,000 should be made to purchase necessary equipment for the purpose.\* The Committee also recommends a grant of Rs.20,000 for the department for

\* The existing vacancies may be filled in as early as possible

manuscripts from out of the book grant for the Central Library.

Summary of Recommendations

Priority	I	II	III
Staff	1 Reader	1 Lecturer	Rs.
Equipment	Rs. 25,000	Rs. 13,000	Rs. 12,000
Manuscripts	Rs. 10,000	Rs. 5,000	Rs. 5,000

Department of Sanskrit, Pali and Prakrit

The Department of Sanskrit, Pali and Prakrit has 5 students in MA classes and 16 candidates are working for the Ph.D. degree. The sanctioned staff in the department is 1 Professor, 1 Reader and 2 Lecturers. So far the department has produced 36 Ph.Ds and 4 D.Litts. A critical edition of Raj Shekhara's works is under preparation. The department also conducted a seminar on Raj Shekhara recently.

In view of the small number of students the Committee recommends that the postgraduate teaching should be concentrated at the university department. This department has two wings (i) Sanskrit literature and (ii) Pali and Prakrit. The Committee is of the opinion that there should be one Reader in each of the above wings and therefore recommends an additional post of Reader. A grant of Rs. 20,000 should be made available for manuscripts from out of the book grant provided for the Central Library.

Summary of Recommendations

Priority	I	II	III
Staff	1 Reader	-	-
Manuscripts	Rs. 10,000	Rs. 5,000	Rs. 5,000

Department of English

The Department of English has 22 students in the M.A. classes and the sanctioned strength of staff is 1 Professor, 1 Reader and 2 Lecturers. The Mahakoshal Arts Mahavidyalaya and the University department have a cooperative arrangement of admissions and teaching. However, there is no teacher in the University department except a Research Associate/Lecturer. The Committee is of the view that the department should have its own core of staff and the vacant posts, especially those of Professor and Reader should be filled in immediately.

Department of Philosophy

The Department of Philosophy has 12 students in the MA classes and the faculty consists of 1 Professor, 1 Reader and 2 Lecturers. All the staff

members are in position. There are 28 candidates working for the Ph.D. degree and 2 for the D.Litt. The main areas of research being developed in the department are Indian Philosophy, Contemporary philosophy and philosophy of Religion. 11 scholars have so far been awarded the Ph.D. degree in Philosophy.

The department headed by a Professor of recognised stature is making good progress. The Committee supports the demand of the department for a Lectureship in modern logic.

Summary of Recommendations

Priority	I	II	III
Staff	1 Lecturer	-	-

Department of History

The Department of History has 21 students in the MA classes. The sanctioned strength of staff in the department is 1 Professor, 2 Readers and 4 Lecturers. The post of Professor is vacant at present. 10 candidates are working for the Ph.D. degree and 1 for D.Litt. Besides the university department, some colleges also conduct the postgraduate courses in History as the course is popular among students. However, it would be advisable to have some cooperative arrangement of teaching among the colleges and the university department. The department is in great need of consolidation. There are Readers in Ancient History and Modern History but there is none in Medieval History. The Committee, therefore, recommends one post of Reader to cater to Medieval History.

Summary of Recommendations

Priority	I	II	III
Staff	1 Reader	-	-

Department of Law

The Department of Law has 116 students in the LL.B. classes and 16 students in the LL.M. classes. The sanctioned strength of the staff in the department is 1 Professor, 1 Reader and 4 Lecturers. One Ph.D. has been produced so far in the department. It proposes to develop the following areas: Land Reform in India and Family Law.

The Committee recommends an additional post of Reader for the department. However, the existing vacancies must be filled as early as possible. The Committee also recommends a special grant of Rs.50,000 for books in law from out of the total book grant for the Central Library.

Summary of Recommendations

Priority	I	II	III
Staff	1 Reader	-	-
Books & Journals	Rs. 25,000	Rs. 13,000	Rs. 12,000

Department of Physics

The Department of Physics has 32 students in the M.Sc. classes. The sanctioned strength of staff is 1 Professor, 2 Readers and 1 Lecturer. 10 candidates are working for the Ph.D. degree and 1 for D.Sc. The main areas of research being developed in the department are crystal growth studies, surface structural studies by optical techniques, properties of crystal and Biophysics. 5 candidates have so far been awarded the degree of Ph.D. The department gets the collaboration of the Government Engineering College and the Government Science College, Jabalpur in research work.

Some major equipment available with the department are Vacuum coating unit, X-ray diffraction unit, Spectrograph, Vibrating reed electrometer and Vacuum system. There is a Science Workshop which has helped the department by fabricating items required for research .....

Apart from small items, the following equipment have been fabricated -

- i) Kyropoulos crystal growing unit
- ii) Crystal cutting unit
- iii) Microhardness testing balance.

The department has about 3,300 sq. ft. floor area for laboratories and office. Lecturehalls are shared with other departments. The Committee recommends that the department should be provided with accommodation of 20,000 sq. ft.

Summary of recommendations

Priority	I	II	III	Remarks
Staff	1 Reader 1 Lecturer	1 Reader 1 Lecturer	-	Readers in Solid State Physics/ Electronics
Equipment	Rs. 3 lakhs	Rs. 1.5 lakhs	Rs. 1.5 lakhs	
Building	Rs. 2.5 lakhs	Rs. 1.25 lakhs	Rs. 1.25 lakhs	

Department of Mathematics

The department of Mathematics has 24 students in the postgraduate classes. The Professor's post is vacant at present. 9 candidates are working for the Ph.D. degree and 4 for the D.Sc. 17 scholars have so far taken the Ph.D. degree and 4 the D.Sc. degree in Mathematics. The main areas of research are : Summability, Absolute summability, Summability of topological groups and Fourier analysis.

This department has been doing good work and deserves encouragement. An additional post of Reader may be given in the field of Mathematical Statistics and equipment worth Rs. 2 lakhs may be provided for equipment such as Card Key Punch, Calculating machines etc.

Summary of Recommendations

Priority	I	II	III
Staff	1 Reader	-	-
Equipment	Rs. 1 lakh	Rs. 0.5 lakh	Rs. 0.5 lakh

Central Workshop

The present Science Workshop should be capable of servicing various types of equipment available with the science departments and also for fabricating small items. It has at present machines like lathe, grinder, drilling machine, welding unit. The Committee recommends addition of a glass-blowing section and electronics section to the existing facilities.

Summary of Recommendations

Priority	I	II	III
Staff		2 Tech	
Equipment	Rs. 25,000	Rs. 13,000	Rs. 12,000
Workshop shed	Rs. 25,000	Rs. 25,000	-

Department of Chemistry

/workers is about 200. The department has research

The Department of Chemistry came into being in July 1966 with the construction of the building which was approved by the UGC in 1960. The department is very well-organized and has been doing commendable work in teaching M.Sc. classes and in carrying on research work of a good standard. In the brief period of its existence, it has produced 38 Ph.D's and the number of publications by the staff and research programmes in Polymer Chemistry, Reactions in solution, Chemistry of natural products, Organic analytical methods and Metal-complexes. The present number of students is 42 in M.Sc. classes and 28 research scholars. The sanctioned strength of staff is 1 Professor, 3 Readers and 2 Lecturers

The space available is adequate for the present needs of the department, and a large floor area in the basement is lying vacant, which the department proposes to utilize for setting a laboratory. If no other grant is possible, a part of the grants made under "Equipment" in the Fifth Plan may be utilised in special fittings for the basement. The equipment position should also be improved by purchase of new instruments.

The buildings are not properly maintained and we were told that no repairs or white washing were done during the last several years. The departmental library is not up-to-date and the journals, including Chemical Abstracts have not been subscribed for the past few years.

The Department offers specialization in (i) Organic, (ii) Inorganic and (iii) Physical Chemistry at the M.Sc. Final stage. The proposal for starting two new specialisations in (i) Macromolecular Chemistry and (ii) Analytical Chemistry is welcome and the Committee recommends that these should be started as early as possible. The department should intensify researches in these fields as well as in others already in progress, with the help of new equipments to be acquired during the Fifth Plan. Emphasis on the use of instruments by postgraduate students and research workers should be laid. It is suggested that with the experience of the department in research work on reaction kinetics, work on gaseous reactions should also be initiated.

The department should also organize teaching and laboratory work for the M.Phil. degree and plan a number of elective courses of relevance to the present day needs. The syllabi for M.Phil. should lay emphasis on course work and library work and should not be purely based on a research project. Special grant for back number of journals etc. of Rs. 1.5 lakhs may be provided from out of the Central Library grant.

Summary of Recommendations

Priority	I	II	III	Remarks
Staff:	1 Reader 1 Lecturer 1 Tech.	1 Reader 1 Lecturer 1 Microanalyst		Readers in Macro-molecular Analytical
Equipment	Rs. 3 lakhs	Rs. 1.5 lakhs	Rs. 1.5 lakhs	
Journals	Rs. 0.75 lakh	Rs. 38,000	Rs. 37,000/-	

Department of Biological Sciences

The Jabalpur University had started a department of Zoology with a Reader-Head who belonged to M.P. Government. When he was promoted in the Government, he left his job at the University. Thereafter the University made no appointment and the department was closed. However, M.Sc. course is conducted by the Government Science College, Jabalpur.

There is at present a department of Botany at the Jabalpur University. The department conducts M.Sc. course in Botany in collaboration with the Government Science College. The research output of the department is also commendable. The Committee however, feels that this department may be converted into a department of Biological Science in view of the modern needs for an integrated course and study in the science of life. Such a course is not available in the colleges at Jabalpur and it would be a worthwhile leadership which the Jabalpur University can provide.

Summary of Recommendations :

Item	Priority	I	II	III	Remarks
Staff		P-1 L-1 TA-1	R-1 L-2 TA-1		
Equipment		Rs. 2,50,000	Rs. 1,25,000	Rs. 1,25,000	
Building		Rs. 2,00,000	Rs. 1,00,000	Rs. 1,00,000	
Botanical Garden		Rs. 50,000	Rs. 25,000	Rs. 25,000	
Herbarium Museum		Rs. 50,000	Rs. 25,000	Rs. 25,000	
Animal House		Rs. 50,000	Rs. 25,000	Rs. 25,000	

Department of Journalism

The Department of Journalism conducts a diploma course in Journalism with only part-time teaching staff. In the absence of a detailed proposal for a full-fledged degree course, the Committee is not in a position to make comments or recommendations. Books and journals on journalism may be purchased however by the Central Library from the lump sum grant allocated to it for books.

Central Library

The Central Library has a collection of about one lakh volumes on various subjects. 105 journals are being subscribed to, 80 in Humanities and 25 in Science. The library is open from 8 AM to 8 PM for the benefit of students and scholars.

The Committee recommends that the library should purchase a larger number of books in Hindi so that most students may make use of the library. Textbook should be purchased in multiple copies. The library may also obtain education films if funds permit. For the completion of the library building (IV Plan scheme) the Committee recommends a grant of Rs. 60,000.

Summary of Recommendations

<u>Priority</u>	I	II	III
Books	Rs. 10 lakhs	Rs. 5 lakhs	Rs. 5 lakhs
Equipment	Rs. 50,000	Rs. 25,000	Rs. 25,000
Building	Rs. 60,000	-	-

Health Centre

The Health Centre of the Jabalpur University caters to the needs of student and staff of the University departments and those of colleges at Jabalpur. The Health Centre also needs some equipment for basic tests and screening.

Summary of Recommendations

<u>Priority</u>	I	II	III
Equipment	Rs. 75,000	Rs. 38,000	Rs. 37,000

Hostels

Well nor  
it has the  
warden  
quarters.  
The common-room  
also

The University has two hostels, one for 100 men students and one for 50 women students. The Girls Hostel has no boundary/needs development. The Committee feels that these should be provided. The upper floors of the Boys' Hostel becomes very hot during summer and it could be useful to provide electric fans in the rooms.

Summary of recommendations

<u>Priority</u>	I	II	III
1. Warden's quarters boundary well, common room facilities for the Girls' Hostel	Rs. 60,000	Rs. 50,000	-
2. Electric fans for Boys Hostel	Rs. 65,000	-	-

Staff Quarters

There are staff quarters for 4 Professors, 10 Readers and 16 Lecturers. The Committee recommends construction of 8 more quarters. The Committee noticed that there is no proper arrangement of water supply and no overhead tank either in the residential area or on the staff quarters which are so necessary there. These should be provided as early as possible.

Summary of Recommendations

Priority	I	II	III
1. Staff Quarters	Rs. 1,00,000	Rs. 1,00,000	Rs. 50,000
2. Overhead tanks	Rs. 1,00,000	-	-

Centre of Study of Regional Development

The University proposes to establish a Centre of Study of Regional Development. The broad objectives of the Centre would be to help in the rural development programme for integrated rural development on the following lines

- Study and suggestion for full employment of labour and development of physical resources.
- Creation of agro-industrial complexes
- Fixing minimum productivity standards
- Fixing minimum standard of performance by Public agencies.

The proposed Centre would like to engage itself with interdisciplinary approach and collaborate with the institutions concerned with rural development. The Committee welcomes the idea and would wish that the scheme should be developed further in more concrete terms, and recommends a grant of Rs. 30,000 as seed money for developing the programme. The proposal of the University for the grant of research scholarships may be examined subsequently.

The financial implications of all the recommendations made by the Committee for the development of the Jabalpur University during the V Plan are summarised below.

Summary of Recommendations

(Rs. in Lakhs)

Item/Priority	I	II	III
Spillover	2.00	-	-
Basic grants	8.00	-	-
Staff	5.34	3.74	5.61
Equipment	12.70	5.64	3.00
Building	8.45 - 10.00	3.75 - 5.00	5.00 - 5.00
Visiting Professorship	0.50	0.25	0.25
Others	1.95	0.50	0.50
Junior Research Fellowship (Ten)	1.00	-	-
Grand Total:		Rs. 83.18 Lakhs.	

The Visiting Committee puts on record its sincere thanks to the Vice-Chancellor and members of the staff for the help given to the Committee in the completion of its work.

....

Spillover Statement  
University of Jabalpur

S. No. of the Scheme	UGC Share	Grant Paid upto 31/3/74	Spill over
1	2	3	4
1. Construction of Girls Hostel	1,87,500	75,000	1,12,500
2. Library Building Furniture	4,65,084 1,09,645	5,00,000 1,05,000	- 4,645
3. Estt. of Printing Press	1,21,000 1,19,883	1,00,000	19,883
4. Construction of Prof. Quarter	1,13,694.87	1,13,000	695
5. Recurring			
Humanities	6,08,873	6,00,000	*8,873
Science Workshop	27,097.41	24,440	*2,657
6. Const. of Four Lect. Quarters	39,650	39,000	650
7. Construction of 4 Quarters	43,500	40,000	3,500
8. Construction of 4 Readers Quarters	86,500	85,000	1,500
9. Construction of 8 Class IV Staff Quarters	24,550	24,000	500
10. Research Project	37,311	10,000	27,311
11. Basement for Gen. addi. Hall for Lib.	10,000	3,000	1,981

Jabalpur University

Fifth Plan Allocation (UGC share Rs. in lakhs)

<u>Item/Priority</u>	<u>I</u>	<u>II</u>	<u>III</u>
Spillover	2.00	-	-
Basic grants	8.00	-	-
Staff	5.34	3.74	-
Equipment	12.70	5.64	5.61
Building	8.45	3.75	3.00
Books & Journals	10.00	5.00	5.00
Visiting Professorship	0.50	0.25	0.25
Others	1.95	0.50	0.50
Junior Research Fellowship (ten)	1.00	-	-
	<u>49.94</u>	<u>18.88</u>	<u>14.36</u>

Grand Total : Rs. 83.18 lakhs

Balance : Rs. 16.82 lakhs

Staff

<u>Department</u>	I	II	III	<u>Remarks</u>
Chemistry	R-1 L-1 Tech.-1	Microanalyst-1 R-1 L-1		Readers in analytical/ macromolecular chemistry.
Biological Sciences	P-1 L-1 TA-1	R-1 L-2 TA-1		
Physics	R-1 L-1	R-1 L-1		Readers in Solid State Physics/ Electronics
Mathematics	R-1			Reader in Math. Statistics
Hindi	R-1	L-1		Reader in Literature/ Linguistics
Sanskrit	R-1			-do-
Philosophy	L-1			-do-
History	R-1			Reader in Medieval History
Law	R-1			
Economics	R-1	L-1		Reader in Econometrics/ Planning.
Central Workshop		Tech.2		
	P-1, R-7 L-4, TA-1 Tech-1	R-3, L-6 Microanalyst-1 Tech.-2 TA-1.		

	<u>Equipment</u>			<u>(Rs. in Lakhs)</u>
<u>Department</u>	I	II	III	
Chemistry	3.00	1.50	1.50	
Biological Sciences	2.50	1.25	1.25	
Physics	3.00	1.50	1.50	
Mathematics	1.00	0.50	0.50	
Hindi	0.25	0.13	0.12	
Economics	0.25	-	-	
Sociology	0.20	-	-	
Central Library	0.50	0.25	0.25	
Health Centre	0.75	0.38	0.37	
Central Workshop	0.25	0.13	0.12	
	<u>12.70</u>	<u>5.64</u>	<u>5.61</u>	

	<u>Building</u>			<u>(Rs. in Lakhs)</u>
Biological Sciences	2.00	1.00	1.00	
Animal House	0.50	0.25	0.25	
Physics	2.50	1.25	1.25	
Central Workshop	0.25	0.25	-	
Overhead tanks for staff quarters and residential area	1.00	-	-	
Warden's quarters, boundary wall commonroom facilities for the Girls' Hostel	0.60	0.50	-	
Completion of library building	0.60	-	-	
Staff quarters	<u>1.00</u>	<u>0.50</u>	<u>0.50</u>	
	8.45	3.75	3.00	

<u>Priority</u>	<u>Others</u>		
	I	II	III
Botanical Garden	0.50	0.25	0.25
Herbarium Museum etc.	0.50	0.25	0.25
Electrical fans for Boys Hostel	0.65	-	-
Centre of Study of Regional Development	0.30	-	-
	<hr/> 1.95	<hr/> 0.50	<hr/> 0.50

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

182

Meeting :

Dated : 19th July, 1976

Item No. 33 : To consider the recommendations of the Committee for the development of the Postgraduate Centre, Goa in the Fifth Plan.

The Committee considered the report of the Visiting Committee for the Postgraduate Centre, Goa at its meeting held on June 3-4, 1976 at Simla. It was agreed that the report of the Visiting Committee be referred to a sub-committee including Professor B.M. Udgaonkar and Professor (Miss) A.J. Dastur who may be requested to make recommendations with regard to the lines of development of the Postgraduate Centre keeping in view the local needs and the allocation available. The report of the sub-committee is given as Appendix. The main recommendations are summarised below:

1. The committee noted that the PG centre was still housed in rented premises and has severe shortage of space. In view of the fact that the building grant of the Fourth Plan could not be used at all and, therefore, there is a heavy spill-over to Fifth Plan, the Committee recommends that a special consideration may be shown to the PG Centre so that the departments could consolidate and achieve an academically viable structure by the end of the Fifth plan. Academic viability has been taken as the main guideline by the Committee in making its recommendations.

2. While the Commission has agreed in principle to a new University of Goa, the PG centre seems to be considered as a temporary entity and posts have been advertised as temporary posts. This has added to the difficulties of attracting good academics to take up senior posts at the PG centre. The committee strongly feels that the Centre should be in a position to offer permanent appointments. The committee noted that the PG centre has been following the same courses as in the University of Bombay to which it is attached. Since the staff of the Centre would eventually become a core of the new University, the present arrangements of courses and staff that may be appointed in the light of these courses could become a handicap in developing in the new directions that are envisaged. The Committee, therefore, recommends that the PG Centre must forthwith be granted an autonomous status.

p. t. o.

183

3. Taking into account the rapid spread of education industrialisation etc. it would be useful for the PG Centre to organise new type of courses with field work and project work as an integral part of teaching/learning experience.
4. The Committee recommends that at least a second class at the Bachelor's degree should be made an admission requirement for all PG courses and students who may not have obtained a second class be admitted only on the basis of a scrutiny through interviews etc.
5. The Committee recommends that the various departments be grouped into Schools and it does not recommend the creation of any new department during the Fifth Plan period. The Committee is happy to note that an organisation around Schools has also been recommended by the Academic Planning Board of the proposed University.
6. The Committee recommends that in staffing the School of Languages and the School of Social Sciences the PG Centre may keep in view the desirability to have a whole programme in these Schools oriented from the beginning in the direction of Latin American Studies in which the Centre could try to establish an identity.
7. The Committee recommends that the PG Centre may continue its dialogue with the National Institute of Oceanography and work out operational details of collaboration for the establishment of School of Oceanography. The existing department of Micro-biology may be enlarged into a School of Biological Sciences with a prime focus on the biological resources of Goa.
8. The Chemistry Department may try to develop in integrated approach to Chemistry keeping in view the recent growth of various chemical industries in Goa and the manpower needs of these and other industries likely to be set up in coming years.
9. The Committee has recommended an amount of Rs.43.61 lakhs against the allocation of Rs.35 lakhs under Priority I. The committee recommends that the Commission may accept these recommendations in view of the special circumstances and difficulties of the Centre.

The financial implications involved in the recommendations of the Committee are given below:

Item	Priority	
	I	II
	(Rs. in lakhs)	
Spillover (Staff only)	0.46	-
Staff	11.00	-

184

Books & Journals	8.00	4.00
Equipment	9.00	2.00
Building	14.15	5.40
Visiting Professorships	0.25	0.25
Research Fellowships	0.75	-
Total:	<u>43.61</u>	<u>13.65</u>

The matter is placed before the Commission for consideration.

DS(D-4)

Report of the Committee appointed by the University Grants Commission to reassess the Vth Plan requirements of the Post-Graduate Centre of the Bombay University in Goa. (185)

.....

The Committee consisted of the following persons:

Professor B.M. Udgaonkar - Tata Institute of Fundamental Research, Bombay.

Prof.(Kum.) A.J. Dastur - Head, Department of Civics and Politics, Bombay University.

The Committee met in the Executive Council Room of the University of Bombay, Bombay, on Friday, July 2, 1976, at 10 A.M. Prof. D.B. Wagh, Director of the Post-Graduate Centre, was also present.

1) The Committee had detailed discussions with the Director of the PG Centre, regarding the major considerations which he had in mind while making the Vth Plan proposals, and the difficulties faced by the PG Centre at Goa, during the last 10 years, since it came into existence in June, 1965.

2) The Committee noted that the PG Centre was still housed in rented premises, and has a severe shortage of space. This had already been commented upon by a UGC Committee five years ago. The UGC had allocated an amount of Rs. 30 lakhs for the development of the Centre during the IV Plan. Of this, the Commission had approved schemes involving an expenditure of Rs. 21.36 lakhs as Commission's share. This included an approval of Rs. 10.25 lakhs for buildings. However, none of this amount for buildings could be utilised, because there was a delay in acquiring land. The Committee was given to understand that land measuring about 600 acres has now been allocated to the Centre (eventually for the University of Goa), and that physical facilities are being developed. In view of the fact that the building grant of the IV Plan could not be used at all, and therefore there is a very substantial overflow to V Plan (out of a total UGC plus State Government allocation of Rs. 23.36 lakhs, only Rs. 8.71 lakhs could actually be utilised by the Centre during the IV Plan period) the Committee recommends that a special consideration may be shown to the PG Centre of Goa, so that the departments which were started in a small way during the previous Plan periods, may be allowed to consolidate (into Schools, as suggested later) and achieve an academically viable structure by the end of the V Plan period. Academic viability has been taken as the main guideline by the Committee in making its recommendations.

186

3) The Committee noted the peculiar situation of the PG Centre at Goa, as represented by the fact that while the Centre is located in the Union Territory of Goa, it is attached to a University in Maharashtra. While the Commission has agreed, in principle, to a new University of Goa, the PG Centre seems to be considered as a temporary entity and posts have been advertised as temporary posts. This has added to the difficulties of attracting good academics to take up senior posts at the PG Centre. This seems to have been one of the main reasons why out of the 29 IVth Plan positions that were sanctioned (4P+12R+13L), only 19 were filled (1P+8R+10L). The Committee strongly feels that if the PG Centre at Goa is to attract good people, it should be in a position to offer permanent appointments to them.

In this situation, the Centre has had to depend heavily on the college staff for taking the M.A./M.Sc. courses. The inadequacies of this situation were pointed out by an earlier Committee in 1971. It is important for the Centre to appoint additional staff soon, so that it may take full responsibility for the various courses, drawing upon the college staff only if they are adequately qualified.

The Centre must strengthen its research programmes.

4) The Committee noted that the PG Centre at Goa has been following the same courses as in the University of Bombay to which it is attached. While the PG Centre (and eventually the University of Goa), hopes to develop Schools of Latin American Studies, Oceanography etc., the Centre at the moment does not have the possibility of offering any courses with emphasis in these directions. Also, if the present arrangement is allowed to continue, when appointments are made to the new positions being recommended, the Centre will be forced to appoint people keeping in view the syllabi of the University of Bombay. Since the staff of the PG Centre would eventually become the core of the new University, the present arrangement of courses, and staff that may be appointed in the light of these courses, would become an handicap to the Centre in developing in new directions that are envisaged. The Committee therefore recommends that the PG Centre must forthwith be granted an autonomous status.

5) In this context the Committee was happy to study the note prepared for the Academic Planning Board of the proposed Goa University, that was made available to the Committee. The Committee welcomes the anxiety to establish an identity, to seek for its schools areas where the new University should be able to make distinctive contributions, and then to invest a major part of its resources in these schools so that in course of time these schools may develop into genuine Centres of Excellence. The note also recommends an approach to the courses to be given in Goa University: that courses should be developed around meaningful areas of application, and that one should seek relevance either in terms of scholarship or in terms of industrial utilization or social well-being.

The Committee hopes that the autonomous status recommended above will help the Centre to explore these new directions.

6. The Goan scene has been rapidly changing since the liberation of Goa fifteen years ago. There has been rapid spread of Education, Industrialisation and Tourism and land-laws have also undergone changes. It will be useful for the PG Centre to organize new types of courses, taking account of this changing scene, with field-work and project-work as an integral part of the teaching/learning experience. This will imply appointment of forward-looking staff who are willing to experiment, making use of the autonomy recommended earlier.

7) The Committee was informed that the PG Centre at present admits Science students who have secured at least 45 per cent marks at B.Sc., that there is an admission requirement of 40 per cent marks for Economics, but that there is no such requirement for other subjects. The Committee recommends that at least a second class at the Bachelor's degree should be made an admission requirement for all PG courses, and that students who may not have obtained a second class be admitted only on the basis of a scrutiny through interviews etc. which clearly shows that their abilities and motivations are well above what is indicated from the class or marks obtained at the Bachelor's degree.

8) The Committee noted that at present the PG Centre has as many as 13 departments with only 28 members of academic staff. It fails to understand how so many subviable departments were allowed to be created at this PG Centre. While recommending new staff and other support, the Committee has tried to find a suitable formula for making the existing academic programmes viable. From this point of view and also otherwise academically, it recommends that the various departments be grouped into schools and it does not recommend the creation of any new departments during the Vth Plan period. The Committee is happy to note that an organization around Schools has also been recommended by the Academic Planning Board of the proposed University.

9) The Committee was given to understand that a proposal to start an Area Study Programme in Latin American Countries at Goa, is under consideration of the UGC for support outside the Vth Plan allocation. The Committee recommends that in staffing the School of Languages and the School of Social Sciences, the PG Centre may keep in view the desirability to have a core programme in these Schools, oriented already from the beginning in the direction of Latin American studies, in which the Centre could try to establish an identity. In fact, if the research programmes, including the Ph.D. programmes, in the School of Social Sciences develop a focus on Latin American studies, this will help in creating an expertise in this area, that will be helpful

when the Area Study Programme comes into existence. It is from this point of view that the Committee has recommended that the post of Professorship in Economics be filled with a specialist in Development Economics and the post of Professorship in Political Science be filled with a specialist in Developmental Administration. In view of the rich archives available in Goa, there is a considerable potential for historical research, which must also be exploited. Apart from the history of the region, the Centre could also undertake studies in the presently unfolding history of the erstwhile Portuguese colonies in Asia and Africa. Goa would have a certain obvious advantage with regard to such studies, and the expertise (and sympathetic understanding of the struggles and aspirations) so generated would be valuable in view of the increasingly close ties that India would now be developing with these countries.

10) The Committee noted that the Academic Planning Board for the proposed University of Goa, has suggested a School of Oceanography. Goa University would certainly be a promising place for starting such a School, in view of the proximity of the National Institute of Oceanography, which happens to be located at Panaji. The Committee has, however, not been able to accommodate the School of Oceanography in its recommendations within the limited resources. However, it recommends that the PG Centre may continue its dialogue with the National Institute of Oceanography, and work out operational details of possible collaboration between the National Institute of Oceanography and the PG Centre/University of Goa in the establishment of such a School. If a well thought out proposal is worked out, this may be considered on its merits by the UGC outside the Vth plan, since this could be one important area of meaningful collaboration between the UGC and the CSIR laboratories.

11) The PG Centre has at present a small Department of Microbiology. The Committee recommends that this may be enlarged into a School of Biological Sciences, with a prime focus on the biological resources of Goa (marine and forest resources; horticulture). The PG Centre may take the assistance of the National Institute of Oceanography in making a detailed plan for the marine biology programme of this School, so that the School develops in a direction which will enable it to collaborate effectively with the National Institute of Oceanography and derive maximum benefit from such a collaboration. Such collaboration would also help in planning for the proposed School of Oceanography, which the University hopes to establish in due course.

12) In the School of Physical Sciences, the Chemistry Department may try to break new ground, and instead of becoming a conventional Chemistry Department, try to develop an integrated approach to Chemistry, keeping in view the recent growth of various chemical industries in Goa, and the manpower needs of these and other industries that are likely to be set up in coming years. The Centre may consult the Department of Chemical Technology of the University of Bombay regarding the new directions that could be given to the Chemistry Department.

No specialization is being mentioned for the Physics Department. However, the staffing should be such that the department concentrates its efforts in not more than two specializations, so that a viable research programme may emerge.

13) The Committee has considered the proposal of the Centre to start a department of Commerce, with 1 Reader and 1 Lecturer. The Committee is not in favour of starting any new department in this subviable fashion. Since a full-fledged Commerce Department cannot be accommodated within the limited funds available, the Committee recommends that the present arrangement for H.Com. courses in colleges may continue. The Centre may however look into the needs of consolidating this programme as a college programme, taking into account the new norms framed in this regard by the UGC. The college concerned may then approach the UGC for support under the PG College Assistance programme of UGC.

The Committee has also not been able to recommend a department of Geography, for want of resources.

The Committee would also like to recommend that no new PG course be allowed to be started in the colleges of Goa, unless the new UGC norms for PG instruction are satisfied by the college concerned.

14) The Committee's recommendations for staff, books and journals, equipment and buildings, etc. amount to Rs.43.61 lakhs (priority I). The Committee recommends that even though this is somewhat higher than the figure of Rs.36 lakhs, which is indicated for the Centre, the Commission may accept these recommendations in view of the special circumstances and difficulties of the Centre mentioned in paras 2 and 3 above.

15) In making its recommendations, the Committee has tried to ensure a minimum academic viability for the PG Centre, especially in view of the fact that the University of Goa will grow out of this Centre. On the other hand, the Committee gets an impression from the discussions with the Director of the Centre that the financial viability of the Centre, in particular, with regard to contingent expenditure for administration etc., needs also to be looked into. The present provision for the contingent expenditure does not seem to take into account the needs arising from academic viability, which have been the basis of the Committee's recommendations. The Committee, therefore, recommends that the UGC may look separately into these aspects of the problem of the PG Centre at Goa. In particular, it may look into the implications of the present V Plan proposals on the block grant given by the Goa Government to the PG Centre.

16) In this context (see also para 3), the Committee recommends that an early decision be taken by the authorities concerned, regarding the establishment of the University of Goa. We were informed by the Director of the Centre that in a communication from the UGC dated 19th December 1975, the University of Bombay was informed that since a new University was likely to be established in Goa at an early date, the UGC would limit the

190

Fifth Plan assistance to the urgent requirements of the Centre in respect of books and equipment only. This communication from the UGC appears to have added to the uncertainties and difficulties of the Centre in planning its future. While the Committee has made its recommendations, keeping in view the need to make the existing programmes at the PG Centre academically viable, and to give them a definite direction consistent with the plans being prepared by the Academic Planning Board for the Goa University, the implementation is likely to suffer unless a clear decision (whatever it may be) about the establishment of the University is taken at an early date. Continued uncertainty will only add to the problems of the Centre, which in turn will be inherited by the new University when it comes into existence.

Sd/-

(B.M. Udgaonkar)

..... Sd/- .....

(Kun. A.J. Dastur)

191

Recommendations regarding staff

	<u>Existing</u>	<u>Recommended</u>	<u>Specialization</u>
<b>(1) <u>School of Languages</u></b>			
English	1P+1R+1L	-	
French and Portuguese	1R	1R	French
Hindi	2L	-	
Marathi	1R+1L	-	
<b>(2) <u>School of Humanities and Social Sciences</u></b>			
History	1P+1R	1R	Modern History of erst-while Portuguese colonies in Asia and Africa
Philosophy	1R+1L		
Economics	1R+1L	1P+1R+1L	P in Development Economics. R in Statistics/Econometrics. L in Regional Planning.
Political Science	1R+1L	1P	Development Administration.
Sociology	1L	2R	Social Change; Sociology of Art and Culture.
<b>(3) <u>School of Physical Sciences.</u></b>			
Physics	1R+2L	1P+1R+1L+1T	
Chemistry	2R+1L	1P+1R+2L+1T	Professor and Reader in inorganic/physical/industrial chemistry.
Mathematics	1P+1R+1L (1R vacant)	1R+1L	
<b>(4) <u>School of Biological Sciences</u></b>			
	1R+1L (Microbiology)	1P+2R+2L+1T	Focus on Biological Resources.
<b>(5) Workshop</b>			
	-		3T
	<hr/> 3P+12R+13L	<hr/> 5P+9R+7L+6T	

192

Annexure

Financial Implications

(Rs. in lakhs)

		<u>I</u>	<u>II</u>
Spillover (staff only)	..	0.46	-
Staff	..	11.00	-
Books & Journals	..	8.00	4.00
Equipment*	..	9.00	2.00
Building	..	14.15	5.40
Visiting Professorships	..	0.25	0.25
Research Fellowships	..	0.75	-
Total		43.61	11.65

- \* Rs. 2 lakhs for Physics
- Rs. 2 lakhs for Chemistry
- Rs. 3 lakhs for Biological Sciences
- Rs. 1 lakh- General
- Rs. 1 lakh- Workshop.

\*SLK\*

193

Recommendations regarding buildings

(Rs. in lakhs)

	<u>I</u>	<u>II</u>
Science Block 1800 sq.m.	3.60	1.80
Humanities Block 1800 sq.m.	3.60	1.80
Staff quarters 1800 sq.m.	3.60	1.80
Boys Hostel 300 sq.m.	1.05	-
Girls Hostel 300 sq.m.	1.45	-
Workshop shed 150 sq.m.	0.85	-
	<hr/>	<hr/>
	14.15	5.40
	<hr/>	<hr/>

\*SLK\*

CONFIDENTIAL

(194)

UNIVERSITY GRANTS COMMISSION

Meeting:

Dated : 19th July, 1976

Item No. 34: To consider further the report of the Committee appointed by the Commission to examine the proposal of Andhra University for the organisation of a course in Space Science and Research.

-----

The Commission at its meeting held on 15th December, 1975 considered the report of the Expert Committee appointed by the Commission to examine the proposal of Andhra University for the organisation of a diploma course in Space Science and Technology (Item No. 10) and felt that the report could be considered after the Committee appointed has reviewed the position pertaining to the introduction of the specialised course in Space Science with reference to the letter received from the Chairman, ISRO and its recommendations are available. The note relating to Andhra University's proposal placed before the Commission at the meeting of the 15th December is attached (Annexure-I)

The committee appointed to review the position pertaining to the introduction of a specialised course in Space Sciences had a meeting with Prof. S. Dhawan, Chairman, ISRO and other Scientists from ISRO at the Indian Institute of Science, Bangalore on 29th February, 1976. A copy of the discussions held at the meeting is attached (Annexure-II)

The Committee had indicated that the proposal of Andhra University could be considered in the context of the discussions held and details of courses proposed to be introduced would need to be reviewed and brought into better focus. Prof. B.R. Rao was, therefore, requested to discuss this further with representatives of ISRO. The support by way of facilities and faculty available from other departments, such as Electrical, Electronics, Engineering, Meteorology, Geology and Geophysics, Electronics, Engineering, Meteorology, Geology and Geophysics should also be indicated. The courses should be started on an inter departmental support basis and the new facilities required should be created in the appropriate participating departments, Andhra University with its facilities and possible interaction amount these departments and faculties would perhaps be a suitable location for starting such specialised courses with well defined direction and emphasis in the appropriate area in Space Sciences and establish collaboration with the ISRO.

191

As recommended by the Reviewing Committee, Professor B.R., Rao, Andhra University was requested to take further action in the matter. Professor Rao discussed the question of inter departmental participation in the organisation of these courses with the various heads of departments and informed that while the department of Applied Mathematics has agreed to give one semester course on Orbital Mechanics which has been designed in consultation with the Head of SHAR Division of ISRO and which is already being taught in the Applied Mathematics department. The departments of Electrical, Electronics and Communication Engineering has agreed to give one semester course on Control Systems and the department of Meteorology had agreed to give a half semester course in Satellite Meteorology. A half-semester course in Space biology is being planned and will be taken up by the Staff of the School of Biological Sciences. If necessary, some special lectures will also be arranged by professor of the local medical college.

A copy of the letter received from Prof. B.R. Rao along with its enclosures is attached (Annexure-III). In view of the recommendations of the Reviewing Committee and the information supplied by Prof. B.R. Rao the report of the Expert Committee on the proposal of the Andhra University as contained in Annexure(I) is now to be considered. A summary of the financial implications of the recommendations of the Expert Committee is given below:

I. Non-Recurring:

a) Additional Lab. equipment	Rs. 1,00,000
b) Development of fabrication of equipment in the areas of Rocket Pay Loads and Telemetry.	Rs. 1,00,000
c) Two additional rooms at Field Station.	<u>Rs. 30,000</u>
Total:	<u>Rs. 2,30,000</u>

II. Recurring

a) TA/DA for students and staff for travel	Rs. 10,000 p. a.
b) Materials for Student Projects	Rs. 5,000 p. a.
c) Contingencies	Rs. 5,000 p. a.
d) 10 Studentships @Rs. 250-p.m. for 12 months	Rs. 30,000 p. a.
e) Guest Lectures.	Rs. 5,000 p. a.
	<u>Rs. 55,000 p. a.</u>

Staff

f) 2 Readers, 1 Lecturer, 1 Electronics Engineer and 1 Electronics Technician.

The matter is placed before the Commission for consideration.

E.O./D.S.(D.T.)

Copy of the note placed before the Commission in its meeting held on 15th December, 1975 (vide Item No. 10).

196

-:-

The University Grants Commission at its meeting held on the 28th May, 1973 (Item No.9) while accepting the recommendations of the Expert Committee which examined the proposal of the Gujarat University for developing studies in 'Space Sciences and its applications' resolved that the Universities of Andhra, Calcutta, Kerala, Allahabad and Delhi may be requested to formulate suitable proposals for development of training programme in Space Science in collaboration with Indian Space Research Organisation for consideration of the Commission. The proposal of Kerala University was accepted subsequently on 7th May, 1974 (Item No. 17).

As desired by the UGC the Andhra University submitted its proposal in February, 1975. It was decided that the proposal of the Andhra University may be examined with the help of an Expert Committee consisting of the following members:

1. Prof. B.M. Udgankar, TIFR, Bombay.
2. Prof. C.S.G.K. Setty, Delhi University, Delhi.
3. A representative of the ISRO.
4. Dr. D. Shankar Narayan, Additional Secretary, UGC.

The ISRO deputed Dr. C.A. Reddy, Head of the Physics and Applied Mathematics Division of Vikram Sarabhai Space Centre, Trivandrum as ISRO's representative on the above Committee. Prof. Bhavsar of ISRO also communicated the ISRO's views on the proposal (Appendix I).

The above Committee visited Andhra University on 1st and 2nd May, 1975. A copy of the report of the Committee is given as Appendix II. The main recommendations and observations of the Committee are as follows:

- i) The Committee has recommended that the emphasis in the Andhra University courses would be with regard to Space Science and Space Technology. The Committee considered the value of these courses not entirely from the view point of employment opportunity likely to arise in ISRO but also with the purpose of imparting to the students taking such courses, better skills as regards Instrumentation and application abilities with adequate comprehension of the basic physics involved in the problem and to engage themselves either individually or in small groups on appropriate project work in collaboration with ISRO and the related industries.
- ii) The Department of Physics has a number of staff qualified in various areas related to Space Science and Technology. At the M. Sc. level, the department has five subject areas 1) Electronics, 2) Aeronomy, 3) Accoustics, 4) Spectroscopy and 5) Solid State Physics. The Department also runs a 3-year M.Sc.(Tech.) Course in electronics and students during the 3rd year are introduced to the areas of radar engineering, electronic measurements and industrial electronics, digital

contd.....

principles and applications, antenna theory and propagation, and microwave engineering. Facilities and services of staff in other science departments and the engineering faculty will also be utilized. Additional staff (two Readers and one Lecturer) are recommended in the areas of Information Theory and signal processing, besides an electronics engineer and an electronics technician. The department has laboratory and workshop facilities and has some collaborative research programmes in the field of space science sponsored by Defence Science Organisation and other National Agencies. The Committee feels that the department has substantial infrastructural facilities as well as scientific personnel required to develop a suitable programme for training in space science/technology.

- iii) The Andhra University on the suggestion of the committee has desired to start a diploma course of one-year Post. M.Sc. Post BE/B.Tech., with a limited intake of 8-10 students. The Committee is in agreement with this approach. The Committee, therefore, recommends that the UGC may provide financial assistance to Andhra University for organising a one-year post M.Sc./post BE/B.Tech. diploma course in Space Science and Technology which should not be designated as an M.Phil. course. The course may be organised by the University on the basis of the syllabus suggested by the Expert Committee.
- iv) The intake of students should be limited to not more than 10 students on all-India basis. The course should not be offered if the enrolment falls below 6 students in an academic year. 50% of the seats should be available to students from Universities outside Andhra Pradesh. The students may be paid a studentship of Rs.250/- p.m. (now Rs.400/- p.m.) for a total duration of 12 months. It should be insisted that the programme be well advertised outside the State so as to attract bright students from all over the country.
- v) There should be a formal agreement on collaboration between Andhra University and ISRO regarding this course before the course is sanctioned by the UGC.

A summary of the financial implications of the recommendations made by the Expert Committee is given as under:-

I Non-Recurring

a)	Additional lab. equipment	Rs. 1,00,000
b)	Development & fabrication of equipment in the areas of Rocket Pay Loads and Telemetry	Rs. 1,00,000
c)	Two additional rooms at Field Station	Rs. 30,000

Total :- Rs. 2,30,000

198

II <u>Recurring</u>	Rs.
a) TA/DA for students and staff for travel	10,000 p.a.
b) Materials for Student Projects	5,000 p.a.
c) Contingencies	5,000 p.a.
d) 10 Studentships @ Rs.250/- p.m. for 12 months	30,000 p.a.
e) Guest Lectures	5,000 p.a.
	<hr/>
Total :-	55,000 p.a.
	<hr/>

Staff

- f) 2 Readers, 1 Lecturer, 1 Electronics Engineer and 1 Electronics Technician.

The Committee has recommended that the Course may be organised on an experimental basis for a period of 3 years in the first instance but Dr. C.A. Reddy is of the view that it should be organised initially for a period of 2 years.

The draft report of the Committee was sent to members for approval on 19th May, 1975. While the replies were received from two members on 27th May, 1975 and 16th July, 1975 respectively, the views of the third member were not made available until 15th November, 1975 and hence the delay in placing the report before the Commission. In the meanwhile, a letter has also been received in July, 1975 from Prof. S Dhawan, Chairman, ISRO, giving his views on the need for developing studies in Space Sciences in the Universities. A copy of this letter is given as Appendix. 111.

The matter is placed before the Commission for consideration.

Appendix I +

199

Copy of the letter from Prof. P.D. Bhavsar, Indian Space Research Organisation to Dr. Shankar Narayan, Additional Secretary, UGC dated 3rd April, 1975. No. 09/6/6/9805.

.....

Please refer to your D.O. Letter No. F. 32-3/74(D1(a) dated nil, regarding the two years M.Tech. Course at the Andhra University. We had some correspondence with Prof. B.R.Rao and recently I had also some discussions with Prof. Srirama Rao of Andhra University who visited us in connection with Radio Beacon Experiments to be conducted with beacon Satellites.

In the Space Programme, the need for a generalist does not arise as often as for the requirement of a specialist in a particular branch. Thus at M.Tech. and B. Tech. level in our organisation there is more demand for Engineers who have specialised in a particular branch of Engineering or Science like Microwave Technology or radio Communications etc. Considering this fact, the job potential for generalists who may get training out of these courses is not very much especially when many universities would be conducting these courses. One will have to keep this fact in mind while starting such courses at many universities. Nobody should be prevented from acquiring knowledge but getting a qualification in a particular branch should not become a right for getting a job in that field. With the acute budgetary shortages, Projects are maintained at the minimum level and at the present level of progress, the expansion of ISRO is not as it was during the past decade when it picked up from the scratch.

I have dealt with the above points only to draw your kind attention to the problems one may face, as such specialised training may raise many high expectations in the minds of the boys who may undergo such training, which we shall have to keep in mind.

I would like to depute Dr. C.A. Reddy, Head, Physics & Applied Mathematics Division, Vikram Sarabhai Space Centre Trivandrum, as our Representative in the UGC Expert Committee for examining the Andhra University proposal.

.....

2001

Report of the Expert Committee appointed to examine the proposal of Andhra University for organisation of the course in Space Science & Technology.

----

In pursuance of the suggestion made by the University Grants Commission in 1973, the Andhra University made a proposal for organisation of a one year course at the post-M.Sc. level in space Science & Technology in the Department of Physics, Andhra University in collaboration with the Indian Space Research Organisation. The Committee consisting of the following members was appointed to visit Andhra University and examine this proposal and make suitable recommendations to the Commission both with regard to the organisation of the course as well as the financial requirements:

1. Professor B.M. Udgaonkar
2. Dr. C.S.G.K. Setty, Delhi University
3. Dr. C.A. Reddy, VSSTC, Thumba  
(Representative of ISRO).
4. Dr. D. Shankar Narayan, UGC.

2. The Committee visited Andhra University on 1st and 2nd May, 1975. The Committee examined the facilities available in the department, had discussions with the University authorities and faculty members in the Department of Physics, visited the field station and discussed, in detail, the curriculum and courses of study proposed for the three semesters (12 months) course.

3. The Department of Physics, Andhra University, which has an established school in the field of Aeronomy and Electronics was considered by the Commission as one of the few selected places which could develop facilities for training and research in the field of Space Science & Technology in collaboration with the Indian Space Research Organisation and train scientific personnel required to meet the manpowers needs of a variety of programmes in space sciences and related fields in the country in the next few years. The University was, therefore, requested to develop such a proposal for consideration by the Commission.

4. The University Grants Commission has already initiated two such programmes, one at Gujarat University in collaboration with the Space Application Centre and the Physical Research Laboratory, Ahmedabad and the other at Kerala University in collaboration with the Vikram Sarabhai Space Centre at Trivandrum. The emphasis as well as the orientation of these post-M.Sc. courses to be developed in four or five universities would vary to some extent,

(201)

keeping in view the expertise available in the universities and the employment opportunities likely to occur in the country's space programme as well as in R&D organisations and industries related to communication systems. The emphasis in the Andhra University courses would be with regard to space science, space electronics and instrumentation. The Committee is aware that the employment opportunities within the space programme for students taking the proposed courses are likely to be limited.

The Committee therefore feels that these courses should be organized not merely from the narrow point of view of direct employment opportunities likely to arise in ISRO, but rather from the point of view of imparting to the students taking such courses as awareness of the problems and opportunities opened up as a result of the countries space programme and the necessary skills to tackle some of the problems, along-with an adequate comprehension of the basic physics involved so that the students so trained, and the staff engaged in the training programme, should be able to engage themselves either individually or in small groups, on appropriate projects in collaboration with or with assistance from the Indian Space Research Organisation and related industries. Although the Andhra University had initially proposed organisation of a two-year M.Tech. course at post M.Sc. level, it later considered it desirable to start such a course as a one year post-M.Sc. course with a limited intake of eight to ten students. The Committee is in agreement with this approach.

The Department of Physics, Andhra University, over the past 20 years, has developed into a viable school for training and research in physics particularly in the fields of Aernomy and Electronics. The Department was also invited in 1972, by the University Grants Commission to participate in its programme of special assistance to selected departments as well as in its college Science Improvement Programme-University Leaderships Project in Physics for improvement of undergraduate teaching in Physics in Andhra University.

It should be insisted that the programme be well-advertised outside the State, so as to attract bright-students from all over the country. This may in particular be done by sending a circular to all colleges/universities which have an M.Sc. programme in physics.

At the M.Sc. level the Department offers opportunities for students to be introduced to five subject areas viz., Electronics, Aernomy, Accoustics, Spectroscopy and Solid State Physics. The department also runs a three-year M.Sc.(Tech.) course in Electronics and the students, during the third year, are introduced to the areas of Radar

202

Engineering, Electronics Measurements and Industrial Electronics, Digital Principles and Applications, Antenna Theory and Propagation and Microwave Engineering. The Department has accordingly a number of staff qualified in these areas related to space science and technology and also has laboratory facilities in different branches of Aeronomy, Space Physics and Electronics. The department has adequate workshop facilities and has engaged itself in development, design and fabrication of a number of instruments required for its teaching and research activities. It also has an Ionospheric field station. It has also some collaborative research programmes in the field of space science sponsored by Defence Science Organisation and other national agencies. In view of this, the Committee feels that the department has substantial infrastructure facilities as well as the scientific personnel required to develop a suitable programme for training in space science and technology and to benefit by use of the facilities available at Sriharikota as well as Thumba Centres of the ISRO.

8. Dr. Reddy from VSSTC acquainted the Committee with the facilities that may be available for purposes of training of students and teachers of Andhra University in the Space Centres at Sriharikota and Thumba as well as the extent to which the scientists of these two centres could contribute towards instruction of courses as well as guidance to students in their project work. The ISRO would be able to accept students for appropriate project work for periods of not more than eight to ten weeks, during which time the students could also be given instruction in some units of the courses for which scientific personnel are available in the ISRO Centres only (especially the course on Tracking, Telemetry and Telecommunication). He also made it clear that the ISRO cannot make any commitment with regard to the job-opportunities or absorption of students trained in these courses in the ISRO. However, by the very nature of their training, these students may be expected to have greater employment opportunities not only in ISRO but also in All India, Radio, Stallite Communication Programme, Meterological Department and related electronics industries.

The Committee then discussed, in detail the structure of courses and the course contents as well as the relative emphasis to be given for various instructional courses, laboratory work and also the project work to be done by the students. On the basis of these discussions, the Committee has been able to suggest the structure and contents of a suitable curriculum and outline of which is given below:

203

SEMESTER-1

Course No.	Subject	Marks
521	Space Physics I	100
523	Orbital Mechanics	50
524	Numerical Analysis and Computer Programming	100
525	Advanced Electronics (Space-oriented)	100
526	Antenna Theory and Practical Antenna Systems	50
527	Practicals-I	100
528	Viva Voce	100

SEMESTER-II

621	Space Physics II	100
623	Information Theory and Signal Processing	100
624	Payload Instrumentation and Applications	100
625	Tracking, Telemetry and Telecommand Systems	100
626	Practicals-II	100
627	Viva Voce	100

SEMESTER-III

Practical Training/Project work 300

Each Semester is of 4 month's duration.

(A) First Semester:

- (1) Space Physics I
- (2) Mechanics of Rockets and Satellites and re-entry problems.
- (3) Computer Programming and Numerical analysis
- (4) Advanced Electronics and Antenna Systems
- (5) Practical Work

(B) Second Semester:

- (1) Space Physics II
- (2) Information Theory & Signal Processing
- (3) Rockets and Satellites-Payload Instrumentation and applications

(C) Third Semester

- (1) Project work is one of the ISRO locations or with related industries.
- (2) Tracking, Telemetry and Telecommunication and antenna systems.

204

- (3) Viva Voce (two vivas, one Comprehensive for all courses, and another relating to project work).

The details of these different courses would be prepared by the department and sent to the members of the Committee for their comments.

On the basis of the discussions held with the faculty members and inspection of the facilities available in the department and also the likely support available from the other departments in the Science as well as Engineering Faculty of the University, the Committee makes the following recommendations:

- (a) The UGC may agree and provide financial assistance to the Department of Physics, Andhra University for organising a one-year Post-M.Sc. diploma course in Space Science and Technology. The University could designate this course as a postgraduate diploma course. The Committee does not consider it appropriate for designating this course as an M.Phil. course.
- (b) The course may be organised by the University on the basis of the syllabus suggested by the Expert Committee. The courses can be conveniently divided into well defined units and the sequence of courses worked out in such a fashion that the students can complete most of the course work and related practicals during the first two semesters. This would enable the students and perhaps some faculty also to visit the Space Science Centres of ISRO for purposes of short term courses in certain areas to be given by the scientists of the ISRO and for undertaking project work in collaboration with ISRO scientists. The project work can be completed by the students during the third semester and in a few cases it may be necessary for individual students to take a little longer time. This should be permitted by a flexible arrangement to hold viva-voce individually for each student rather than together for all the students in a batch on a fixed date. But in view of Dr. Reddy holding viva-voce individually has many drawbacks academically and such a procedure may not be necessary. It is expected that the entire course including the project work can be completed within a period of 12 months, divided into three semesters, with an interval of one or two weeks between each semester.

205

(c) The intake of students to such a course should be limited to not more than 10 students and the course should not be offered if less than six students were to enrol for the course in any academic year. Since this course will have to serve the students from various parts of the country, it is suggested that the number of students to be admitted from universities located in Andhra Pradesh should not exceed 50% of the suggested intake and the other 50% of seats should be available to students from universities outside Andhra Pradesh. The programme should be well-advertised outside the State also, to attract bright students from all over the country. This may in particular be done by sending a circular to all colleges/universities which have an M.Sc. programme in Physics. The basic requirement for admission to this course would be an M.Sc. degree with Electronics to take this post-M.Sc. course. The candidates to be admitted to the course should have obtained a first class or high second class at M.Sc. The students admitted to the course may be paid a studentship of Rs. 250/- p.m. for a total duration of 12 months. No studentship is to be awarded to a student if he has not less than 55% marks at M.Sc. In fact, it would be desirable not to admit any student who would not be eligible for the stipend.

(d) The course can be organised with the help of the faculty and facilities available in the Department of Physics and related departments in Science and Engineering faculties. The additional staff required would be mainly for purposes of instruction in the areas of

(a) Solid State Electronics, (b) Space Instrumentation. But Dr. Reddy has suggested (a) Advance Electronics and Antenna Systems, (b) Rocket & Satellite Payload Instrumentation etc., and (c) Telemetry and Telecommand Systems as indicated in the outline syllabus. Similarly additional staff would be required for teaching Information Theory and Signal Processing. The Committee therefore recommends appointment of two Readers in the first two areas and one lecturer in the third.

Since all of the existing faculties have similar research background which is useful for teaching the above subjects is to be implemented rather than filling the posts through promotion of existing personnel. Besides these academic staff, the department may be assisted to appoint an Electronics Engineer in the scale of a lecturer and an Electronics technician in the scale of a Senior Technical Assistant (e) As regards laboratory and other facilities, the department has already built up the necessary infrastructure and any additional requirements of laboratory equipment required for practical work could be obtained within a sum of Rs. 1.00 lakh. Similarly the specific items of equipment to be developed, particularly in the areas of Rocket payloads and telemetry, may be developed by the department by using available workshop facilities. A sum of Rs. 1.00 lakh may be provided in addition for this purpose (f) The other requirements of grant would include the following : (i) An annual grant of Rs. 10,000/- towards meeting T.A. and D.A. of the staff and travel expenses of students for going to the space science centres for their project work and instructional courses.

(ii) Rs. 5,000/- per year to invite guest lecturers, as part of the course programme.

206

- (iii) Rs. 5,000 per annum for materials that may be required in connection with students project work.
- (c) Contingency grant of Rs. 5,000/- per annum
- (d) A provision for ten scholarships for a period of 12 months at Rs. 250/- p.m. Rs. 30,000 per annum.
- (g) There are adequate laboratory facilities for organising this course. However two additional rooms have to be added for purposes of providing instruction at the field station. This would cost Rs. 30,000 only. This is recommended to be given.
- (h) . . . The Committee would like to suggest that the above course with the additional facilities recommended by the Committee may be organised on an experimental basis for a period of three years.
- (y) Two years accoring to Dr. Reddy.

The question of further continuation of this course, including any possible modifications and reorientation in the light of the manpower requirements and absorption of the products in appropriate jobs, could be examined before the end of the third year.

- (i) The Committee suggests that there should be a formal agreement between Andhra University and ISRO with regard to this course, as in the case of the course at Ahmedabad before the course is sanctioned by U.G.C.

The Committee hopes that with the organisation of these courses in the manner suggested by the Committee, it would be possible for the Department of Physics, Andhra University to effectively participate in the training programmes in this important area and also to build up appropriate research programmes in the field of Space Science & Technology within the University system, which could then attract further research support from ISRO and other Agencies.

.....

201

Appendix III

Copy of the letter from Prof. S. Dhawan, Chairman, Indian Space Research Organisation (ISRO) Bangalore to Dr. Satish Chandra, Vice-Chairman, UGC, New Delhi dated 19th July, 1975.

.....

You will kindly recall that when you were last in Bangalore, we briefly discussed the question of starting new departments and courses in Space Science and Technology. As I mentioned to you, without adequate preparation and assessment it would be extremely unwise to start new departments or introduce new courses leading to special degrees in Space Science or Technology at this juncture.

First of all, the present employment opportunities are extremely limited. There is also a more fundamental reason for . . . . . not starting in an adhoc fashion new courses and departments in a highly specialised subject. As I discussed with you, the real point is that there is no case for starting courses and departments in Space Science and Technology when the existing courses as well as departments in the universities, covering Physics, Chemistry, Mathematics and Engineering require updating and improvements in many aspects. Those institutions which wish to emphasis development in Space Science and Technology must carefully determine and take note of the impact, during the last two decades, of rapid developments in Space Science and Technology on the disciplines already being taught in the institutions. In this way a great deal of modernising of curricula, broadening of academic interests and awareness of the inter-relationships between subjects can come about in the university teaching and research.

In the recent past I have received several papers from various institutions asking for comments about new courses they are introducing in Space Science and Technology or the starting of a new department in this area. The latest one has been from the J.K. Institute of Applied Physics, University of Allahabad. It is extremely important that an integrated view is taken in this matter by the Ministry of Education and the University Grants Commission and the enthusiasm of our academics channelled and guided into health lines of work. It would be most unwise to proliferate below-standard activity leading to unemployable students, who would not really be at fault themselves.

I trust you will take suitable steps in this direction. Should you wish any discussion or assistance from ISRO, I would be most happy to cooperate.

.....



to provide in all subjects that contribute towards understanding of problems related to space sciences and technology essential and desirable orientations so that the emerging concepts and technologies could be integrated into the curricula and courses of study in the universities. While such orientation was to be given in different courses at different levels in the universities, it should be recognised that only those departments which have active research programmes in areas related to space sciences were to be considered for instituting specialised courses, either as part of the existing Master's degree courses or a distinct Post M.Sc/B.E. level courses towards meeting the felt-needs of trained manpower in these areas.

2. Currently, knowledge which is systematised as space sciences and technology encompasses a number of areas in physical, biological and earth sciences as well as engineering and technologies. These may include a spectrum of subjects ranging from space physics to meteorology, Propellents and explosives, materials Ceramics, Plastics etc., Electronics Digital Electronics, Remote Sensing to include Spectroscopy in the Electro-magnetic Spectrum, Information Theory and Reliability Statistics, Life Sciences, Mass Communication, Resources Inventory and a host of other related disciplines.

3. In view of the such multi-disciplinary nature of the space sciences and technology (which is not just confined to other Space Physics or Ionospheric Physics), any effort towards organising courses of a special nature in this area should be done with great care. It would be desirable to make an initial effort to provide some of these areas as part of the specialisation in the regular Master's degree programmes and only later depending upon the need, organise specialised courses in a few carefully selected centres. At the same time, it is also true that unless such well defined courses and units of courses are developed as part of a specialised programme, the universities may find it difficult to provide the required orientation and integrate them in the regular courses of study. As such, adapting both these approaches may be useful in the present stage of development and understanding of problems in Space Sciences in India.

4. In considering the role which the universities have to play in newly emerging areas of knowledge, such as, Space Sciences, it is essential to make a distinction between education and research on the one hand and training and product/process oriented research on the other. The former should in large measure be the concern of the universities whereas latter viz., training and product/process oriented research should be the concern of the user agencies. To the extent that the educational system and the user agencies could establish worthwhile interfaces and provide mutual support, it would be helpful for a proper growth and development.

210

of the disciplines concerned. In this context the interaction between the Indian School of Mines and the Coal Mines authority was mentioned as a distinct example where a user agency had authority was mentioned as a distinct example where a user agency had tried to utilise the infrastructure facilities and expertise available in the university system for making a joint effort towards meeting the requirements of education, training and research related to Coal Industry. Perhaps a similar interaction between ISRO and the university system would be of mutual benefit and value. The ISRO could also serve as a catalyst to promote appropriate studies and research in the universities by supporting mutually identified research projects on problems of immediate R & D interest in Space Sciences.

The discussions then took note of the experience gained in the organisation of courses in Space Sciences at Gujarat University and Kerala University in collaboration with the ISRO. Although the courses formulated varied in content and emphasis on Space Sciences and its applications, there was a general feeling that the core of the subject matter was mostly in Space Physics and Electronics. In the case of Andhra University, the proposed courses would include in addition, some aspects relating to Telemetry and remote control systems, Information Theory and Signal Processing, Microwave Engineering Scientific applications of satellites and Instrumentation as well. The fundamental question however would be whether in the course of one year, it would be possible to provide a broad-based training with adequate understanding of the different disciplines constituting the space sciences and technology or would it be desirable to sharpen these courses further? In either case, highly selective admissions should be made and persons who have had good training in Physics, Electrical and/or Electronic Engineering and also from other major subject areas, should be admitted to such courses. The universities attempting such courses should have extensive inter-departmental and inter-faculty collaboration besides establishing working arrangements with the institutions of the ISRO and other user agencies.

On the basis of the above discussions it was possible to arrive at the following conclusions:-

- (1) A Coordination Committee should be set up to serve as a link between the UGC and the ISRO to consider all aspects relating to programmes of research in Space Sciences and Technology to be taken up by the universities in collaboration with the ISRO. The Committee should consist of representatives of ISRO, UGC and one or two university professors.
- (2) The universities should make an effort to integrate in their normal curricula and courses of study newly emerging areas of multi-disciplinary nature. In the matter of setting

(211)

up new courses leading to postgraduate diplomas or degrees, it is necessary to exercise great caution. Such new specialisations should be introduced wherever possible, as part of the normal Master's degree courses. Special training courses should be instituted only where considered absolutely necessary and in consultation with the user agencies.

(3) The courses started at Gujarat and Kerala Universities should be gradually brought into the regular Master's degree programmes to be offered in the university department rather than retaining them as distinct courses. No independent departments in Space Sciences should be set up. The admission qualifications to such courses should be made flexible so that persons from other faculties including engineering faculty could join such courses.

(4) The proposal of Andhra University could be considered in the context of these suggestions and supported by the UGC. However, details of courses proposed to be introduced would need to be reviewed and brought into better focus. Professor B.R. Rao may therefore be requested to discuss this further with representatives of the ISRO. The support by way of facilities and faculty, available from other departments, such as, Electrical, Electronic Engineering, Meteorology, Geology and Geophysics should also be indicated. The courses should be started on an inter-departmental support basis and the new facilities required should be created in the appropriate participating departments. Andhra University with its facilities and possible interaction among these departments and faculties would perhaps be a suitable location for starting such specialised courses with well defined direction and emphasis in an appropriate area in Space Sciences and establish collaboration with the ISRO.

(5) The question of starting courses in other universities as envisaged by the UGC could be taken up at a further date.

.....

Copy of the letter No.P/76 dated 15th June, 1976  
received from the Head of the Department of Physics,  
Andhra University addressed to the Secretary,  
University Grants Commission, New Delhi.

212

SUB:- Starting of M. Tech. course in Space Science & Tech.  
in Andhra University in Vth Plan period.

REF:- Your Lr. No. F.32-3/74, D.I.(A) Dt. 19-5-76.

With reference to your letter cited above, I am to state that  
we have discussed the matter with the Heads of the following three  
departments for inter-departmental participation in the organisation of  
the above course.

1. Dept. of Applied Mathematics.
2. Dept. of Electrical and Electronics & Communication Engg.
3. Dept. of Meteorology and Oceanography.
4. School of Biological Sciences.

The Department of Applied Mathematics have agreed to give a  
one Semester course on Orbital Mechanics, which is already being taught  
in that department. In fact this course has been designed in consultation  
with Dr. Y.J. Rao, Head of SHAR division of Indian Space Research  
Organisation. The department of Electrical, Electronics and Communication  
Engg. has agreed to give a one semester course on Control Systems, which  
is an important subject for control and guidance of Space Vehicles. We  
are sure that this course will be dealt with, by them with co-operation with  
an Engg. bias since the Research on control systems has been a major  
activity of that department. The department of Meteorology will be giving  
a half Semester course on Satellite Meteorology which is already being  
taught as a part of a full semester course, in that department. A half  
semester course in Space Biology is being planned and will be taken up  
by the staff of the School of the Biological Sciences. If necessary some  
special lectures will also be arranged by the Professors of the local  
medical College.

With the above inter-departmental participation in the  
organisation of this course, we are confident of successfully achieving  
the objectives of the course.

We have herewith enclosing (Appendix ) revised course  
structure and syllabi to be taught for the M. Tech. course referred above.  
The 7th Semester (3rd Semester of M. Tech.) Courses are proposed to be  
organised at the Vikram Sarbhai Space Centre, Thumba SHAR, Sriharikota.  
This course involves theory on Telemetry and Telecomm and Project work.  
This has already been agreed upon by Dr. C.A. Reddy, Head of Physics  
and Applied Mathematics Division at VSSC, Thumba, at the time of his  
visit to this department as a member of the UGC visit Committee to  
consider our proposal to start this course. We propose to send one of our  
Teachers along with our students to VSSC to acquaint himself with the  
various Techniques involved so that we can develop them here and take  
over teaching of the course in the 3rd Semester, subsequent years.

contd.....

213

We reiterate that this course will be a successful course and will make a great impact on our students by way of orienting them with the necessary knowledge to serve the needs of the country. We request you to kindly view the proposal favourably and obtain the necessary sanction at an early date to facilitate starting the course during the academic year 1976-77, due to start in August, 1976.

Thanking you,

With kind regards,

214

APPENDIX

DRAFT SYLLABUS

for

the Proposed Post M.Sc. Diploma

in

.....  
Space Science and Technology

PHYSICS DEPARTMENT  
ANDHRA UNIVERSITY

WALTAIR

215

Post M.Sc. Diploma in Space Science and Technology

100 Marks each course.

COURSE

- 521 Space Physics - I
- 522 Mechanics of Rockots and Satellites
- 523 Control systems
- 524 Basic space Electronics
- 525 Practical - I (Space Physics and Electronics)
- 621 Space Physics-II
- 622 Rockets and Satellites - Payload instrumentation and applications.
- 623 Information theory and Satellite Meteorology
- 624 Computer programming and Numerical Analysis
- 625 Practical-II (Space Physics and Electronics)

Note: Initiate reading on the project in the 6th Semester

7th Semester

- 721 Tracking Telemetry and Tele-comm and Antenna systems.  
( VHF and Microwave Antennas )
- 722 Project 200 marks
- 723 Viva Voce 200 marks.

216

Course 521    Space Physics - I

1. Sun and its Radiations :

The Solar atmosphere - Photosphere, Chromosphere and Corona.

Electromagnetic Radiations from Quiet Sun - Visible, X ray and Extreme ultraviolet, Radiowave Emissions, Solar cosmic rays.

Solar activity - Sun spots, sun spot cycles, solar flares, X ray flares, Proton flares.

Solar Wind - Theories, Observations, transport properties of solar wind solar magnetic fields.

2. Earth's Atmosphere.

Hydrostatic equations of the atmospheric structure.

Heat balance in the thermosphere - Radiative Processes,

Heat transfer, thermal structure.

Dissociation and diffusive separation.

Ionosphere - formation of the Ionosphere - Photo absorption - Chapman theory of layer formation -

Parabolic approximation - structure of the Ionosphere.

Exosphere.

3. Plasma and its properties :

Charge Neutrality

Oscillation

Screening

Electron and Ion Plasma Waves

Two - stream Instability

Interaction of charged particles with longitudinal waves.

Excitation of fields by test particles.

4. Waves in Plasma with a steady Magnetic fields:

Transverse dielectric constant and index of refraction.

Reflection of plane transient wave from the Plasma Half - space

signal propagation in loss less isotropic plasma

Gyrofrequency in the Ionosphere.  
 Dielectric tensor of a cold magnetoplasma  
 Effect of collisional loss and DC conductivity  
 Longitudinal oscillations.  
 Refractive indices and Polarizations.  
 Propagation parallel to steady magnetic field.  
 Faraday Effect.

Electron and Ion Whistlers.  
 Propagation perpendicular to steady magnetic field  
 Hydromagnetic waves - Low frequency approximation.  
 Appleton - Hartree formula - High frequency approximation  
 Some properties of Appleton Hartree formula  
 Dielectric tensor of a warm magnetoplasma  
 Warm plasma correction to high frequency waves.  
 Plasma waves and two stream instabilities.

5. Wave propagation in Inhomogeneous Media.

Ray equations in Anisotropic media  
 Effect of Boundary on the Ray  
 Wave propagation in Stratified media  
 The WKB solution

Reflection coefficients for stratified media - high and low frequency approximations.  
 Signal propagation and Reflections in stratified media.  
 True height - problem - Ionosonde

Wave propagation in stratified magnetoplasma  
 Wave propagation in stratified Anisotropic media -  
 General complex equations.

Application of the coupled equation to wave propagation in a stratified magneto plasma.

6. Scattering of Electromagnetic waves

Theory of scattering of EM waves by irregularities.  
 Incoherent Scattering  
 Trope Scatter  
 Meteor back scatter and forward scatter propagation.  
 Scatter from ionospheric irregularities under sporadic E and Spread F conditions.

7. Interaction of Atmospheric waves with the Ionosphere.

Buoyancy Oscillations  
 Acoustic Gravity waves in an isothermal atmosphere.  
 Properties of internal waves.  
 Propagation in a wind stratified Isothermal Atmosphere.  
 Effect of Ion Drag  
 Attenuation due to thermal conduction and viscosity  
 Effect of Internal waves in the Ionospheric F region.  
 Effect of a wind shear in the Ionospheric E region.

218

Text Books:

1. Theory of Ionospheric waves by Yeh and Lui  
International Geophysical series - Volume 17  
Academic Press 1972.
2. 'Solar Terrestrial Physics' by Akasefu and Chapman  
Oxford University Press 1972.
3. Introduction to Ionospheric Physics by H. Rishbeth  
and O.K. Garriott, Academic Press, 1969.
4. The Upper atmosphere - Meteorology and Physics by  
R.A. Craig, Academic Press.
5. The Propagation of electromagnetic waves in Plasmas  
by V.L. Ginzberg. Pergamon Press.

Course 522 MECHANICS OF ROCKETS AND SATELLITES.

- Principle of the Rocket
- Rocket fuels and nozzles
- Thrust equations and thrust optimization
- Rocket flight trajectory - Range estimation.
- Rocket in Spin and stability problems
- Drag and its estimation.

Introduction to Orbital Mechanics :

Central force problem: Formulation of the problem; conservation of angular momentum; conservation of energy Kepler's law. Orbits under non-Newtonian attraction, Position on the Orbit. Determination of orbits. Expansions in Elliptic motion, The two body problem. Disturbed motion, Introduction to n-body problem. Conservation of linear and angular momenta. Conservation of energy. Lagrange - Jacobi formula. Sundman's theorem; The virial theorem. The three body problem. Jacobi co-ordinates, Euler's solution. The circular restricted problem. Equilibrium solutions. The curves of zero velocity. Introduction to Hamilton - Jacobi theory, Application of canonical transformations. Generating functions. Applications to the central force and restricted problems. Equilibrium points and their stability. Conditions for stability. The stability of libration points. Perturbation theory. Variation of parameters. First order perturbation theory and the error in the first order theory. The equations of disturbed elliptic motion. The perturbation equations in analytic form. Alternative forms. Introduction to lunar theory.

....

Scope and treatment as in 'Mathematical Introduction to Celestial Mechanics'. Prentice - Hall, Inc., Englewood Cliffs. New Jersey, 1966, by Harry Pollard.

220

1. General Concept of Control system design :

Introduction: Open and closed -loop control systems, Modern control system applications - Definition of nomenclature and symbols.

2. Mathematical Techniques in control systems :

Complex variables and the  $s$ -plane, Fourier series and the Fourier transform - The Laplace Transform, useful Laplace Transforms and Important properties of the Laplace Transform, Solution of differential equations using the Laplace Transform.

The transfer-function concept, Transfer functions of systems, Review of matrix algebra, State-space concepts Application of the state-space method.

3. State equations and Transfer-function Representation of Physical linear control system elements.

Transfer functions and state-space representation of typical mechanical, Electrical and Hydraulic control system devices.

4. Second order systems and performance criteria:

Characteristic responses of typical feedback control systems, stability, sensitivity, static accuracy, Transient response, performance indices, Zero error systems, The ITAE performance criterion for optimizing the transient response and some practical considerations.

5. Techniques for determining Control-system Stability:

State-space determination of the characteristic equation Routh-Hurwitz and Nyquist stability criteria, Bode-diagram approach. Digital Computer techniques for obtaining the open loops and closed loop frequency response and the time-domain response. The Root-locus method for Negative and positive feedback control systems. Control techniques for plotting the root locus.

6. Linear feedback system design :

Cascade and minor loop feedback compensation techniques, The Bode-diagram approach to design, Design utilizing the root-locus, control system design with linear-state-variable feedback.

7. Non linear feed back control systems

Non-linear differential equations, Properties of linear systems that are not valid for non-linear systems, certain

221

characteristics peculiar to non-linear systems, The describing function concept and its use to predict oscillations, Digital computer computation of the describing function, Piecewise linear approximations, State-space analysis, the Phase plane and construction of the phase portrait, Design of nonlinear feedback control systems employing phase-plane method, the Liapunov stability criterion, Popov's method and the generalized circle criterion.

8. Optional Control Theory and applications :

Characteristics of the optional control problem, controllability and observability, Pontryagin's Maximum principle and application to space attitude control problem.

Text Book Recommended:

Modern Control system theory and application  
by Stanley M. Shinnars.  
Addison-Wesley Publishing Company.

222

COURSE 524 SPACE ELECTRONICS

1. GROUND BASED IONOSPHERIC SOUNDING TECHNIQUES :

Ionosonde (C recorder ), Drift measuring techniques  
D1, D2, D3, Ionospheric Absorption measurements Techniques  
A1, A2, A3, Motor Reader (back scatter), Cross modulation  
and incoherent scatter equipment, Partial reflection setup.

2. POWER SUPPLIES : Solar Cells, Nuclear Cells, Thermionic Cells and Fuel cells.

3. TRANSDUCERS: Sensing of Physical Phenomena; General device and performance characteristics, description of basic transducers; commercially available transducers; sensing of position; techniques for electronic trajectory measurement systems;

4. MINIATURISATION : Integrated circuit theory and techniques; printed circuits and encapsulation.

5. MODULATION : Pulse code, amplitude, duration, width and position modulation techniques.

6. MULTIPLEXING : Frequency and time division; composite and hybrid systems; Frequency spectra and bandwidth considerations.  
Signal to noise ratio and efficiency of bandwidth utilisation.

7. MAGNETIC TAPE RECORDERS : Characteristics of storage devices, recording principles, Physics of recording, tape transports, digital recording, Data processing systems.

8. COMMUTATION : Electronic Commutation and documentation techniques. Radio link losses.

9. DEMODULATORS : Phase locked frequency-compressive detectors for FM-FM telemetry; Phase sensitive detectors.

10. MISCELLANEOUS : Comparators; Varac frequency multipliers; voltage controlled oscillators (Phase shift and reactance controlled), frequency converters, A to D and D to A systems.

11. TEXT BOOKS : 1. Hand book of Telemetry and Remote control - Gruenberg, E.L.

Reference Books: Space vehicle Electronics - David Bruce 1964, Van Nostrand.

.....

(223)

## 1. Ionospheric Processes:

Ion-Atom and Ion-Molecule processes: Ion-Atom and Ion-Molecule reactions  $O^+$  reactions,  $N_2^+$  reactions,  $O_2^+$  reactions,  $N^+$  reactions, and  $Ho^+$  reactions.

Electron-Molecule processes: Dissociative recombination processes, Negative ions.

Basic Kinetic properties of the upper atmospheric gas. Collision and energy transfer-electron-neutral gas and-ion collisions, Ion-neutral gas collisions and Ion-ion collisions, The Thermal conductivity -electron, ion and neutral gas temperatures -Diffusion, Molecular diffusion, eddy diffusion.

Ion Chemistry in the upper atmosphere: Ozonosphere: The Ionosphere, general, E and F regions, D region The top side Ionosphere and Exosphere: = Helium, Hydrogen-Positive ions, electrostatic equilibrium, chemical reactions of the diffusing gasses, diffusive equilibrium in the presence of geomagnetic field, plasmasphere, temperature in the plasmasphere and beyond, the polar ionosphere and the polar wind.

## 2. Morphology of the Ionosphere:-

D-region.	E region	F <sub>1</sub> - Region
F <sub>2</sub> region-Anomalies	Sporadic E	Spread F
Topside Ionosphere	Ionospheric storms	

3. Geomagnetism :

The Earth's field-the magnetic elements, isomagnetic maps, the geomagnetic dipole field, field lines and dipole time, the eccentric dipole, its field and the associated coordinates and time, geomagnetic conjugate points; geomagnetic and related conjugacy, non-dipole components.

The Secular variation of the earth's magnetic field-non-dipole components, the Westward drift motion.

Dynamo action in the core-self exciting dynamo, non-steady dynamo action.

Electric conductivity of the earth

## 4. Formation of the Magnetosphere:

Motion of charged particles in a dipole field

Plasma impact on a dipole field.

Plasma flow around a two dimensional dipole, plasma

flow around a three dimensional dipole

The Magneto Hydro Dynamic (MHD) approximation-MHD

discontinuities, hydromagnetic flow around the magneto-

sphere-formation, comparison of observation with theory,

the bow shock, the magnetosheath, the magnetotail.

224

The role of interplanetary magnetic fields - Dungey's theory and the open magnetosphere model - electric currents in the magnetotail - The Alfvén-Karlson theory.

#### 5. Dynamics of Magnetospheric Plasma:

The motion of charged particles in a magnetic field - Gyration-drift motion due to a uniform electric field - Alfvén centre motion in a static non-uniform magnetic field.

Alfvén centre motions in earth's magnetic field, magnetosphere, geomagnetic field and in time varying electromagnetic field.

The Radiation Belts - the inner belt protons, outer belt protons, electrons.

The Plasma in the Magnetosphere - Distribution of Plasma in the magnetosphere - The plasmasphere and the plasma sheet, the polar cusp.

Motions of the Magnetospheric plasma - Plasma convection driven by the quiet-time solar wind, identification of moving magnetic field lines, Co-rotation of the magnetospheric plasma, coupling between the ionosphere and magnetosphere, plasma motions driven by dynamo action, motions of artificially produced plasma clouds in the magnetosphere, polar magnetic variations.

Electromagnetic waves in the magnetosphere - propagation characteristics, M waves in a partially ionised plasma, the whistler mode, Geomagnetic micropulsations.

The quiet-time Magnetosphere - open magnetosphere - Solar particle events, penetration of the magnetosheath plasma, field-aligned currents, electric fields, polar magnetic variations - Merging modes.

#### 6. Magnetospheric storms: -

Solar flare effects on the terrestrial ionosphere - Ionization by X rays, solar flare effects on the ionospheric electric currents.

Entry of Solar protons into the Magnetosphere.

The collision of the interplanetary shock wave with the Magnetosphere.

The geomagnetic effect of collision; the storm sudden commencement - the morphology of sudden commencement variations.

225

The Magnetosphere in the post - shock plasma flow initial phase.

The contact of the shock-driving solar plasma with the Magnetosphere. An introduction to the main phase of the magnetosphere storm - The main phase as the period of a succession of magnetosphere substorms.

Magnetosphere substorms.

The formation of the proton belt and the redistribution of magnetosphere plasma.

The development of the main phase.

Storm effects on the ionosphere and the plasma sphere the ionospheric storm, the storm-time variations of the plasma sphere, the heating of the thermosphere, sub visual red arcs in middle latitudes.

.....

TEXT BOOKS

1. Solar Terrestrial Physics - Akasofu and S. Chapman 1972 - Oxford Publication.
2. Introduction to Ionospheric physics - H. Rishbeth and C.K. Garriot - Academic Press.
3. Chemistry of the Ionosphere - A.D. Danilov Plenum Press.

.....

226

Post M.Sc Diploma in Space Science and Technology  
Course 622

Rocket and Satellite Payloads Instrumentation and Applications

1. Rocket Instrumentation :

Rocket experiments - Rocket granade experiments - Falling sphere density experiment - Earth's magnetic field Air glow measurements - UV, X ray and ray omission during solar flares - Ionospheric experiments - Electron and Ion density and electron temperatures - Impedance and conductivity - Radio propagation - Magnetic and electric fields - Neutral atmosphere structure, Low ionosphere dynamics.

2. Satellites:

Design of scientific satellites - Introduction - Common elements in satellite design - Communication sub-system (CS) - CS interfaces - CS design - Power supply sub-systems Batteries and solar cells - Radio - Isotropic thermoelectric generators, On Board Propulsion sub-system - Attitude control sub-system - Environment control sub-system Guidance and control sub-system Computer sub-system - Structural sub-system Engineering instrument sub-system.

3. Satellite Payloads:

Direct measurements from satellites - Accelerometers - Ram pressure gauges - Ionization gauges - Temperature measurements - Neutral mass spectrometers - Atmospheric sample collection - Satellite optical instruments - Radiometers and Photometers - Spectrometers and spectro-photometers - Polarimeters - Ionospheric experiments - Radio propagation experiments - Satellite to Satellite propagation - Top side sounder - Electric field meters - Standing wave impedance probes - RF impedance probes - Langmuir Probes - Plasma Probes Ion mass spectrometers - Experiments in trapped radiation zone - GM counters Proportional counters - Ionization chambers - Channel multipliers - Scintillators - Cerenkov detectors - Cadmium sulphide cells - Solid State detectors - Magnetic spectrometers - Electrostatic analysers - Satellite magnetometers - Search coil magnetometers - Flux gate magnetometer - Proton procession magnetometer - Alkali vapour magnetometers - Helium magnetometers -

Micrometeorite experiments - Statellite goodacy -

Solar Physics instruments and experiments : Instruments and experiments for analysing solar electromagnetic flux Spectrometers - Spectroheliograph - Experiments on Solar wind.

227

Satellite astronomy experiments :- Photometers -  
Radio astronomy experiments - Cosmic ray experiments -  
Biological experiments on scientific satellites -

TEXT BOOKS :

1. Scientific Satellites, Vol.I and 2 by William R. Corliss NASA - SR - 33
2. Dividends from Space - by Harway, Adams.

Reference Books :

1. Sounding Rockets - by Newell, H.3. McGraw Hill Book Co.
2. Annals of IGY - Pergamon Press, London, 1959
3. Rocketry and Space Exploration - by Haley - Van Nestrand 1959
4. Artificial Satellites of the Earth - by Petrov Hindustan Publishing Corpn.
5. Artificial Earth Satellites ( 6 volumes ) Plenum Press (Russian Translation) 1960-61
6. Aeronomy Report No.10, University of Illinois, URBANA.

.....

228

POST M.SC. DIPLOMA IN SPACE SCIENCE AND TECHNOLOGY  
COURSE 623 INFORMATION THEORY AND SATELLITE  
METEOROLOGY

....

Information Theory(Half- Semester course)

Information sources definition of information-  
the Markov sources - Entropy and some properties of entropy  
extension of Markon sources- Coding of information sources  
Some properties of codes -Uniqually decedable codes-  
instantaneous codes- the craft and Mc Million' inequality  
Average length of a code - Shannou's first theorem - Binar  
compact code and extension- coding efficiency and redūm  
dancy channels and mutual information- probability re-  
lations in a channel - generalisation of Shannon's first  
theorem- Noiscloss and deterministic channels - channel  
capacity - Conditional mutual infor-mation - Reliable mess  
through unreliable channels - error probability and  
decision rules- The fane bound- error to correcting codes  
Shannon's second theorem and applications-

SATELLITE METEOROLOGY (HALF- SEMESTER COURSE)

Weather and Climate; normal and disturbed meteorological  
features of the atmosphere with special reference to India  
and the neighbourhood- thunderstorms, monsoons, cyclones  
western disturbances, etc.

Meteorological observations from ground, aircraft, bay  
and rockets, Satellites as geophysical instruments.  
Meteorological satellites and their orbital character  
stics- equatorial orbiting, Polar orbiting, station  
and sun synchronous satellites.

Sensors for weather satellites, sensors for day light  
pictures, radiation sensors- Satellite Infra-Red Specto-  
meter (SIRS), Sclective Chopper Radiometer (SCR), Micro  
wave approach. Use of satellite data in weather analysis  
and forecasting; cyclone warning; rainfall and flood  
forecasting; snow surveying; Ocean surface temperatures and  
ocean currents; Aviation, Upper winds; Agricultures and  
Environmental studies.

POST M.SC. DIPLOMA IN SPACE SCIENCE AND TECHNOLOGY  
COURSE- 624. Computer Programming and Numerical analysis

1. Computer Programming:

Fortran-4- Introduction to programming- flow charts- Fortran const:  
and variables- operation and expressions- Mathematical functions-  
Arith-etic statements Input and output statements- control  
statements- Functions and subroutines- Specification statements  
Errors- gratical evaluation of functions- Programme development-  
some studies.

22

## II. Numerical Methods of Analysis:

- (a) Root of equations: Methods of successive approximation-  
The Newton Raphson method- comparison of methods - Roots of  
Polynominals- Simultaneous equation complex roots- Case study.
- (b) Evaluation of Integrals:  
The Trapezoidal rule- The Simpson's rule - Gauss quadrature-  
Comparison of methods - Case study
- (c) Similtaneous Linear Algebraic Equations;  
Gauss elimination- Iterative methods of solution- Comparision  
of methods- case study - Least square curve fitting.
- (d) Ordinary differential equations;  
Taylor series solution- Range- Mutta Methods- Predictor-  
Corrector methods- comparison of method case study-  
flight of supersonic aircraft.
- (e) Partial differential equations:  
Difference equations- elliptic equations- The Difference  
solution of elliptic difference equations- Hypo  
bolic equatio ns and their solution- parabolic  
equations and their solution- Case study.

### TEXT BOOKS:

1. Numerical methods and Fortron Programming by Daniel. D.Mc.  
Cracton and William S. Dorn Wiley International Edition.

### Reference Books:

1. Introduction to FORTRAN by Plumb, S.C. (Mc. Graw Hill).
2. Numerical Mathematical Analysis by Searberengh (Oxford and IBM).
3. Mathematics for Physics and Chemistry by Margone and Murphy  
(Van Nostrand)

### COURSE -721

### Telemetry, Telecommand, Tracking and Antenna Systems

#### 1. Telemetry

Introduction to Telemetry - Telemetry Techniques- FM/FM,  
Pluse Amplitude Modulation, Pulse Duration Modulation  
Pulse Code Modulation Signal conditioners- Sub carrier oscillators  
RF Link.

p. t. o.

224  
The role of interplanetary magnetic fields - Dungey's theory and the open magnetosphere model - electric currents in the magneto tail - The Alfvén-Karlson theory.

#### 5. Dynamics of Magnetospheric Plasma:

The motion of charged particles in a magnetic field - Gyration-drift motion due to a uniform electric field - Alfvén centre motion in a static non-uniform magnetic field.

Alfvén centre motions in earth's magnetic field, magnetosphere, geomagnetic field and in time varying electromagnetic field.

The Radiation Belts - the inner belt protons, outer belt protons, electrons.

The Plasma in the Magnetosphere - Distribution of Plasma in the magnetosphere - The plasmasphere and the plasma sheet, the polar cusp.

Motions of the Magnetospheric plasma - Plasma convection driven by the quiet-time solar wind, identification of moving magnetic field lines, Co-rotation of the magnetospheric plasma, coupling between the ionosphere and magnetosphere, plasma motions driven by dynamo action, motions of artificially produced plasma clouds in the magnetosphere, polar magnetic variations.

Electromagnetic waves in the magnetosphere - propagation characteristics, M waves in a partially ionised plasma, the whistler mode, Geomagnetic micropulsations.

The quiet-time Magnetosphere - open magnetosphere - Solar particle events, penetration of the magnetosheath plasma, field-aligned currents, electric fields, polar magnetic variations - Merging modes.

#### 6. Magnetospheric storms:

Solar flare effects on the terrestrial ionosphere - Ionization by X rays, solar flare effects on the ionospheric electric currents.

Entry of Solar protons into the Magnetosphere.

The collision of the interplanetary shock wave with the Magnetosphere.

The geomagnetic effect of collision; the storm sudden commencement - the morphology of sudden commencement variations.

225

The Magnetosphere in the post - shock plasma flow initial phase.

The contact of the shock-driving solar plasma with the Magnetosphere. An introduction to the main phase of the magnetosphere storm - The main phase as the period of a succession of magnetosphere substorms.

Magnetosphere substorms.

The formation of the proton belt and the redistribution of magnetosphere plasma.

The development of the main phase.

Storm effects on the ionosphere and the plasma sphere the ionospheric storm, the storm-time variations of the plasma sphere, the heating of the thermosphere, sub visual red arcs in middle latitudes.

.....

TEXT BOOKS :

1. Solar Terrestrial Physics - Akasofu and S. Chapman 1972 - Oxford Publication.
2. Introduction to Ionospheric physics - H. Rishebeth and C.K. Garriot - Academic Press.
3. Chemistry of the Ionosphere - A.D. Danilov Plenum Press.

.....

226

Post M.Sc Diploma in Space Science and Technology  
Course 622

Rocket and Satellite Payloads Instrumentation and Applications

1. Rocket Instrumentation :

Rocket experiments - Rocket granade experiments - Falling sphere density experiment - Earth's magnetic field Air glow measurements - UV, X ray and ray omission during solar flares - Ionospheric experiments - Electron and Ion density and electron temperatures - Impedance and conductivity - Radio propagation - Magnetic and electric fields - Neutral atmosphere structure, Low ionosphere dynamics.

2. Satellites:

Design of scientific satellites - Introduction - Common elements in satellite design - Communication sub-system (CS) - CS interfaces - CS design - Power supply sub-systems Batteries and solar cells - Radio - Isotropic, thermoelectric generators, On Board Propulsion sub-system - Attitude control sub-system - Environment control sub-system Guidance and control sub-system Computer sub-system - Structural sub-system - Engineering instrument sub-system.

3. Satellite Payloads:

Direct measurements from satellites - Accelerometers - Bar pressure gauges - Ionization gauges - Temperature measurements - Neutral mass spectrometers - Atmospheric sample collection - Satellite optical instruments - Radiometers and Photometers - Spectrometers and spectrophotometers - Polarimeters - Ionospheric experiments - Radio propagation experiments - Satellite to Satellite propagation - Top side sounder - Electric field meters - Standing wave impedance probes - RF impedance probes - Langmuir Probes - Plasma Probes Ion mass spectrometers - Experiments in trapped radiation zone - GM counters Proportional counters - Ionization chambers - Channel multipliers - Scintillators - Cerenkov detectors - Cadmium sulphide cells - Solid State detectors - Magnetic spectrometers - Electrostatic analysers - Satellite magnetometers - Search coil magnetometers - Flux gate magnetometer - Proton procession magnetometer - Alkali vapour magnetometers - Helium magnetometers -

Micrometeorite experiments - Satellite goodacy -

Solar Physics instruments and experiments : Instruments and experiments for analysing solar electromagnetic flux Spectrometers - Spectroheliograph - Experiments on Solar wind.

207

Satellite astronomy experiments :- Photometers -  
Radio astronomy experiments - Cosmic ray experiments -  
Biological experiments on scientific satellites -

TEXT BOOKS :

1. Scientific Satellites, Vol.I and 2 by William R. Corliss NASA - SR - 33
2. Dividends from Space - by Harway, Adams.

Reference Books :

1. Sounding Rockets - by Newell, H.3. McGraw Hill Book Co.
2. Annals of IGY - Pergamon Press, London, 1959
3. Rocketry and Space Exploration - by Haley - Van Nostrand 1959
4. Artificial Satellites of the Earth - by Petrov Hindustan Publishing Corp.
5. Artificial Earth Satellites ( 6 volumes ) Plenum Press (Russian Translation) 1960-61
6. Aeronomy Report No.10, University of Illinois, URBANA.

.....

228

POST M.SC. DIPLOMA IN SPACE SCIENCE AND TECHNOLOGY  
COURSE 623 INFORMATION THEORY AND SATELLITE  
METEOROLOGY

....

Information Theory (Half- Semester course)

Information sources definition of information-  
the Markov sources - Entropy and some properties of entropy  
extension of Markov sources- Coding of information sources  
Some properties of codes -Uniqually decodable codes-  
instantaneous codes- the Kraft and McMillan's inequality  
Average length of a code - Shannon's first theorem - Binary  
compact code and extension- coding efficiency and redundancy  
channels and mutual information- probability relations  
in a channel - generalisation of Shannon's first  
theorem- Noiseless and deterministic channels - channel  
capacity - Conditional mutual information - Reliable message  
through unreliable channels - error probability and  
decision rules- The channel bound- error correcting codes  
Shannon's second theorem and applications-

SATELLITE METEOROLOGY (HALF- SEMESTER COURSE)

Weather and Climate; normal and disturbed meteorological  
features of the atmosphere with special reference to India  
and the neighbourhood- thunderstorms, monsoons, cyclones  
western disturbances, etc.

Meteorological observations from ground, aircraft, balloons  
and rockets, Satellites as geophysical instruments.  
Meteorological satellites and their orbital characteristics-  
equatorial orbiting, Polar orbiting geostationary  
and sun synchronous satellites.

Sensors for weather satellites, sensors for day light  
pictures, radiation sensors- Satellite Infra-Red Spectro-  
meter (SIRS), Selective Chopper Radiometer (SCR), Micro  
wave approach. Use of satellite data in weather analysis  
and forecasting; cyclone warning; rainfall and flood  
forecasting; snow surveying; Ocean surface temperatures and  
ocean currents; Aviation, Upper winds; Agriculture and  
Environmental studies.

POST M.SC. DIPLOMA IN SPACE SCIENCE AND TECHNOLOGY  
COURSE- 624. Computer Programming and Numerical analysis

1. Computer Programming:

Fortran- Introduction to programming- flow charts- Fortran constants  
and variables- operation and expressions- Mathematical functions-  
Arithmetic statements Input and output statements- control  
statements- Functions and subroutines- Specification statements-  
Errors- graphical evaluation of functions- Programme development-  
some studies.

221

## II. Numerical Methods of Analysis:

- (a) Root of equations: Methods of successive approximation-  
The Newton Raphson method- comparison of methods - Roots of  
Polynominals- Simultaneous equation complex roots- Case study.
- (b) Evaluation of Integrals:  
The Trapezoidal rule- The Simpson's rule - Gaussquadrature-  
Comparison of methods - Case study
- (c) Similtaneous Linear Algebraic Equations;  
Gauss elimination- Iterative methods of solution- Comparision  
of methods. case study - Least square curve fitting.
- (d) Ordinary differential equations;  
Taylor series solution- Range- Mutta Methods- Predictor-  
Corrector methods- comparison of method case study-  
flight of supersonic aircraft.
- (e) Partial differential equations:  
Difference equations- elliptic equations- The Difference  
solution of elliptic difference equations- Hypo  
bolic equations and their solution- parabolic  
equations and their solution- Case study.

### TEXT BOOKS:

1. Numerical methods and Fortron Programming by Daniel. D.Mc.  
Cracton and William S. Dorn Wiley International Edition.

### Reference Books:

1. Introduction to FORTRAN by Plumb, S.C. (Mc. Graw Hill).
2. Numerical Mathematical Analysis by Searberengh (Oxford and IBM).
3. Mathematics for Physics and Chemistry by Margone and Murphy  
(Van Nostrand)

### COURSE -721

### Telemetry, Telecommand, Tracking and Antenna Systems

#### 1. Telemetry

Introduction to Telemetry - Telemetry Techniques- FM/FM,  
Pluse Amplitude Modulation, Pulse Duration Modulation  
Pulse Code Modulation Signal conditioners- Sub carrier oscillators  
RF Link.

230

Techniques:- The FM signal, Bandwidth, Sub-carrier oscillator, Telemetry Transmitter- PAM- Data Sampling Aliasing, Time division, Multiplexing, Commutation, decommutation, Electronic commutators Synchronization PAM Systems- PDM- IRIG Standards for PDM Telemetry Applications of PDM- Encoding systems- PDM multiplex components- Transmission of PDM signals- PDM receiving and recording systems- PCM - Format of the PCM signal Multiplexing- Encoding- Parity generation- PCM recovery techniques.

RF link- Transmitters, Receivers, Preamplifiers Multy couplers, phase lock techniques, Diversity techniques Telemetry system design. Satellite Telemetry.

2. Telecommand:

Principles of vehicular guidance and control- Food systems- Performance evaluation- Simulation and man computation- computers in control- Real time delay Accelerometers- Gyroscopic instruments- Stable Plate and Prime movers, Remote handling- Manipulatory sub system- Locomotion sub system- Command and data link- Control console and power- sub-system- Satellite orbital guidance and control.

3. Tracking:

Langrangean Equation for the elements- Satellite tracking- Radio Interferometer tracking- Tracking by highly directioned antennae optical tracking- Numerical methods for predicting satellite trajectories- Baker numm camera passes tracking- principal effect of earth's irregularities stability control.

4. Antenna Systems:

(i) Antenna arrays - Linear arrays- Antenna synthesis Teheby scheff distribution wave polarisation.

(ii) Secondary sources and Aperture Antennas - Electric and magnetic current sheets as sources- Induction and equivalence theorems - Field of a Huygen's Source- Radiation from the open end of a co-axial line- Radiation through and aperture on a conducting screen - Radiation from EM horns. comple- mentary screens and slot antennas- Babinets principle- slotted cylinder antennas.

(iii) Broadband Antenna design:

Frequency independent antennas- Log periodic antennas Types of LP Antennas.

(iv) Types of antennas.

Holical antennas- Reflector type antennas- ~~lense~~ type radiators. Scanning antennas VHF, UHF communication antennas- Radar antennas- Direction finding antennas- Radio Telescope antennas.

Books

231

1. Acrospace Telemetry HL Stiltz (Text Book)
2. Hand Book of Telemetry and Remote Control- Grounber  
(Reference)
3. Electromagnctic waves and Radiating systems (Text Books) EC Jordon
4. Antenna Engineering Handbook- Henry Jasik .Reference
5. Observing earth Satellities- D. King hele (Text Book)
6. Control systems theory- Goel Elgard (Reference)
7. Antenna Theory Part I and II R.E. Collin and F.J. Zucker (Reference).

\*\*\*

Confidential

UNIVERSITY GRANTS COMMISSION

233

UGC Meeting:

Date: 19th July, 1976.

- Item No.: 35 To consider the report of the Review Committee appointed by the Gujarat University for the survey of facilities and organisation of Post-graduate teaching in its affiliated colleges.

...

Gujarat University appointed a Review Committee for the survey of facilities and organisation of Post-graduate teaching in its affiliated colleges. The Committee consisted of the Vice-Chancellor Gujarat University, Dr. D.T. Lakdawala and Dr. D. Shankar Narayan, Addl. Secy. UGC. The Committee held three meetings and the minutes of the third and final meeting received from the VC, Gujarat University are enclosed (appendix-I). The salient features of the report are as under:

- (i) that as a result of the State Government of Gujarat's accepting to implement the revised scales of pay in the universities and colleges in the State of Gujarat no teacher shall be eligible to receive extra payments for doing P.G. teaching as has been the practice so far. On an analysis conducted by the Gujarat University none of the 51 colleges engaged in P.G. classes has the necessary staff essential for carrying on the PG work in accordance with the UGC norms.
- (ii) that Gujarat University's decision to allow the students to appear privately at the M.A. level will result in many of the students taking advantage of this provision rather than enrol themselves in the affiliated colleges for pursuing their PG studies. The University has also further upgraded the conditions of eligibility for admission to P.G. class to 2nd class in the aggregate. In view of the above factors the University will have to assume full responsibility for P.G. instruction in the teaching departments of the university. And as such the various affiliated PG colleges will have to discontinue PG classes either immediately or when the present batch of students has completed the final year of MA/M.Sc./M.Com. classes.
- (iii) The Committee was informed by the Gujarat University that the university would discontinue organisation of evening classes for PG students henceforth. This would consequently reduce the work-load of the concerned departments which could be diverted to accommodate more students in day classes. The university has further stated that it would be possible for them to provide additional seats to accommodate the candidates who would be seeking admission for various science and humanities subjects. As regards the subjects of Geography, Ancient Indian

234

Culture, Home Science, Geology and Urdu where university departments do not exist and the university feels that it may not be desirable to start these departments at this stage and in view of this the colleges already doing these courses may, therefore, be permitted to continue as long as demand exists. In the case of Commerce, the Committee has indicated that it would be necessary for the university to start a department of Commerce and organise M.Com. classes directly in the university department. (The Commission has already accepted the proposal of the university to start a department of Commerce)

(iv)

The Committee observed that the Gujarat University would be able to centralise P.G. instruction in all subjects in its teaching departments and the Committee feels that this may be an opportune time to dispense with the unsatisfactory situation that has obtained so far in the matter of organisation of PG courses in the affiliated colleges. The Committee has also said that at a future date as and when the demand for R.E. education builds up, the university could consider opening a P.G. Centre in an appropriate location and away from the university headquarters, in accordance with the guide-lines that the UGC may lay down for development of University Centres for Postgraduate studies.

The above recommendations of the Review Committee have been accepted by the Gujarat University and the same are being implemented. The VC, Gujarat University has informed that all the subject Centres till now working in the colleges have been informed that Post-graduate teaching except in the case of Geography, Ancient Indian Culture, Home Science, Geology and Urdu will be undertaken in the university's own Post-graduate departments from June, 1976 onwards. The letter received from the VC, Gujarat University in this regard is enclosed (appendix-II).

In view of the above recommendations of the Review Committee which have been accepted by the Gujarat University and are being implemented from the 1976-77 academic year, a question has arisen whether the assets acquired by the PG colleges in the shape of books, equipment etc. mainly of Gujarat University with the grants given by the UGC on hand sharing basis so far in earlier plan periods may be retained by the colleges in the interest of teaching and research and these assets may not be taken away by the Gujarat University.

The matter is placed before the Commission for consideration.

EC D4(b)/D3(D4)

GUJARAT UNIVERSITY-AHMEDABAD

The Third and final meeting of the Post-graduate Review Committee was held at 11-30 a.m. in the UGC office. The following members were present:

1. Vice-Chancellor
2. Dr. D. Shankar Narayan
3. Dr. D.T. Lakdawala

The Committee's report is as follows:

REPORT

During the course of the work of the Committee, a new situation has arisen as a result of the State Government of Gujarat accepting to implement the revised scales of pay in the universities and colleges in the Gujarat State. The Government order envisages that consequent upon the new scales of pay, no teacher shall be eligible to receive extra payments for doing postgraduate teaching as has been the practice so far. The University has made an analysis of the adequacy of recognised staff in different subjects in different colleges. The analysis indicates that none of the 51 colleges engaged in postgraduate classes has necessary staff essential for carrying on the postgraduate work in accordance with the UGC norms accepted by the Gujarat University. In several cases the teachers themselves have not approached the University for continuing their recognition. As already mentioned the University's decision to allow students to appear privately at the M.A. examination will result in many of the students taking advantage of this provision rather than enrol themselves in the affiliated colleges. The eligibility conditions for admissions have been upgraded by the University to make it possible only for those students who have obtained second class in the aggregate to join the post-graduate classes.

The above factors point out to a situation where it would become necessary for the Gujarat University to assume full responsibility for postgraduate instruction in the teaching departments and the various affiliated colleges to discontinue the postgraduate classes either immediately or when the present batch of students / completed their final year M.A., M.Sc. M.Com. classes. It is unlikely that any of these colleges would now be willing to admit students to the first year M.A., M.Sc., classes from the academic year 1976-77. The University would, therefore, have to make alternate arrangement for eligible students to pursue the postgraduate studies in these subjects.

The Committee has reviewed this question and the related problem of availability and/or capacity of University departments to take over the entire responsibility for postgraduate instruction in the subjects concerned. The Committee has been informed that the University would discontinue organisation of evening classes for postgraduate students henceforth. This would consequently reduce the work-load of the concerned

departments which could be diverted to accommodate more students in Day Classes. In the case of subjects like Physics, Mathematics, Botany, Zoology and Statistics there is scope for the University departments to take on this increased intake with the available facilities. In the case of Chemistry however, where the numbers are large the question of providing facilities will have to be considered keeping in view the total admissions that may be made on the basis of the new eligibility criteria and the diversion to Textile Chemistry and other courses to be started by the University. In the case of Humanities, Social Sciences and Languages it is possible for the University departments to accommodate additional students who may come to the University consequent upon the colleges discontinuing these courses. In a few isolated subjects such as Home Science, Geography and Geology where the University departments do not exist, and it may not be desirable for the University to start these departments at this stage, the colleges already doing these courses may be permitted to continue them as long as demand exists. But the University may make some arrangements to provide guidance and assistance to such courses. In the case of Commerce, the Committee has already indicated that it would be necessary for the University to start a department of Commerce and organise M.Com. classes directly in the University Department. In the case of microbiology where a few students have been enrolled in one college at Naiad, the University may be in a position to take over or organise instruction on an inter-departmental basis with the facilities and faculties available in the University Departments of Botany, Zoology, Chemistry and Statistics.

The above would point to a situation whereby Gujarat University would be able to centralise post-graduate instruction in all subjects in the University Teaching departments and this may be an opportune time to dispense with the unsatisfactory situation that has obtained so far in the matter of organisation of postgraduate courses in the affiliated colleges. However, at a future date as and when the demand for postgraduate education builds up, the University could consider opening a post-graduate Centre in an appropriate location and away from the University Headquarters, in accordance with the guidelines that the UGC may lay down for development of such postgraduate centres.

The Committee would like to place on record its appreciation of the detailed information and data regarding all subjects and Post-graduate centres that the Registrar and his office provided.

237

Copy of the letter No. VC/629/1976 dated the 28th June, 1976 received from the Vice-Chancellor, Gujarat University, Ahmedabad and addressed to Shri R.K. Chhabra, Secretary, University Grants Commission, New Delhi.

....

Subject: Survey of facilities and organisation of P.G. teaching in the affiliated colleges of Gujarat University.

....

Please refer to your office letter No. E.9-1/74 D4-b. dated 23rd June 1976 on the subject mentioned above. In that connection I am to state that the University has accepted the recommendations of the Review Committee and the same are being implemented.

All the subject Centres till now working in all the colleges have been informed that postgraduate teaching, except in the case of geography, Ancient Indian Culture, Home Science, Geology and Urdu will be undertaken in the University's own Postgraduate Departments from June 1976 onwards. Accordingly, we are making all arrangements at our end. This does mean a host of protests telegrams and requests for reconsideration, but we hope to survive the ordeal. The next fifteen days are crucial, but we are determined to reorganise postgraduate education as per Review Committee's report, We need your support and encouragement.

With kind regards,

CONFIDENTIAL

UNIVERSITY GRANTS COMMISSION

238

Meeting:

Dated: 19 July, 1976.

- Item No. 36 To consider the recommendations of the Standing Advisory Committee for Centres of Advanced Study in the Humanities and Social Sciences in regard to selection of university departments to which visiting committees may be sent to ascertain their suitability for participation in the CAS Programme.

.....

The Standing Advisory Committee on the Centres of Advanced Study in the Humanities and Social Sciences, at its meeting held on May 9, 1975 considered the proposals received from certain universities for assistance under the programme of special assistance to selected departments in the humanities and social sciences. The Committee desired that the Committee of the Conveners of the Panels may be requested to identify the departments in each subject which could be considered for support under this programme. The matter was considered by the Committee of the Conveners of the Panels in the humanities and social sciences at its meeting held on July 22, 1975 and later by the subject and January, 1976. The following departments were recommended for consideration:-

- |     |            |   |
|-----|------------|---|
| (a) | Psychology | Utkal, Allahabad, Mysore and Andhra Universities.   |
| (b) | Sociology  | Panjab, Bangalore, Ranchi, Poona and Rajasthan Universities.  |
| (c) | Philosophy | Andhra, Karnatak, Poona, Rajasthan, Delhi Utkal and Jadavpur Universities.  |
| (d) | History    | Allahabad (Ancient History, Culture and Archaeology), Calcutta (Modern Indian), Baroda, Mysore and Delhi Universities.                            |
| (e) | Economics  | Andhra (along with applied economic Baroda, (along with agricultural Economics), Calcutta, Panjab, Kurukshetra, Lucknow and Punjabi Universities. |

p. t. o.

∟ panels in their meetings held in November-December, 1975

239

- (f) Social Work                      Delhi School of Social work and  
Tata Institute of Social Sciences,  
Bombay.
- (g) Linguistics                      Osmania and Punjabi Universities.
- (h) Law                              Universities of Punjab, Madras,  
Poona, Delhi (Campus Centre) and  
Law College, Banaras Hindu  
University.
- (i) Political Science              Rajasthan and Poona Universities.
- (j) Teacher Education            Allahabad and Punjab Universities.

Subsequently, the Panel on Commerce recommended that the Department of Commerce of the Universities of Panjab, Jodhpur, Osmania, Madras, Delhi and Calcutta may be considered for inclusion under the above programme.

The Standing Advisory Committee on the Centres of Advanced Study in the Humanities and Social Sciences, at its meeting held on December 20, 1975 considered these . . . . . recommendations and desired that proposals may first be invited from the recommended departments on the prescribed proforma (copy attached Annexure I) and visiting committees may be sent only after the first screening by the University Grants Commission. It was also noted in this connection that the first phase of the assistance to the selected departments would be for strengthening them as departments and the question of upgrading them to Centres of Advanced Study would be taken up after reviewing their work for 5 years.

The recommendations of the Advisory Committee were accepted by the Commission. It was also agreed that the information sent by the universities may be examined by the Advisory Committee on Centres of Advanced Study in the humanities and social sciences and the recommendations brought before the Commission.

All the 47 departments recommended by the Committee of Conveners and the Panels were requested to provide basic data about their studies and research in the prescribed proforma. Only the following 26 departments responded to the questionnaires;

	<u>Discipline</u>	<u>Universities</u>
1.	Psychology	Allahabad, Andhra

(240)

- |                      |   |
|----------------------|---|
| 2. Sociology         | Panjab, Bangalore, Ranchi, Poona.   |
| 3. Philosophy        | Andhra, Karnatak, Poona, Rajasthan, Delhi, Utkal and Jadavpur.                |
| 4. History           | Delhi   |
| 5. Economics         | Andhra (Alongwith applied Economics Calcutta, Panjab, Kurukshetra and Panjabi |
| 6. Social Work       | Delhi.  |
| 7. Linguistics       | Osmania, Punjabi and Kerala   |
| 8. Political Science | Poona   |
| 9. Teacher Education | Panjab  |
| 10. Commerce         | Osmania.  |

The Advisory Committee on Centres of Advanced Study considered this information at their meeting held on July 6, 1976 and made the following recommendations:

1. "The Committee had some discussions on whether the departments selected for participation in the programme of Centres of Advanced Study would be considered in the first phase under the scheme of special assistance for departments and recognised as Centres of Advanced Study after reviewing their work for a period of 5 years. The Committee recommended that selected departments may be given special assistance and that the review of their working be made after 3 years or so, to determine whether they may be brought within the purview of the scheme of Centres of Advanced Study. The Committee noted that the Commission had the following 3-tier special programme for strengthening departments and supporting research in the universities : (a) departmental support which will be available for promising departments for improving the infrastructure for teaching and research, (b) support available for departments of special assistance and (c) centres of advanced study. The Panels may be requested to identify for departmental support a few departments in their disciplines which could be helped by the Commission. The ceiling of assistance under this programme may be Rs. 6-8 lakhs for a period of 5 years.

2. The Committee recommended that visiting Committees may be sent to the following departments for assessing their suitability for participation in the CAS/DSA programme:-

<u>Department</u>	<u>University</u>
1. Psychology	Allahabad

(241)

2. Sociology Panjab
3. Anthropology Ranchi
4. Philosophy Rajasthan & Jadavpur
5. History Delhi
6. Economics Andhra (the department may be assisted for developing studies and research in Agricultural Economics)  
Calcutta (Area of concentration will be Urban Economics)  
Punjabi (Major area of concentration may be Economics of Education)
7. Linguistics Osmania

3. The Committee did not favour sending any visiting committees to the following departments :

	<u>Department</u>	<u>University</u>
1.	Psychology	Andhra
2.	Sociology	Bangalore & Poona
3.	Philosophy	Andhra, Karnatak, Poona, Delhi & Utkal.
4.	Economics	Punjab & Kurukshetra
5.	Linguistics	Punjabi & Kerala
6.	Political Science	Poona
7.	Teacher Education	Panjab
8.	Commerce	Osmania

4. The Committee desired that the question of inviting the departments of Social work for participation in the Centres of Advanced Study Programme may be postponed. In the meantime, the Delhi University may be requested to explore the possibility of converting the Delhi School of Social Work into a regular department of the University.

242

5. The Committee recommended that teacher fellowships, national scholarships and visiting teachers may be provided to all departments invited to participate in this programme in order to promote greater interaction between universities."

The visiting committees have already examined the proposals of (1) The Department of Ancient History, Culture and Archaeology of Allahabad University, (2) Department of History M.S. University of Baroda and (3) Department of Psychology, Utkal University. The recommendations of the visiting committees of these 3 departments were generally accepted by the CAS Committee and are being placed before the Commission separately. A committee of experts has also visited the Department of History, Mysore University. Another visiting committee has been appointed to examine the proposals of the department of Modern Indian History of Calcutta University under this programme. The reports of these committees will be placed before the Commission as soon as they are available.

It may be mentioned in this connection that at present the Commission is providing assistance to 9 universities for their CAS and to 6 universities for DSA Programmes. The list of such university departments is attached (Annexure II).

The recommendations of the Advisory Committee are placed before the Commission for consideration.

AS(HR)/JS(I)

.....

\*SLK\*

(PROFORMA I : FOR THE DEPARTMENTS )

243

UNIVERSITY GRANTS COMMISSION

\* CAS/DSA PROGRAMME

University of \_\_\_\_\_

Department of \_\_\_\_\_

Undergraduate    Postgraduate    M.Lit/M.Phil    Total    PhD Total

Enrolment    Ist    2nd    3rd    Total    Prev    Final    Total

71-72 .....  
72-73 .....  
73-74 .....  
74-75 .....  
75-76 .....

<u>Staff</u>	<u>Professors</u>	<u>Readers</u>	<u>Lecturers</u>
	<u>Sanctioned In position</u>	<u>Sanctioned In Position</u>	<u>Sanctioned In Position</u>

71-72 .....  
72-73 .....  
73-74 .....  
74-75 .....  
75-76 .....

Teacher-Student Ratio

71-72 .....  
72-73 .....  
73-74 .....  
74-75 .....  
75-76 .....

Examination Results :

B.A. Final

Appeared    Passed    Ist Class    2nd Class    3rd Class    Pass Percentage

71-72 .....  
72-73 .....  
73-74 .....  
74-75 .....  
75-76 .....

(\* Information which cannot be filled in the blanks may kindly be given in numbered annexures and their number indicated in appropriate blanks).

244

5. Examination Results : M.A. Final

	Appeared	Passed	Ist Class	2nd Class	3rd Class	Pass Percent
1971-72						
1972-73						
1973-74						
1974-75						

6. Number of Ph.D. Dissertations accepted:

1971-72  
 1972-73  
 1973-74  
 1974-75  
 1975-76

7. Library facilities :

- (i) Number of discipline and related to books in:
  - (a) the Central Library -----
  - (b) the Departmental Library -----
- (ii) Number of discipline and related journals in:
  - (a) the Central Library -----
  - (b) the Departmental Library -----
- (iii) Number of Professional Workers  
 in the departmental library. -----
- (iv) Kindly indicate the nature of documentation  
 services available to the department in the  
 Central and the Departmental libraries: -----
- (v) Annual Library budget sanctioned  
 by the University for the Department -----

8. Kindly list major items of equipment which  
 the department has at present: -----

9. How many teachers have a room or a corner  
 of their own in the department for their  
 individual study and research?.

245

The total number of Ph.D. research scholars registered with the department at present:

What is the maximum No. of Ph.D. scholars which a recognised teacher can supervise at a time:

Kindly give the No. of Ph.D. Scholars being supervised at present by each of the members of the faculty who are recognised research guides.

What are the minimum eligibility conditions for admission to the Ph.D. programme.

Is there a residence requirement for Ph.D. scholars? If so, for how long:

If a topic of Ph.D. research requires inter-departmental approach, is there any provision for interdepartmental supervision of the candidate for completed so far?

How many Ph.D. dissertations accepted by the University during the last years have been published with (a) support from the UGC or other public funds, or (b) by the candidate himself or his own.

What is the employment pattern of those who have secured Ph.D. degree from the department during the last 10 years.

Please give the particulars indicated about research scholars working in your department :

Name of the Scholar	Agency Providing Fellowship or scholarship	Duration and Value of Fellowship/scholarship
---------------------	--	--

246

19. Kindly give below major areas of research in the Department.
20. For each of the major areas illustrated above, kindly give:
- (i) Names and designations of the research workers (teachers and research scholars):
  - (ii) List of publications from 1965 onwards based on work done in the Department:
21. Kindly give the names and designations of other research workers in the department together with the list of their publications based on the work done in the department during the past 10 years: . . . . .
22. Please give particulars indicated below about the research staff who have worked (not casual visit) in other institutions in India or abroad during the past 10 years:

Name of the Teacher or Scholar	Institution in India	Activity <u>Research or Teaching</u>	Subject of Research
--------------------------------	----------------------	---	---------------------

23. Kindly list below the research schemes supported by different agencies on which work has been done in the Department during the past 5 years:

Sponsor of the scheme	Name and theme of the project	Duration	Principal workers	Nature of Assistance	Total Grant
-----------------------	-------------------------------	----------	-------------------	----------------------	-------------

(247)

24. Does the University provide funds for research in the budget of the Department? If so, kindly give details:
25. What is the average annual expenditure on research (including sponsored research) during the past five years:
26. Does the department have any other financial resources for supporting its research?
27. Does the department have any programme of research collaboration with-
  - (a) other departments in the University:
  - (b) other departments in other Universities:-
28. What are the major achievements of the departments of the during the past 5 years:
  - (a) Research
  - (b) Teaching
29. Kindly give short notes on:
  - (a) Significant contribution made to research
  - (b) Research schemes in progress:
  - (c) Distinctness of research under Ph.D. Programme:
  - (d) visits of distinguished scholars to the Department:
  - (e) Visit of the teachers of the department to other research institutions in and outside India:
  - (f) Seminars, Symposia and their impact:
  - (g) Collaboration with other research institutions in India and abroad:
30. Kindly give any other information of academic importance which, in your judgement, would be useful to the Committee:
31. Has the work done in the department been reviewed in research Journals in:
  - (a) India
  - (b) Abroad?
31. Kindly give particulars of books and journals carrying such review:
32. Have references been made in learned works and scholarly journals to the work done in your department. Kindly give details.

PROFORMA II : FOR TEACHERS

DETAILS OF TEACHING/ RESEARCH STAFF

Designation:

248

1. Name :
  2. Age:
  3. Teaching/ ,Research Experience (Years):
    1. Teaching
    2. Research
  4. (a) Academic qualifications and distinctions:  
(b) Major Areas in which active research work is being done.  
(c) Knowledge of foreign language:
  5. Membership of the learned societies:  
(Indicate year of election).
  6. Research publications:
    - i) Papers published :
      - (a) Indian Journals
      - (b) Foreign Journals
      - (c) Self
      - (d) With others
- (Please attach a list of publications giving necessary details).
7. Reference made about the research work in literature, monographs, books, etc.
  8. Authorship of Books, Monographs, etc. (Please give details)
  9. Participation in international conferences/symposia held in India and abroad.
  10. Research workers associated with you:

Last Five Years	No of research workers	No of Ph.D./D.Sc Degree award
7		

(please send the research publications of your students).

11. Are you referee /Editor of the professional journals/ reviews/Doctoral dissertation.

## LIST OF CENTRES OF ADVANCED STUDY IN HUMANITIES AND SOCIAL SCIENCES AND DEPARTMENTS OF SPECIAL ASSISTANCE

.....

a) Centres of Advanced Study

Sl. No.	Name of the Centre	Subject	Area of specialisation	Year of recognition
1.	Deptt. of Economics Bombay University Bombay-32.	Economics	Public Finance and Industrial Economics	1963
2.	Deptt. of Economics Delhi University Delhi.	-do-	Economics of Development and Economic History	1963
3.	Gokhale' Instt. of Politics & Economics Poona University.	-do-	Agricultural Economics	1963
4.	Deptt. of Philosophy Madras University Madras	Philosophy	Advita and Allied Systems of Philosophy	1964
5.	Deptt of Sanskrit Poona University	Sanskrit	Sanskrit Literature	1964
6.	Deptt. of Linguistics Annamalai University	-do-	Dravidian Linguistics	1963
7.	Deptt of Education MS University Baroda	Education	Educational Research	1963
8.	Deptt of History Aligarh Muslim University	History	Medieval Indian History	1968
9.	Deptt. of Sociology Delhi University Delhi	Sociology	Sociology	1968

b) DSA

Sl. No.	Name of the University/College	Department
1.	Osmania University	Economics
2.	Presidency College, Calcutta	Economics
3.	Patna University	History
4.	Saugar University	Anthropology
5.	Bombay	Sociology
6.	Deccan College, Poona	Archaeology

-----