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Annual Report

1983-84

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JADAVPUR UNIVERSITY
CALCUTTA 700 032
INDIA

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ANNUAL REPORT
1983-84

JADAVPUR UNIVERSITY
CALCUTTA 700032

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ANNUAL REPORT—1983-84

INTRODUCTION

The University passed the 27th mile stone of its life on the 24th December 1982. The history of the institution however, goes back a further 77 years in as much as the National Council of Education Bengal, from which the University came out, had its birth on the 11th March, 1906.

Sri Ananta Prasad Sharma became the Chancellor of the University when he assumed the Governorship of the State during the year under report. Prof. Manindra Mohan Chakraborty continued to be the Vice-Chancellor and there was no structural change in the composition to the University Council and its bodies during the year 1983-84.

A brief reference was made to some important events in the life of the University during the period 1973-74 onwards in the Annual Report for 1982-83 which came out in 1984. It was mentioned therein that the University Grants Commission selected four more departments of the University in 1983 for receiving under the scheme of Special Assistance Programme. These were the departments of Mathematics (for applied Mathematics), Chemistry, Electrical Engineering and Production Engineering. The departments are to receive in course of 5 years ending March '88, the following amount of grant from the Commission:

Mathematics (Applied)	Rs. 23.62 lakhs
Chemistry	Rs. 45.00 lakhs
Electrical Engineering	Rs. 32.50 lakhs
Production Engineering	Rs. 44.95 lakhs

The department of Geological Sciences which has been receiving grants under the Special Assistance Programme has been selected by the University Grants Commission for getting further financial assistance for achieving excellence in teaching and research. The proposal of the Deptt. for actual quantum of assistance is under consideration of the Commission.

The Visiting Committee of the University Grants Commission which visited the University in January 1983 and November 1983 for assessing the normal development programme of the University during 6th Five Year Plan (1980-85) for the Faculties of Arts and Science and for the Faculty of Engineering & Technology, respectively approved the following grants during 6th Plan:

Faculties of Arts and Science :

Teachers and other staff (20 posts)	Rs. 7.75 lakhs
Building	Rs. 53.15 lakhs
Equipment	Rs. 21.22 lakhs

Books and Journals	Rs. 15.91 lakhs
Others	Rs. 0.60 lakhs
	<hr/>
	Rs. 98.63 lakhs

Faculty of Engineering & Technology :

Teachers & other staff (29 posts)	Rs. 44.05 lakhs
Building	Rs. 62.98 lakhs
Equipment	Rs. 101.50 lakhs
Books and Journals	Rs. 20.00 lakhs
Others	Rs. 20.90 lakhs
	<hr/>
	Rs. 249.43 lakhs

The State Govt. has also agreed to meet the matching share for constructional projects and to take up the financial liability of Staff cost from 1. 4. 88. The Govt. of India, Ministry of Education & Culture and the Department of Environment have sanctioned a total grant of Rs. 78 lakhs for different projects under the areas of emerging technology and strengthening the facilities under the area of weakness as mentioned below :

- | | |
|---|-----------------|
| (a) Microprocess applications in the Department of Electronics & Tele-Communication Engg. | Rs. 22.00 lakhs |
| (b) Microprocessor in Robotics in the Department of Production Engineering | Rs. 15.00 lakhs |
| (c) Centre for Energy Sciences in the Department of Electronics & Tele-Com. Engg. | Rs. 15.00 lakhs |
| (d) Strengthening of Facilities in Computer Sciences | Rs. 16.00 lakhs |
| (e) Strengthening of Facilities in Product Development and Design | Rs. 10.00 lakhs |
| | <hr/> |
| | Rs. 78.00 lakhs |

The first instalments of the total grant of Rs. 14.53 lakhs sanctioned by the Department of Environment of the Govt. of India for the two projects :—Instrumentation for Pollution Monitoring of the Hooghly Estuary and Environmental Awareness Programme—came during the year 1983-84. The Principal object is development of instrumentation for continuous study of water, quality monitoring recording and telemetering of some quality parameters of the Hooghly River between Bandal and Budge Budge. The second project is basically for formulation and implementation of a programme for creating mass awareness as to environment protection.

During the 6th Plan period, the University has been selected for development of Oceanography jointly by the Department of Ocean Development, Govt. of India and C.S.I.R., through University Grants Commission who also approved a post of Professor and ad-hoc grant of Rs. 70,000/- pending institution of a full-fledged inter-disciplinary centre at the University.

The University Grants Commission also approved the proposal of the University to start an undergraduate degree course in Printing Technology and sanctioned a post of Professor and ad-hoc grant of Rs. 70,000/- with the object of a full-fledged course to be started during the 7th Plan period.

The University Grants Commission approved during 1983-84 introduction of M.Phil. course in Environmental Science & Technology and sanctioned Rs. 1.35 lakhs initially for the purpose. The Scheme is likely to be implemented as early as possible after preparing the detailed syllabus.

The proposal for establishment of M. Tech. course in Bio-Technology at the Department of Food Technology & Bio-Chemical Engineering of the University has been accepted in principle by the National Bio-Technology Board and the U.G.C. at an estimated cost of about Rs. 100 lakhs. The necessary agreement has been made and the final sanction is awaiting from the U.G.C.

Originally a proposal on Space Technology was submitted to the ISRO and UGC at an estimated cost of Rs. 208.10 lakh. The matter was discussed at various levels by the Vice-Chancellor and the concerned officials. To make the Jadavpur University the focal point for dissemination of remote sensing technology to the various user cells of West Bengal leading ultimately to the realisation of a joint JU-ISRO Space Technology Cell with further support from ISRO. This is an important step in promoting academic and research activities relates to space technology in a University in the Eastern Region. Some preliminary steps have already been agreed upon by ISRO & JU and sanction of project e.g. "Structural weight optimisation of launching Tower" has already been received at a cost of Rs. 3 lakhs.

Computer Aided Design Project is being funded by the Department of Electronics, Govt. of India with the assistance from UNDP. The scope of the project will emphasise teaching and training in the CAD area and the industries of Eastern India as well as the training and working facilities to the students of the University. The amount of expected grant is Rs. 80 lakh (approx.) for computer inter-active design facilities in various fields of Engineering and Technology. The first instalment of Rs. 16.25 lakhs has been received during 1983-84.

Among other important projects approved/accepted in principle during the year are :

- (a) Appropriate Automation Promotion Project funded by the Department of Electronics, Govt. of India with the assistance of Electronics, Govt. of India with the assistance from UNDP. Already Rs. 9 lakhs have been received as the 1st instalment.

- (b) Implementation and consolidation of Plain paper X-Ray at a cost of Rs. 9.77 lakhs in the department of Electronics & Tele-Comm. Engg.
- (c) Two projects on JUPITER-I and JUPITER-II being funded by Defence Research and Development laboratories, Hyderabad at a cost of Rs. 49.00 lakhs under the guidance of the department of Electrical Engg.

An important feature of the activities of the University is the proposal for opening of some degree courses and certificate/diploma courses in a few para-medical courses with the help of some Railway and private hospitals. Though the Medical Faculty of the University was formally declared open by the Governor of West Bengal on 1st July 1982 but for some unavoidable reasons the University could not get possession of a spacious land donated by the Govt. of West Bengal and could not open the proposed Medical Faculty. In the meantime, the University is, however, arranging for opening the following para-medical courses within a year or two.

1. B.Sc. Course (Hons.) in Physiotherapy
2. B.Sc. Course (Hons.) in Occupational Therapy
3. Diploma Course in Orthotic and Prosthetic
4. Diploma Course in Medical Laboratory Technology
5. Diploma & Certificate Course in Medical Radiography
6. Certificate Courses in Multipurpose Rehabilitation Assistance
7. Certificate Course in Basic Management of Cerebral Palsy.

Whereas the 1st courses are likely to be started within another two years directly under the Faculty of Science of the University in the N.I.O.H. Conf. of India but the other courses are likely to be conducted through the Adult, Continuing Education and Extension Centre of the University under the Calcutta Medical Research Institute and B. R. Singh Rly. Hospitals in the next year. The detailed programme of such courses will be mentioned in the next Annual Report in due course.

The centre for Adult, Continuing Education and Extension Centre was set up in December 1982 under the revised guidelines of the University Grants Commission. The Director of the Centre has joined on 2. 5. 83. The Centre organised a birth bi-centenary celebration of N.F.S. Grandtvig, internationally recognised as the pioneer of non-formal education of the University on 23. 7. 84. Besides conducting a course on Social Service-Blood Donor Motivation by name in four batches in the new Adult Education and Extension Centre, the Old continuing Education centre also conducted three courses on X-ray technique, Acupuncture and Hydraulics and Water Resources Engineering respectively.

During the year under report 14 candidates were admitted to Engineering Doctorate Degrees, 32 candidates were admitted to Science Doctorate Degrees and 23 candidates were admitted to Arts Doctorate Degrees. The statement of such doctorate degree-holders has been shown in a separate chapter in this report.

Many important seminars and workshops were held during the year under report. The Mechanical Engg. Deptt. organised the 1st international Symposia-Cum-Workshop on Bio-Engineering in December 1983. The Civil Engg. Deptt. organised a workshop on Environmental Awareness whereas the Metallurgical Engg. Deptt. organised a 5-day workshop on "Electron Microscope" in December '83. The Production Engg. Deptt. organised one Seminar and two workshops during the year. The Deptts. of Mathematics, Philosophy and International Relations also organised a number of seminars and workshops.

The existing 4½ years undergraduate degree course in Architecture has been revised and the duration of the course has been extended to five years in accordance with the recommendation of the Council of Architecture. With the approval of U.G.C. a new programme of post-graduate studies leading to M.Prod. Engg. Degree has been introduced in 1983-84 session and fifteen scholars have been admitted to the course including five being sponsored by different industries. In the undergraduate and post graduate level in Chemical Engineering various new subjects have been introduced as elective papers for the final year students from the session 1983-84. New syllabus for the undergraduate course in honours in Physics has been introduced to train the students with the thorough knowledge of the basic aspects and modern development in Physics. Evening courses in Bachelor of Library and Information Science for working librarians has been introduced in January, 1984. The Master Degree course in Library & Information Science has also been approved by the U.G.C.

The curricula and syllabi of the undergraduate degree course in Production Engineering has been revised from the academic session 1983-84. The syllabus of the undergraduate and post-graduate course in Sanskrit final examination have also been changed from the session 1983-84.

Instead of 2-year Post Graduate course in all branches of Engineering & Technology it has been converted into a 3-Semester system (with duration of 6 months for each semester) from the session 1983-84. This has been done according to the guideline of Ministry of Education, Govt. of India and the University Grants Commission. The admission has been restricted to candidate who will qualify through GATE/All India Test.

Research projects on national importance were also conducted during the year under report. Some of them are as follows :

- (a) Department of Electronics, Govt. of India sponsored research project entitled "Development of a front-end system for computerised text processing and photo-composition of Bengali, Ahamia and Manipuri Language was successfully completed during the year. Special mention of this research as an outstanding work of national importance was made several times during discussion in the Parliament.
- (b) Department of Atomic Energy, Govt. of India sponsored research project entitled "Micro-computer based remote

controlled monitoring and data logging system" was successfully completed during the year. Prof. Raja Ramanna, Chairman, Atomic Energy Commission, highly appreciated the work done on the project.

- (c) Implementation and consolidation of plain paper X-Ray jointly with the Department of Electronics and Tele-Communication Engineering of the University. Plain paper X-Ray as an auxiliary item has been introduced in several hospitals.

We mourn the loss of some members of the academic community during the year under report. Sri Ranajay Karlekar of the department of English and Sri Dipak Kumar Ghosh of the department of Electronics & Tele-Comm. Engineering died in harness. Prof. R. N. Bhattacharyya, Department of Mathematics, also passed away during the year. All of them were honoured and loved by the students, teachers and staff of the University. The University Council condoled the sad demise of Prof. Kali Krishna Banerjee of the Department of Philosophy and Prof. Bankim Chandra Mukherjee of the Deptt. of Geological Sciences and Ex-Dean of the Faculty of Science, in November 1983 and January 1984 respectively. The University Council also condoled the death of renowned persons like Mr. Justice Ramaprasad Mukhopadhyay, Prof. Kalidas Bhattacharyya, Dr. Ashutosh Bhattacharya and Dr. Amulyadhan Mukhopadhyay in February and March 1984.

The detailed activities of the University during the period under review have been shown in subsequent chapters.

THE UNIVERSITY COUNCIL

Chancellor	:	Sri A. P. Sharma, Governor of West Bengal and Chancellor, Jadavpur University, Raj Bhavan, Calcutta-700 001.
Vice-Chancellor	:	Prof. Dr. M. M. Chakraborty Vice-Chancellor,
President, National Council of Education, Bengal	:	Sri Sourindra Nath Dutta 114, Regent Park, 122, Netaji Subhas Ch. Bose Road, Calcutta-700 040
Chairman, Institute of Engineers, Bengal Circle	:	Prof. Dr. R. N. Mukherjee 40, Nandy Street, Calcutta-700 029 (from January, 1983)
Secretary to the Government of West Bengal, Education Department	:	The Secretary, Education Department, Government of West Bengal Writers' Buildings, Calcutta-700 001
Secretary to the Government of West Bengal, Finance Department	:	The Secretary, Finance Department, Government of West Bengal, Writers' Buildings, Calcutta-700 001
President, West Bengal Council of Higher Secondary Education	:	Smt. Anila Devi 32, Raja Basanta Roy Road, Calcutta-700 029
Nominees of Founder-Donors Brojendra Kishore Roy Choudhury of Gouripur	:	Sri Dhriti Kanta Lahiri Chaudhury 45, Suhasini Ganguly Sarani Calcutta-700 025
Maharaja Suryakanta Acharyya Choudhury	:	Dr. Subhrangshu Kanta Acharya 15, Sarat Banerjee Road, Calcutta-700 029
Raja Subodh Chandra Mallick	:	Sri Samir Chandra Vasu Mallik 4/1A, Gangaram Palit Lane, Calcutta-700 013
Nominee of the All India Council of Technical Education	:	Prof. D. Banerjee 20/1/5, Ballygunge Place, Calcutta-700 019
One of the Head or Principal of the affiliated Colleges nominated by the Chancellor	:	Smt. Bani Sen, Principal, Smt. J. D. Birla Institute of Home Science, C/o. Birla Academy of Arts & Culture

The Secretary : The Secretary
 Government of India : Government of India
 Ministry of Education : Ministry of Education and
 and Social Welfare Affairs : Social Welfare Affairs

Representative of : Sri M. M. Chaudhury
 Govt. of India, in the : Asstt. Educational Adviser (Tech.)
 Ministry dealing with : Ministry of Education and Social
 Technical Education : Welfare, Eastern Regional Office
 5, Esplanade East, Calcutta-69

Not less than 6 and not more than 9 persons nominated by the Chancellor in consultation with the Minister from amongst Heads of Departments and Teachers of the University :

1. Prof. Dr. Naresh Guha, 5, Satyen Datta Road, Calcutta-29
2. Prof. Dr. Sukumar Dutta, Staff Quarters, J.U. Campus, Calcutta-32
3. Dr. Amalendu De, 2, Ajanta Park, Calcutta-86
4. Dr. Nakul Ch. Das, 50/1, School Road, Birati, Calcutta-51
5. Sri Krishna Prasanna Majumdar, 77, Santoshpur Avenue, Calcutta-75
6. Sri Bireswar Chakraborti, N-1, Vidyasagar Niketan, Salt Lake, Calcutta-64
7. Smt. Malabika Sarkar, 31, Broad Street, Calcutta-19
8. Sri Prabir Roy Chaudhury, |
 9. Dr. Anandeb Mukherjee | w.e.f. May 1983

5 persons interested in University Education nominated by the Chancellor :

1. Sri S. K. Acharya, Advocate General, Govt. of West Bengal, 27, Baker Road, Calcutta-27
2. Dr. R. N. Chakravarti, Formerly Director, Indian Institute of Chemical Biology, Block F 111, New Alipore, Calcutta-53
3. Prof. Dr. (Mrs.) Asima Chatterjee, University College of Science, 92, Acharyya P. C. Roy Road, Calcutta-9 (from May 1982)
4. Prof. R. P. Aiyar, Director, Institute of Management, JOKA, 496, Keyatala Road, Calcutta-29 (from May 1982)
5. Sri K. K. Roy, 109, Jodhpur Park, Calcutta-68 (from May 1982)
6. Sri A. K. Gupta, Registrar, Non-Member Secretary.

ADMINISTRATION

Chancellor : Shri Ananta Prosad Sharma
 Governor of West Bengal

Vice-Chancellor : Prof. Monindra Mohan Chakrabarty

Deans of Faculties :

Arts : Prof. Dr. Jayantanuja Bandyopadhyaya
 Science : Prof. Dr. Amareswar Chatterjee
 Engg. & Tech. : Professor Pijush Som

Registrar : Sri Arun Kumar Gupta
 Controller of Exams. : Dr. Joydev Chandra Das
 Finance Officer : Sri Taradas Bhattacharyya
 Chief Librarian : Vacant
 Officer-on-Special Duty : Dr. Asim Kumar Datta
 Dean of Students : Sri Himendu Biswas
 Deputy Registrar : Sri Bimal Chandra Kundu
 Sri Najmul Alam (upto Nov. 1983)

Officer of Place. & Training : Sri Arabinda Chatterjee
 Development Officer : Sri Amal Chandra Chanda
 Librarian : Smt. Krishna Datta
 University Engineer : Sri Bires Chandra Sinha
 Medical Superintendent : Dr. (Major) Dharanidhar Pramanik
 Accounts Officer : Sri Ajoy Kumar Bhattacharyya
 Audit Officer : Sri Arun Prokash Som
 Assistant Registrar : Sri Satyendra Nath Khan
 Sri Hemendra Nath Datta

Asstt. Controller of Exams. : Sri Binoy Ranjan Sen Gupta
 Sri Kanchan Kr. Basu Thakur

Director of Youth Welfare : Sri Himendu Biswas
 Director of Physical Instruction : Sri Rathindra Kumar Sen
 Associate Librarian : Smt. Manju Banerjee

ACADEMIC BOARD

Prof. M. M. Chakrabarty Vice-Chancellor	Jadavpur University
Sri Khagendra Mohan Chakraborty Hony. Secretary, N.C.E., Bengal	P. 47, Saktigarh Calcutta-700 032
The Dean, Faculty of Engg. and Tech.	Jadavpur University
The Dean, Faculty of Arts	—Do—
The Dean, Faculty of Science	—Do—
Dr. Panchanan Duari Principal, Jadavpur Vidyapith- College of Education	Block A-E-251, Salt Lake Calcutta-700 064
Sm. Bani Sen, Principal, Sm. J. D. Birla Institute of Home Science 11, Lower Rowdon Street, Cal-20	C/o. Birla Academy of Arts and Culture 108 and 109, Southern Avenue Calcutta-700 029
Sri Himendu Biswas Dean of Students	Jadavpur University
Dr. Joydeb Chandra Das Controller of Examinations	—Do—
Sm. Krishna Dutta Chief Librarian (Offg.)	—Do—
Sri A. K. Bhowmic Co-ordinator of Evening Classes (Engg)	—Do—
Dr. K. K. Mahalanabis Co-ordinator of Evening Classes (Sc.)	—Do—
Prof. Khudiram Das Deptt. of Bengali University of Calcutta	18C, Tamer Lane Calcutta-700 009
Dr. S. R. Basu Director, C.M.E.R.I. Durgapur	C.M.E.R.I., Durgapur Dist. Burdwan
Dr. A. K. Seal Principal, B. E. College, Howrah	B. E. College Howrah
Prof. Amalendu Bose Retired Professor of English University of Calcutta	700 G/1, Block 'P' New Alipore Calcutta-700 053

Prof. Durlav Kumar Ray Professor Emeritus Jadavpur University	17. Lower Range Calcutta-700 017
Prof. Shyamadas Chatterjee Professor Emeritus Jadavpur University	91, Ballygunge Place, Calcutta-700 019
Prof. Anil Kumar Majumder Professor Emeritus Jadavpur University	Flat A-42 58/3A, Ballygunge Circular Road, Calcutta-700 019
Prof. Subodh Ch. Sen Gupta Professor Emeritus Jadavpur University	2/4, Ekdalia Road, Calcutta-700 019
Prof. Hem Chandra Guha Professor Emeritus Jadavpur University	77A, Ibrahimpur Road, Calcutta-700 032
Prof. Amalendu De Representative of the University Council	2, Ajanta Park Calcutta-700 086

Mechanical Engineering Department

Head of the Department
Prof. Rajat Kumar Chakraborty
Prof. Madhusudan Bhattacharyya

Metallurgical Engineering Department

Head of the Department
Sri Dinabandhu Ghosh
Sri Pradyut Kumar Mitra

Chemical Engineering Department

Head of the Department
Prof. A. K. Mitra
Sri G. K. Biswas

Food Technology and Bio-Chemical Engineering Department

Head of the Department
Prof. S. K. Majumder
Prof. B. N. Srimani

Electrical Engineering Department

Head of the Department
Prof. J. K. Choudhury
Sri Sujay Kr. Basu

Electronics and Tele-Communication Engineering Department

Head of the Department
Dr. D. Ghosh Dastidar
Sri Anup Kr. Bandyopadhyay

Architecture Department

Prof. T. K. Chattopadhyay
Prof. K. P. Bhattacharyya

Pharmacy Department

Head of the Department
Dr. S. Pal
Dr. S. C. Lahiri

Civil Engineering Department

Head of the Department
Prof. N. N. Som
Prof. M. Chakraborty

Production Engineering Department

Head of the Department
Prof. Satya Ranjan Deb
Dr. S. K. Sorkhel

Geological Sciences Department

Head of the Department
Dr. Ajit Bhattacharyya
Prof. Sachinath Mitra

Physics Department

Head of the Department
Dr. S. R. Ganguly
Dr. S. K. Talapatra

Chemistry Department

Head of the Department
Dr. Ranjan Dutta
Dr. Amalendu Banerjee

Mathematics Department

Head of the Department
Dr. D. C. Das
Prof. K. S. Choudhury

Philosophy Department

Head of the Department
Dr. Sefali Moitra
Prof. S. K. Bhattacharyya

International Relations Department

Head of the Department
Mr. R. L. Rodrigues
Prof. J. B. Das Gupta

History Department

Head of the Department
Dr. Pranjal Bhattacharyya
Dr. (Mrs.) Bela Lahiri

English Department

Head of the Department
Dr. (Mrs.) J. Bagchi
Prof. V. Chatterjee

Economics Department

Head of the Department
Dr. D. C. Chakraborty
Dr. S. N. Bhattacharyya

Comparative Literature Department

Head of the Department
Dr. Amiya Deb
Sri Subir Roy Choudhury

Bengali Department

Head of the Department
Dr. Suresh Chandra Moitra
Dr. Pabitra Bh. Sarkar

Sanskrit Department

Head of the Department
Dr. R. S. Banerjee
Dr. Chinmoyee Chatterjee

Library and Information Science Department

Head of the Department
Sri M. P. Sinha
Sri Prabir Roy Choudhury
Sri Arun Kumar Gupta — Secretary
Registrar

FINANCE COMMITTEE

Prof. M. M. Chakrabarty Vice-Chancellor	Chairman
Sri A. K. Gupta Registrar	
Prof. P. Som Dean, Faculty of Engg. and Tech.	
Prof. J. Bandopadhyaya Dean, Faculty of Arts	
Prof. A. Chatterjee Dean, Faculty of Science	
Dr. R. N. Chakraborty	
Prof. D. Banerjee	
Sri S. K. Podder	
The Secretary, Finance Deptt. Govt. of West Bengal	
The Secretary, National Council of Education, Bengal	
Sri A. C. Chanda Development Officer	
Sri A. K. Bhattacharyya Accounts Officer	
Sri T. D. Bhattacharyya, Finance Officer	Secretary

PLANNING AND DEVELOPMENT COMMITTEE

Vice-Chancellor (Chairman)	: Prof. M. M. Chakrabarty
Dean of the Faculties	: Prof. P. Som, Engg. and Tech. Prof. J. Bandopadhyaya, Arts Prof. A. Chatterjee, Science
Three members of the University Council	: Sri K. P. Majumder Sri B. Chakraborty Dr. M. M. Choudhury
Three members of the Academic Board	: Dr. N. N. Som Dr. K. S. Choudhury Sri S. Roy Choudhury
Hony. Secretary, National Council of Education, Bengal	: Sri K. M. Chakraborty
Representative of the Corporation of Calcutta	: Sri B. K. Roy
Nominee of the Donor	: Sri S. C. Vasu Mallik
Registrar	: Sri A. K. Gupta
Finance Officer	: Sri T. D. Bhattacharyya
University Engineer	: Sri B. C. Sinha
Development Officer (Convenor)	: Sri A. C. Chanda

BUILDING COMMITTEE

Vice-Chancellor (Chairman)	:	Prof. M. M. Chakrabarty
Members nominated by the University Council	:	Dr. N. N. Som Professor of Civil Engg.
		Sri K. N. Pathak Head of the Deptt. of Architecture
		Sri B. K. Roy Dy. Commissioner, The Corporation of Calcutta
		Sri B. Chakraborty Metallurgical Engineering
		Sri T. D. Bhattacharyya Finance Officer
		Sri A. K. Gupta Registrar
		Sri B. C. Sinha University Engineer
Representative of the State P.W.D.	:	Sri D. D. Mukherjee Addl. Chief Engineer, State P.W.D.
Development Officer (Convenor)	:	Sri A. C. Chanda

CONDOLENCE (1st April 1983 to 31st March 1984)

- (i) The University Council in its meeting held on 7th May, 1983, observed one minute's silence to condole the death of Shri Ranajoy Karlekar, Department of English, who was honoured and loved by students, teachers and staff of the University.
- (ii) The Council in its meeting held on 19 May, 1983 observed one minute's silence to condole the death of Prof. R. N. Bhattacharyya, Department of Mathematics, who was honoured and loved by students, teachers and staff of the University.
- (iii) The Council in its meeting held on 18 Nov. 1983 condole the sad demise of Prof. Kali Krishna Banerjee, Department of Philosophy and observed one minute's silence.
- (iv) The Council in its meeting held on 7 January, 1984 condole the sad demise of Sri Dipak Kumar Ghosh, Reader, Department of Electronics & Tele-Communication Engg. by observing one minute's silence.
- (v) The Council in its meeting held on 28 January, 1984 condole the demise of Dr. Bankim Chandra Mukherjee, Professor, Department of Geological Sciences and Ex-Dean of the Faculty of Science and observed one minute's silence.
- (vi) The Council in its meeting held on 18 February, 1984 condole the sad demise of Mr. Justice Ramaprasad Mukhopadhyay and observed one minute's silence to pay regard to the departed soul.
- (vii) The Council in its meeting held on 24 March 1984 observed two minute's' silence to condole the death of Prof. Kalidas Bhattacharyya, Dr. Ashutosh Bhattacharyya and Prof. Amulyadhan Mukhopadhyay.

COURSES OF STUDY

PART-B

FACULTY OF ARTS

1. Undergraduate Honours Courses:
 - (a) Honours Courses of three years' duration leading to the Bachelor of Arts degree in Bengali, Comparative Literature, Economics, English, History, Philosophy, Political Science and Sanskrit. The University has no pass courses for the B.A. Degree.
2. The Degree Course in Bachelor of Library and Information Science.
 - (a) One-year duration (Day Course) leading to Bachelor of Library and Information Science Degree.
 - (b) One and half years (evening) course leading to Bachelor of Library and Information Science Degree.
3. Post-Graduate Courses :

Two years' courses leading to the Master of Arts degree in Bengali, Comparative Literature, Economics, English, History, International Relations, Philosophy, Sanskrit and Library & Information Science.
4. Post-Graduate (Evening) Courses :

Three years' duration in Bengali, Economics, English, History, Philosophy and Sanskrit. The Evening courses are open to School Teachers and those in employment.
5. Master of Philosophy (M.Phil.) Courses :

Two-year duration in Comparative Literature, English, International Relations, Philosophy and Sanskrit.
6. Doctoral Programme leading to Ph.D. (Arts) and D.Litt. degrees.
7. Language Courses :
 - (a) Certificate in German, French and Russian.
 - (b) Diploma Courses in German, French and Russian.
 - (c) Advanced Diploma Courses in German and Russian.

These courses are of one-year duration and open only to the students of the University.

- (d) Certificate Course in Bengali for non-Bengali Students.

FACULTY OF SCIENCE

1. Under-graduate Honours Courses :

Honours courses of three years' duration leading to the Bachelor of Science degree in Physics, Chemistry, Mathematics, and Geological Sciences. The University has no pass courses for the B.Sc. degree.
2. Post-graduate Courses :

Two years' courses leading to the Master of Science degree in Physics, Chemistry, Mathematics (both Pure and Applied) and three-year courses leading to the Master of Science degree in Applied Geology.
3. Post-graduate (Evening) Courses :

Three years' duration leading to M.Sc. degree in Physics, Chemistry and Mathematics.
4. Doctoral Programme leading to Ph.D. (Science) and D.Sc. degrees:

FACULTY OF ENGINEERING AND TECHNOLOGY

1. Under-graduate Courses :
 - (a) Architecture, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Electronics and Tele-Communication Engineering, Mechanical Engineering, Metallurgical Engineering, and Production Engineering leading to the degree of Bachelor of Engineering in the respective subjects. Each of these courses are of 4 years' duration excepting Architecture and Production Engineering, duration of which is 4 1/2 years.
 - (b) Pharmacy of 4 years' duration leading to the degree of Bachelor of Pharmacy (B.Pharm.)
 - (c) Food Technology and Bio-Chemical Engineering and Instrumentation and Electronics Engineering Courses having 3 years' duration each leading to the degree of Bachelor of Technology (B. Tech)

- (d) Part-time (Evening) Degree Courses in Civil Engineering, Electrical Engineering and Mechanical Engineering of 5-year duration. These courses are open to diploma-holders in Engineering who are in service.

2. Post-graduate Courses :

- (a) Chemical Engineering, Civil Engineering, Electrical Engineering, Electronics and Tele-Communication Engineering, Mechanical Engineering, Metallurgical Engineering, Food Tech. and Bio-Chemical Engineering, Pharmacy, Architecture and Production Engineering leading to degrees of Master in Engineering in the respective subjects. Minimum requirement of attendance for these courses is 3 Semesters (1½ years).

3. Doctoral Programme leading to Ph.D. (Engineering) and Doctorate in Engineering (D.Engg.) degree.

**SUMMER AND WINTER SCHOOLS,
WORKSHOP/SEMINARS AND
SHORT TERM COURSES**

Chemical Engineering :

The Department co-sponsored a seminar on "Technology Transfer". The seminar was organised by the Calcutta Regional Centre, Indian Institute of Chemical Engineers.

Mechanical Engineering :

1st International Symposia-cum-workshop on Bio-Engineering was held on 29-31 December 1983. A large number of international and national delegates and experts attended the seminar.

Civil Engineering :

1. Workshop on Environmental Awareness—sponsored by Department of Environment, Govt. of India.
2. All India Seminar on Valuation—in collaboration with the Institution of Surveyors, India.

Electronics and Tele-Com. Engineering :

A five-week training course sponsored by the Ministry of Education and Culture, Govt. of India on "Theory and application of Microprocessors/Microcomputers for the sponsored engineering/technical teachers in disciplines other than electronics" was held from 19th December 1983 to 21st January 1984.

Food Technology and Bio-Chemical Engineering :

National Symposium on "Surfactants, Emulsions and Biocolloids" held in October 1983.

Metallurgical Engineering :

U.G.C. sponsored 5 days workshop on "Electron microscope" held in December 1983.

Electrical Engineering :

The Department organised a national seminar on "Electric Ground Transportation" in March 1984.

Production Engineering :

1. One day seminar on "Technology Adaptation for Rural Development". The seminar was inaugurated by the President. The Institution of Engineers (India) and the key note address was delivered by the Head of the Deptt. of Production Engineering. The Dean, Faculty of Engineering and Technology and other professors participated in the seminar.

2. One day workshop on "Modern classification and Grouping Techniques" was inaugurated by the Dean, Faculty of Engg. and Technology and the key note address was delivered by the Head of the Deptt. Other Professors also participated in the discussion.
3. A two-days workshop on "Strategy-Mix for Productivity Enhancement" was inaugurated by the General Manager (Engg) Garden-Reach Ship Builders and Engineers Ltd. The key note address was delivered by the Head of the Deptt. Vice-Chancellor, the Dean of the Faculty of Engineering and Technology and other scientists and professors delivered lectures in the workshop. The workshop was well attended by participants from a few Industries. I.I.T.'S, Regional Engineering Colleges etc.

Pharmacy :

1. Seminar on "Development of Hospital Pharmacy" in connection with the celebration of National Pharmacy Week, November 1983.

Mathematics :

1. Seminar-cum-workshop on "Mathematical Linguistics, Mathematical Language and Interaction with Mathematical Education" was organised on 16-21, January, 1984. The seminar was sponsored by UNESCO, UGC, NCERT, ICPR, ICSSR and NBHM.
2. One day consultation-cum-discussion programme on "Dimensions in Mathematical Study and Research : Linkages between Industries and Universities" was held on 31 March, 1984 under the UGC-DSA Programme in collaboration with Mathematical Association, Jadavpur.

Architecture :

Session on Metropolitan Housing in the Regional Science Congress held at Jadavpur University where Prof. T. K. Chattopadhyaya, acted as the Chairman.

Philosophy :

Two workshops were held in the Deptt. during the year e.g. one in Indian Philosophy conducted by Pdt. Visvabandhu Bhattacharyya and the other in Philosophy of Language conducted by Dr. K. Sen Gupta.

The department organised seminar on "Utilitarianism and its 'critics'" and "Marx's conception of Man" in March 1984.

International Relations :

A seminar was organised by the Deptt. on "The Recent Security Problem of the World". It was initiated by Mr. Felix A Goryunov, Economic Observer of the leading Soviet Journal *New Times*.

DEVELOPMENT AND ACADEMIC PROGRAMMES

Civil Engineering :

The extension of Civil Engineering Department to house the new structural dynamics laboratory under the sixth plan development proposals has been completed. The equipment for the dynamics laboratory have also been installed.

The department has given proposals to the University Grants Commission for research and development in the fields of Soft Clay Engineering, Foundation Instrumentation, Air Pollution and Control, Long Span Structures and Computer Aided Design under the Special Assistance Programme.

Electronics and Tele-Communication Engineering :

Development of the following laboratories have been undertaken:

- (a) Microprocessor based distributed process control laboratory.
- (b) Thin—film laboratory.
- (c) Minicomputer laboratory.
- (d) Plain paper X-Ray pictures laboratory.
- (e) Microstrip measurement laboratory.
- (f) Fibre-optics laboratory.
- (g) Microprocessor laboratory.

A novel development technique for xeroradiography has been developed. Few commercial prototype are in operation in a hospital and in laboratory. Talks for commercialisation of mochul are in progress.

Architecture :

1. The awareness was to relate academic programme with the environmental needs. As a result, attempts were made to initiate environmental studies in post-graduate level.
2. The existing 4-year U. G. Course had been revised and the duration of the course had been extended to five years in accordance with the recommendation of the Council of Architecture.
3. Students of the department participated in the National Association of Students of Architecture (NASA) Meet at Trivendrum.

4. The department with the help of British Council, Calcutta organised an exhibition on the work of Sir Charles Correa, an international famous architect of India.

Electrical Engineering :

The department received a grant of Rs. 32.50 lakhs from U.G.C. under D.S.A. Scheme. A thrust area of "Digital Control" was selected by the Control System Section.

The fund sanctioned in the DSA scheme has been utilised in purchasing the following equipment by Control System Section:

- (i) 8086/87 based 16-bit computer manufactured by M.M.C. Ltd. (installed and in operation).
- (ii) Intel Sys. 310-3R 16 bit microcomputer with real time operating systems.

Production Engineering :

- (a) The University Grants Commission has selected the Department under Special Assistance Programme during the year. The main thrust areas of research are:

- (i) Manufacturing System
- (ii) Automation and Robotics
- (iii) Economics and Work-design
- (iv) Tribology and Tero-Technology
- (v) Designing of Production.

- (b) The Ministry of Education and Culture, Govt. of India sanctioned grant for the project on "Robotics" under new plan scheme for creation of infra-structure in the areas of Emerging Technology in the Deptt.

- (c) A microprocessor controlled pneumatically manipulated Robot has been indigenously designed and developed in Automation and Robotics Laboratory of the Department. The installation of a number of robots capable of performing a great variety of complicated tasks under the commands of external micro computers is in progress.

- (d) The Ministry of Education, Govt. of India, has provided fund for a proposal for strengthening the under-graduate course of study in 'Product Design' at the Deptt.

- (e) With the approval of U.G.C. a new programme of Post-graduate studies leading to M.Prod. E.Degree has been introduced in

1983-84 session and fifteen scholars have been admitted to the course including five being sponsored by different industries.

- (f) The department is going ahead with the development of:

- (i) the latest version of computer numerical controlled milling machine fitted with CAM system operating with the aid of Computer Graphics.

- (ii) other laboratories viz, Manufacturing System, Dcision Support Systems, Ergonomics etc. by the addition of new equipment including Hewlette Packard, A 700 system.

- (g) One of the rooms of the Department has been converted to a Seminar Room with all modern audio-visual aids, slide projectors, overhead projectors and microphone addressing system. Another room has been converted to a Drawing Room with all drafting equipment required for drawing and drafting practices, spatial graphics etc.

Chemical Engineering :

1. New subjects: (a) Cryogenics, (b) Operation Research and (c) Seperation of Multi-component systems have been introduced in the U. G. Course as elective papers for the final year students.

2. New subjects: (a) Computer Aided Design for Chemical Engineering, (b) Operation Research, (c) Modelling and Simulation in Chemical Engineering, (d) Numerical Analysis in Chemical Engineering, (e) Gas Dynamics, (f) Optimisation Methods, (g) Research Methodologies, (h) Pollution Abatement and Control, (i) Coal Processing Technology, (j) Renewal Energy sources and their utilisation and (k) Enzyme Engineering, have been introduced in P.G. level from 1983-84.

Mathematics :

The Department has been selected for the award of "Departmental Special Assistance" by the University Grants Commission for strengthening research and teaching programmes in Applied Mathematics and a total grant of Rs. 23.62 lakhs have been sanctioned in June 1983 for a period of 5 years.

Physics :

New syllabus for the undergraduate course in honours has been introduced to train the students with the thorough knowledge of the basic aspects and modern development of Physics. The Special paper "General Relativity and Cosmology" has been introduced in the post-graduate course to enhance the studies and research in the theory of gravitation.

Geological Sciences :

The Department continues to maintain its high standard of teaching and research. During the period under report it has been selected one of the few Universities for the U.G.C. support under the COSIST Programme. The Department is successfully completing the 2nd phase of the U.G.C. Special Assistance Programme in Economic Geology. The College Science Improvement and the University Leadership (COSIP-ULP) Programme in Geology (for the northern and eastern India) entrusted to the Department has been renewed in appreciation of the effort made by the Department in respect of the improvement of geological teaching in this region.

Bengali :

The student-teacher committee was quite active during the year and helped to induce various changes in the Department. The students accompanied by two teachers took an educational trip to Varanasi and the surrounding spots. A batch of refresher course students of the Eastern Regional Language Centre, Bhubaneswar, visited the Department and had interactions with our teachers and students.

Comparative Literature :

The department published its 22nd number of the internationally recognised journal, The Jadavpur Journal of Comparative Literature (ISSN-0448-1143) containing some research publications by 12 authors, both within and outside the University. The publication also includes notes and reviews of some books. Some of the important writings are mentioned below:

- (i) The technique of oral composition in the Ramayana by S.J. Robert Antoine.
- (ii) The Poetics of the Metropolis in Philippine Literature by E. San. Juan (Jr.).
- (iii) Arthur Miller as a critic of Ibsen by R. K. Kaul.
- (iv) Terms for the Medieval Indian Long Verse Forms by Sisir Kumar Das.
- (v) The Mother Image: A comparative study of Clytemnestra Media and Kannaki by K. Chellappan and Rani Roma Devi.
- (vi) Against the Pride of Reason: Looking at Swift through Montaigne by Harish Trivedi and Shirshendu Chakraborty.

Philosophy :

This was penultimate year of the department's participation in the Departmental Special Assistance (DSA) programme of the U.G.C.

and the Department successfully completed many of the projects adopted at the time of the inception of the programme.

The fifth Volume of the Jadavpur Studies in Philosophy, "Humans, Meanings and Existences" was published by Macmillan, New Delhi, in 1983. The volume included contributions of philosophers of repute and of the members of the Research Group.

Library and Information Science :

- (1) Evening course in Bachelor of Library and Information Science for working librarians started in January 1984.
- (2) Master Degree Course in Library and Information Science has been approved by the University Grants Commission.
- (3) The Department journal e.g. "Librarian" was published in January 1984.

RESEARCH ACTIVITIES/ PROGRAMMES

Civil Engineering :

1. A study on the design and performances of braced open cuts in Calcutta soil has been started in the Department in collaboration with the Metro Rail, Calcutta. Results of field observation in the cut and cover construction for Calcutta Metro Rail are being utilised to study the behaviour of strated excavation with R.C.C. diaphragm wall in soft clay.
2. Study of the water resources of the Calcutta Metropolitan area in relation to the future growth of the Urban Complex—A.D.S.T. project.
3. All-India integrated project on establishment of regional soil data banks—a D.S.T. project.
4. Open-web Composite structure project—a D.S.T. project.
5. Investigations on occurrence of heavy metals and other pollutants in the sewage fed fisheries in West Bengal in collaboration with the Deptt. of Chemistry of the University.
6. Development of Carbon Dioxide monitor—in Collaboration with Deptt. of Electrical Engineering of the University.

Electronics and Tele-Communication Engineering :

The following are the synopsis of the research programme:

Artificial Intelligence, Biomedical Engineering, Microprocessor applications, Multi micro architecture, System Science, Fault detection, Petrinets, Operating Systems, Digital Signal Processing, Circuits and Systems, Process Control, Industrial Electronics, X-Ray pictures on plain paper, Optoelectronics, Solar Cells, Solid State Devices, Microstrip Circuits and Antennas, EM wave interaction with plasma, Microwave propagation, Optical fibre communication.

The following sponsored research projects/centres have been undertaken in the Department:

- A. Centre sponsored by the Ministry of Education and Culture, Govt. of India.
 1. Centre for Microprocessor application for training, education and research.
 2. School of Energy Studies—Development of low cost solar cells.

- B. Projects sponsored by the Department of Electronics, Govt. of India.

1. Development of Fibre-optic data link.
2. Studies on Microstrip components and antennas.
3. X-Ray pictures on plain paper.
4. Micro-processor based distributed process control.

- C. Project sponsored by the University Grants Commission:

1. Preparation of Cds Powder for Solar Cells.

- D. Project sponsored by Tata Energy Research Institute:

1. Fabrication of large size CdS Solar Cells.

Food Technology and Bio-chemical Engineering:

1. Microbiological conversion of quinone to quinidine by Prof. S. K. Majumder.
2. Utilisation of food and agricultural waste for production of single cell protein by Prof. S. K. Majumder.
3. Studies on production of a new antifungal antibiotic from streptomyces kanamyceticus by Prof. S. K. Majumder.
4. Screening of microbial metabolites for antiparasitic by Prof. S. K. Majumder.
5. Studies on microbial production of glucose inomerase by Prof. S. K. Majumder.
6. Physico-chemical aspects of radio opaque barium sulphate by Prof. D. K. Chattoraj.
7. Development of a semifluidized bed rice husk fixed furnace by Prof. Sunit Mukherjee.
8. Development of a low cost model for biogas production by Prof. Sunit Mukherjee.
9. Studies on functional properties of oilseeds and legume proteins by Sri P. Chakraborty.
10. Modified and controlled atmosphere storage of fish by Dr. P. Chattopadhyay.
11. Cryofreezing characteristics of Rohu fish by Sri D. R. Chaudhuri.

12. Determination of Cadmium in food by Atomic Absorption Spectrophotography by Sri D. R. Chaudhuri.
13. Simultaneous deshelling and drying of prawn by Sri D. R. Chaudhuri.
14. Studies on the immobilisation of Papain by Dr. S. K. Mukherjee.
15. Studies on the fermentive production of cellulose and its immobilisation by Dr. S. K. Mukherjee.
16. Studies on the fermentive production of glucoamylase and its immobilisation by Dr. S. K. Mukherjee.
17. Production and nutritive value of mustard protein isolate and concentrate from oil cake and seeds by Sri P. Chakraborty.

Metallurgical Engineering :

1. Studies on fatigue damage by low stress loading in Weldments by A. K. Ghosh.
2. Studies on Powder Metallurgy of Steel by A. K. Ghosh.
3. Passivity and passivity break down studies by P. K. Mitra.
4. Welding characteristics of cryogenic steels by T. K. Pal.
5. Corrosion studies on weld joint by T. K. Pal.
6. Studies on solid state reduction of Iron Oxide by D. Ghosh.
7. Studies on electrical/optical properties of glass metal micro-composites by G. C. Das.

Architecture :

1. Exploration of the possibilities of introducing different indigenous techniques in the construction of residential building to minimise the use of scarce materials eg. steel, cement etc. by Sri S. Mukherjee.
2. Studies to identify causes of various defects in the building by Sri D. P. Sarkar and Prof. T. K. Chattopadhyay.

Electrical Engineering :

1. Department of Electronics, Govt. of India sponsored research project entitled "Development of a front-end system for computerized text processing and photo-composition of Bengali, Ahamia and Manipuri languages was successfully completed during the year. Special mention of this research as an outstanding work

of national importance was made several times during discussion in the Parliament.

2. Department of Atomic Energy, Govt. of India sponsored research project entitled "Micro-computer based remote controlled monitoring and data logging system" was successfully completed during this year. Prof. Raja Ramanna, Chairman, Atomic Energy Commission, during a visit to the Control System Laboratory, highly appreciated the work done in this project.
3. Implementation and consolidation of plain paper X-Ray jointly with the Department of Electronics and Tele-Communication Engineering of the University. Plain paper X-Ray as an auxiliary item has been introduced in several hospitals.
4. Work is going on for the measurements of current and voltage on EHV system by novel methods.

Production Engineering :

1. The department has consolidated research activities in the emerging areas and is going ahead with the development of new laboratories as well as teaching modules in the following areas:
 - (a) Automation and Robotics.
 - (b) Manufacturing Systems.
 - (c) Engineering Experimentation.
 - (d) Ergonomics and work design.
 - (e) Decision support systems and Quantitative Management Systems.
 - (f) Terotechnology and Tribology.
 - (g) Technical Arts.
2. Dr. R. C. Skeleton, a British Expert, visited the laboratories of the Department in September 1983 for a collaboration talk of research programmes in the field of Robotics and Computer Aided Manufacture (CAM).
3. The Department, as called for, has submitted a research programme proposal to the ISRO for specialised research on "Development of Robots with Artificial Intelligence" under RESPOND programme.

Pharmacy :

1. "On some Newer Semi-synthetic penicillins"—(Mrs. Zakia Khatun, W.H.O. Research Fellow from Bangladesh working under the

joint supervision of Prof. S. K. Datta and Dr. D. K. Roy, Emeritus Professor).

2. UGC scheme on "Search for New Proteolytic Enzyme from Latex-bearing plants" (Sri S. N. Dhar, Senior Research Fellow working under the supervision of Dr. S. K. Dutta).
3. UGC scheme on "Isolation of New Antibiotic from Soils" (Sri S. Singh Roy, Senior Research Fellow working under Dr. D. K. Roy and Dr. S. K. Mandal).
4. UGC scheme on "Biosynthesis of erythromycin by *S. erythreus*". (Sri P. K. Bose, Senior Research Fellow).

Chemical Engineering :

1. Research project on "Development on Interfacial Agents for Glass fibre, Natural fibre hybrid composite" has been initiated in 1983-84.
2. Department of Non-conventional Energy, Govt. of India has sanctioned to the School of Energy Studies, Jadavpur University, a National project on "Wood Stove" under joint supervision of Sri G. K. Biswas and Dr. S. N. Sen.
3. The Tashkent Polytechnic Institute, U.S.S.R. has proposed a collaborative programme in the field of Automatic Control and Mechanisation in Chemical and Food Industries.

Mechanical Engineering :

1. Research grant from the Aeronautical Research and Development Board for continuing the project entitled "Study Transonic Flow Past Thin Wings" (Sri M. Maitra).
2. Research grant from the D.S.T., Govt. of India for a project entitled "Mechanics of surgical cutting of Hard Tissue and Development of Indegenous surgical cutting tools and Appliances (Dr. S. Pal).
3. Research grant from the Meteorological Deptt., Govt. of India to pursue study on monsoon dynamics on Atmospheric Science (Dr. B. N. Chanda).

Physics :

The department conducted advanced studies and research in the following areas of theoretical and experimental physics (during 1983-84).

- (a) High Energy Physics (b) Solid and Liquid State Physics (c) Atomic and Molecular Physics (d) Nuclear Physics and Cosmic

Rays (e) X-Rays and Crystallography (f) General Relativity and Cosmology and (g) Material Science and (h) Bio-Physics.

The department has also taken up the following specific projects:

- (a) Study of electrical properties of planar membranes (UGC) by Dr. P. Nandy.
- (b) Effect of external agents on fluidity and e-conductivity of bio-membranes (DAE) by Dr. P. Nandy.
- (c) Mathematical study on solution like wave propagation (DST) by Dr. A. Roy Chaudhury.
- (d) Studies on the variation of meteorological parameters and its relation with urbanisation and industrialisation (ISRO) by Prof. S. D. Chatterjee.

Mathematics :

Research project on Insensity dependent precessional rotation and other effects of strong waves in plasmas under Prof. B. N. Chakraborty is in progress from Aug. 1981 and will continue upto August 1984.

Chemistry :

The following research projects are under investigation:

1. Reductions of cyclic imines by various reducing agents studies on stereoselectivity of these reduction.
2. Synthetic studies on α methylene- γ -butyrolactones.
3. A Novel Ring Contraction reaction.
4. Isolation, purification and structure of some edible plant polysaccharides.
5. Isolation and characterisation of fish skin glycoconjugates.
6. Structure of asperazine-linked glycopeptides isolated from Fish Skins.
7. Investigation of lignin-carbohydrate complexes (LCC) of Jute and Mesta Fibres.

Geological Sciences :

1. Physico-Chemical and petrological studies of coal and associated sediments in the Major Gondwana basins of India—Late Prof. B. C. Mukherjee, Dr. A. Ghosh, Dr. S. Chaudhury and Dr. D. N. Bandopadhyay.

2. Geological, mineralogical and geochemical studies of the Major manganese ore deposits of India, with particular reference to their genetic and utilisation aspects—Prof. S. Roy, Dr. S. Das Gupta, Dr. P. K. Bhattacharyya and Sri A. K. Bhattacharyya.
3. Genesis of the banded iron formation and associated iron ores of Orissa and Bihar—Prof. S. Roy and Prof. K. L. Chakraborty.
4. Geotechnical investigations of the landslides in the different parts of Sikkim and West Bengal—Sri Arun Kr. Bhattacharyya.
5. Investigation on the chromite and nickel deposit associated with the ultrabasic rocks of Eastern India—Prof. K. L. Chakraborty and Prof. S. Mitra.
6. Geology and ore mineralisation of the Singbhum mineral belt—Prof. S. C. Sarkar, Prof. S. Ghosh and Dr. R. K. Majumder.
7. Study of the sulfide mineralisation in Rajasthan with particular reference to Khetri, Saladipura, Basantgarh Deri—Ambamata—Prof. S. C. Sarkar, Prof. A. D. Mukherjee and Dr. P. K. Bhattacharyya.
8. Engineering Geological problems related to the different hydro-electro projects at Darjeeling district, West Bengal—Sri Arun Kr. Bhattacharyya.
9. Ore mineralisation in parts of the Eastern Himalayas—Prof. S. C. Sarkar, Prof. P. S. Chakraborty, Dr. H. Banerjee, Dr. S. Dasgupta, Dr. P. K. Bhattacharyya and Prof. A. D. Mukherjee.
10. Structural Control, mineralogy and genesis of the gold tungsten concentration in Bihar and West Bengal—Prof. P. S. Chakraborty.
11. Investigation into the magnetisation processes of rocks—Prof. S. Basu Mallik.
12. Scale model experiments on geological structures with particular reference to mineral deposits—Prof. S. Ghosh and Dr. (Miss) Sudipta Sen Gupta.
13. Paleontological study of the Mesozoic and Tertiary sediments with particular reference to their economic possibility—Dr. S. Bardhan.
14. Proterozoic tidal deposits in parts of Madhya Pradesh and Rajasthan and their paleogeographic and economic implications—Prof. S. K. Chanda, Dr. Ajit Bhattacharyya and Dr. P. K. Bose.
15. Exploration of some geothermal areas in the Himalayas and in the north-eastern peninsular India for their economic utilisation.
16. A study of the copper-mineralisation at Malanj Khand, Madhya Pradesh—Prof. S. C. Sarkar.

17. A study of the ground water potential of a part of the Purulia district—Prof. S. Basu Mallik.

Comparative Literature :

1. The Department has submitted a project to U.G.C. on the East-West Literary Relations” for consideration.
2. The M.Phil. and the Ph.D. candidates did some research under the supervision of the different members of the Faculty, the areas being:
 - (a) East-West Literary Relations-both the Western impact on Indian Folk theatrem narratology.
 - (b) Popular fiction and literature as an industry.
 - (c) The theatre of protest in India.
 - (d) The ‘absurd’ in the Western theatre.
 - (e) Medieval Indian Literature Comparative epic.
 - (f) Childrens’ theatre.
 - (g) Third World Literature.

Philosophy :

The Department had three major research schemes in progress:

1. Preparation and publication of Encyclopaedia and Lexicon of Indian Philosophical Terms.
2. Individual and group research in Philosophical and Non-standard Logic.
3. Individual and group research in Philosophy of Language, Ethics, Social Philosophy, Sociology of Knowledge and Theory of Communication.

In addition, the following research schemes were also taken up:

1. Studies in Navya Nyaya and Tatta Cintamani Rendition project.
2. Preparation of modern introduction to Nyaya Vaisesika Ontology.
3. Publication of an annotated anthology in Social and Political Philosophy.
4. Publication of an authentic text of Hindu Moral Philosophy with an introduction from a Comparative Standpoint.

International Relations :

More than 18 research scholars, some with fellowship and some without fellowship, are working on various aspects of present international situation, particularly on the political and economic developments in South East Asian and South Asian countries. Six M.Phil research dissertations were submitted in 1984.

Sanskrit :

1. Dr. B. P. Bhattacharyya and Dr. Nandita Banerjee have been awarded financial assistance by the U.G.C. to work on minor research projects on Veda and Nyaya Philosophy respectively.
2. Dr. B. P. Bhattacharyya has also been awarded financial assistance by the U.G.C. to work on the minor research project entitled "A study on some phonetic phenomena in Rigveda—Pratisakhya".

CONSULTANCY AND TESTING SERVICES BY FACULTY MEMBERS

Mechanical Engineering :

1. Prof. M. Bhattacharyya has worked in the Expert Committee to advise on the "Revolving Angel" atop the Victoria Memorial Hall, Calcutta.
2. Prof. Sukumar Dutta and Prof. R. K. Chakraborty have been nominated as members in the Telephone Advisory Committee by the Govt. of India.

Civil Engineering :

1. Braced cuts and Shield tunnelling work for Calcutta Metro Rail construction.
2. Performances of Deep Tubewells at the factory site of Incheck Tyres Ltd. near Kankinara.
3. Foundation Investigation for Base complex of ONGC at Silchar, Assam.
4. Computerised indent processing of structural equipment for S.F. India, Ltd.
5. Global information retrieval system on water use, stream classification system and quality criteria for beneficial uses of water.

Electronics and Tele-Communication Engineering :

1. Prof. A. R. Saha has carried out regular industrial consultancy during the year in the field of Power Electronics, Electronic Measurement, Digital Systems and Battery Test Equipment.
2. Dr. P. K. Das is acting as a consultant in WEBEL Computers.

Food Technology and Bio-Chemical Engineering :

1. Lactic acid from sugar by fermentation by Prof. Sunit Mukherjee.
2. Cryogenic freezing of food with M/S. Indian Oxygen Ltd. by Dr. P. Chattopadhyay.

Metallurgical Engineering :

1. Investigation on micro-structure of Cu-P-Alloys as referred by the B.S.S. Metal Manufacturing Company.
2. Micro-structure studies of tool breakage referred by M/S. Usha Fan Industries.

Architecture :

The Department extended consultancy services to various projects in the city of Calcutta through personal participation of the members of the faculty. Prof. K. N. Pathak advised Victoria Memorial Authorities along with faculty members of other Departments on the repair work particularly bronze statue surmounting the dome of the building.

Electrical Engineering :

1. Dr. T. K. Ghoshal has completed a consultancy project on Computerized Design of process equipment for M/S. Mars Design Pvt. Ltd. during the year.
2. Dr. K. Ray has taken up a consultancy project on Development of Adjustable speed, P.W.M. Inverter-Driven Induction Motor Drive Controller for M/S. General Electric Company of India Ltd. during the year.

RESEARCH PUBLICATION BY FACULTY MEMBERS

Mechanical Engineering :

P. K. Bhattacharyya, R. Chakraborty, S. N. Pal and B. N. Chanda—

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2. S. Roy, P. K. Bhattacharyya, S. Das Gupta and M. Flukoka :
 "Geochemistry of braunite and associated phases in metamorphosed non-calcareous manganese ores in India and related phase equilibria"—*Contributions to Mineralogy and Petrology* (West Germany) 1984.
3. S. Roy, S. Das Gupta and M. Flukoka :
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4. S. K. Ghosh and S. Lahiri :
 "Morphology of penecontemporaneous interpenetrative contortions and their modification by diastrophic movements in the Ghatsila—Galudih area, Singhbhum, Eastern India"—*Structure and Tectonics of precambrian Rocks of India Recent Researches in Geology*, Vol. 10, Edited by S. Sinha Roy, pp. 144–157, 1983.

5. S. K. Ghosh :
 "Successive development of plane non-cylindrical folds in progressive deformation"—*Journal of Structural Geology*, 1984.
6. P. S. Chakraborty, A. K. Basu, V. Y. Khiltova :
 "Geochronology of the rocks of Sikkim Himalaya : A note with new data"—*Quart. Jour. Geo. Min. and Met. Soc. Ind.* Vol. 55 pt. 1, pp. 46–48, 1983.
7. P. S. Chakraborty, S. Nag and T. E. Smith :
 "Alkaline basic intrusives of Elchuru, Prakasam District, Andhra Pradesh, India"—*Proc. Ind. Acad. Sci. (Earth and Planet Sci.)* Vol. 92, pt. 1, pp. 73–80, 1983.
8. P. S. Chakraborty :
 "A study on the pegmatites of Bankura, Midnapore and Purulia Districts, West Bengal"—*Workshop on Mica, Geological Survey of India, Patna* pp. 39–40, 1983.
9. P. S. Chakraborty and A. K. Basu :
 "A study on the composition of water of the Hot Spring at Sahasradhara"—*Proc. 70th Ind. Sc. Congr. Pt. III*, p. 30 (Abstract) 1983.
10. P. S. Chakraborty, A. Banik Chaudhury and M. Nandi :
 "A preliminary study on the auriferous quartz veins in the area around Anandpur—Paradit, Singhbhum District, Bihar, India"—*Proc. 70th Ind. Sc. Congr. Pt. III*, P. 22 (Abstract) 1983.
11. P. S. Chakraborty and S. Nag :
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12. P. S. Chakraborty, S. Nag, T. E. Smith and C. H. Huang :
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13. S. K. Chanda, A. Bhattacharyya and S. Sarkar :
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14. S. K. Chanda :
 "Lithification of marine carbonate sediments"—Bhu-Vidya, Vol. 39, 1983, Presidency College, Calcutta.
15. A. Bhattacharyya and G. M. Friedman :
 "Minerological and paramorphic textural changes generated in modern ooids by heat and compaction"—Geology, Vol. II, pp. 596-598, 1983.
16. A. Bhattacharyya and G. M. Friedman :
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17. A. D. Mukherjee :
 "Pillow structures and meta-hyaloclastite breccias from Delhi supergroup of amphibolites"—Journ. Geo. Soc. Ind. Vol. 15, pp. 70-72, 1984.
18. A. D. Mukherjee and P. K. Bhattacharyya :
 "Petrochemistry of pillowed amphibolites from Delhi Supergroup, Serohi Dist. Rajasthan, India"—Geol. Mag. London, Vol. 120, pp. 1-9, 1984.
19. A. D. Mukherjee :
 "Precambrian sulphide mineralisation in India and its metallogeny (abs).—Journ. 27th I.G.C., Moscow, 1984.
20. P. K. Bhattacharyya, H. Banerjee, S. Dasgupta and S. C. Sarkar :
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21. P. K. Bhattacharyya, J. Ganguly and M. K. Murti :
 "Petrology and comparative P-T. regime of garnet hercynite nodules from the Proterozoic Kimberlite pipes of S. India"—Abstract, EOS, 64, 45, 903, 1983.
22. A. L. Mukherjee :
 "Fluorite solubility equilibria in some thermal springs of northern peninsular India"—2nd Seminar, All India Association of Hydrologists, Osmania University, Hyderabad, 1983.
23. A. L. Mukherjee :
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Dist. Bihar, India"—International Symposium on "Thermal and mineral waters geothermics, bioclimatology and therapeutic tourism" held at Loutarki, Greece, 10-15 September 1983.

24. P. K. Bose :
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25. P. K. Bose and N. Das :
 "A transgressive storm and wave-affected siliciclastic shelf sequence—Cretaceous Nimar Formation, Chakrud, M.P."—Geological Journal, 1984.
26. P. K. Bose and A. Chakraborty :
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27. R. K. Majumder :
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28. R. K. Majumder :
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29. Sudipta Sengupta and S. K. Ghosh :
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30. S. Dasgupta, H. Banerjee and N. Majumder :
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Bengali :

1. D. P. Bhattacharyya :
 Books on (a) A new and enlarged edition of Bangla Charit Sahitya.
 (b) A new and enlarged edition of Upanyaser Katha.

2. S. K. Chatterjee :

Books on (a) Bibhuti Bhusan Prasanga, *Prasangata*.

(b) Bibhuti Bhusan Bandopadhyay (Sahitya Academi, MIL Series).

3. P. B. Sarkar :

Books on "An edition, with commentary and textual analysis of Girish Ch. Ghosh's *Jana*."

4. S. C. Moitra :

Books on "An edition with commentary of the works of Michael Madhusudan Dutta."

5. D. P. Bhattacharyya :

"George Orwell O Taur, 1984."—*Jugantar*.

6. P. B. Sarkar :

(a) "Problems of translation from (and to) South Asian Languages"—Southeimer, Gunther (ed), *South Asian Digest of Regional Writing*, Vol. 7, South Asian Institute, University of Heidelberg, pp. 25-34.

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(c) "Entry on "Bengali Drama and Theatre : The first phase in George, K. M. (ed)".—*Encyclopaedia of Comparative Indian Literature* published by Kerala Sahitya Academy and MacMillan (Madras).

(d) "The serial on Bengali pronunciation, *Bangla Bolo*"—*Ananda Mela*, 1984.

(e) "Adarey—Anadarey Namkaraner Dhvani tattva"—*Ananda Bazar Patrika*, Sept. 4, 1983.

(f) "Prabasi Sisuder Matribhasa Sekhano"—*Atalantik*, August-October, 1983.

(g) "Svarasangati Apinihiti, Abhusruti, Apasruti : Namkaran Barjaner Pakse Ekti Prastab"—*Bhasa* (M.Nath ed.), Vol. 3, No. 1, 1983-84 pp. 50-60.

7. S. C. Moitra :

(a) "Derozio and Hindu College"—*Dainik Basumati*, January, 1984.

(b) "America and Bengal in the Nineteenth Century"—*Atalantik*, 1984.

8. C. R. Ghosh :

"Tin Nambari Theatre"—*Desh*, February, 1984.

9. P. C. Sarkar

"A review article on Naresh Ch. Sengupta—*Aajkal*."

10. B. Roy

(a) "Kati Mahato (a short story)"—*Jugantar* (Autumn, 1983).

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11. S. B. Giri :

(a) "Krishna Kathar Rupayane Sri Raghunath Das Goswami"—*Nityananda Asram Patrika*.

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Comparative Literature :

1. M. Bandopadhyay :

(a) "Calibaner Prithibi" (Recent trends in Latin American Fiction)—*Shiladitya* (1983-84).

(b) "Picassor Natak Theke Ballet"—*Parichaya*, 1983.

(c) "Czeslaw Milosz—er Kavita"—*Bibhab*, 1983.

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2. P. Das Gupta :
- (a) "More of the Sculptor" (an articles on Ram Kinkar Baij's Sculpture)—Lalit Kala Contemporary, 1983.
 - (b) "Genesis of my Poetry" —Satavisa, 1983.
3. A. Deb :
- (a) "Was it all in the manner of mallarme's ?"—The Literary Criterion, 1984.
 - (b) "Modern Bengali Poetry : Tagore and after" in K. M. George, ed—Comparative Indian Literature, Vol. I.
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4. S. Ray Chaudhuri :
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5. S. Majumder :
- (a) Problems of Literary Historiography in Indian Literature"—J.J.C.L., Vol. 22.
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English :

1. Kitty Datta :
- (a) "Hecate" and Demons/Demons"—Spenser Encyclopaedia (University of Toronto, Canada).
 - (b) "Romanticism, Religion and Self"—Jadavpur University Essays and Studies, Vol. IV.
2. D. Mukherjee :
- Translation of a play "The Four Passengers" by Zia Haider of Bangladesh—Sahitya Academy Journal, Dacca.
3. V. Chatterjee :
- (a) Edited "The Romantic Tradition".

- (b) Contributed two articles on Shellys "Adonais: A Romantic Transmutation of the Elegiac Tradition and "The Name and Nature of Romanticism"—Jadavpur University Essays and Studies, Vol. IV.
4. Jasodhara Bagchi :
- (a) "Mathew Arnold: The Apostle of Culture"—The Journal of the School of Languages, Jawarlal Nehru University, Vol. VIII no. 1 and 2 combined
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5. Malini Bhattacharyya :
- (a) "Shelly and his concept of "The Spirit of the age"—Calcutta University Journal of English, 1983.
 - (b) "Criticle on Tarashankar Bandopadhyay"—Jalarka, 1983 (Bengali).
6. A Rudra :
- (a) Review of Ritwik Ghatak O Tar Chhabi" ed. Rajat Roy—Chitrabhash, Puja Number, 1983.
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7. M. R. Bhattacharyya :
- Lenin and the Freedom of the Theatre (Bengali)"—Patobhumi, March 1984.
8. S. Chakraborty :
- (a) "Against the Pride of Reason : Looking at Swift through Montaigne"—Jadavpur Journal of Comp. Literature, Vol. 22, 1984.
 - (b) "Translation of Yeats' Poetry"—Nobel Sahitya Sambhar, Vol. 3.
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10. Sati Chatterjee :

“Arts and Inspiration : The continuing debate”—Jadavpur Journal of Essays and Studies Vol. IV.

11. Indrani Halder :

“The Romantic Legacy to Modern Art”—Jadavpur Journal of Essays and Studies, Vol. IV.

12. Malabika Sarkar :

“The Quest for Paradise : Milton and the Romantics”—Jadavpur Journal of Essays and Studies, Vol. IV.

13. Late R. Karlekar (Published Posthumously) :

“T. E. Hulme and T. S. Eliot : Crisis and Tradition”—Jadavpur Journal of Essays and Studies, Vol. IV.

History :

1. A. De :

(a) “Aurobindo Ghosh in Indian Politics (1893–1910). An assessment of the role of a noted Bengali intellectual”.

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(b) “Marx’s Early Legal Thought (1835-1843)”—Proc. of Seminar on Marxism and Law, Deptt. of Law, University of Calcutta, Feb. 1984.

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(d) “Bharatiya Jibane Juktibad O Derozio”—Smarak Grantha, Calcutta, March, 1984.

(e) “Flourishing stage of Indigo Plantation”—Journal of History, Jadavpur University, Vol. IV, 1983.

(f) Published a book on “Chine Bharatiya Medical Mission” (in Bengali), August, 1983.

2. Anuradha Chanda :

“Public Opinion and Structural Changes in the Civil Service in Bengal, 1854-1885”.—Journal of History, Jadavpur University, Vol. IV, 1983.

3. D. P. Choudhury :

“American Response to the Indian-China Conflict in the Himalaya”.—Quarterly review of Historical Studies No. I, (April-June 1983), Vol. XXIII.

4. Jayanti Maitra :

“Islamic Fundamentalism in Bengal in the Nineteenth Century”—Journal of History, Jadavpur University, Vol. IV, 1983.

5. Sukla Das :

(a) “Indian Fabric Art : Cashmere”—Journal of History, Jadavpur University Vol. IV 1983.

(b) “Indian Awakening and Sri Ramakrishna”—Samvit No. 7 1983.

6. P. K. Bhattacharyya :

“Mountstuart Elphinstone and the Southern Jagirdar Issue”—Journal of History, Jadavpur University Vol. III.

Sanskrit :

1. Sukumari Bhattacharyya :

“The Rise of Prajapati in the Brahmanas”—Annals of Bhandarkar Oriental Research Institute.

2. M. Banerjee :

“Devipurana of Indian Art”—Bulletin of the All-India Kashiraj Trust, Varanasi (XXVI, No. 1).

“Some observations on the relation between Kalidasa and the Imperial Guptas”—Haryana Sahitya Academi-Journal of Indological Studies, 1984.

3. Chinmayi Chatterjee :

Published the following books entitled:

(a) Bhaktiraser Vivartan.

(b) Evolution of Bhakti Cult, Vol. I and II.

(c) Bhagabat Samdarbha (Critically edited).

(d) Paramatmasandharbha (—Do—)

(e) Bhakti Samdarbha (—Do—)

(f) Pannidarsanan (Critically edited)

4. R. S. Banerjee :

"Published a book on "Concept of Asiddhatva in Panini".

Library and Information Science :

1. A. K. Ohdedar :

"Growth of Libraries in Calcutta during the nineteenth Century".
—Librarian, J. U. January, 1984.

2. P. B. Roy :

"Library Law in West Bengal : A little introspection"—Librarian, J. U. January, 1984.

3. M. L. Chakraborty :

"The Book Hunger"—Librarian, January, 1984.

4. P. Roy Choudhury :

"Inter Library co-operation: A scheme for public Libraries in West Bengal"—Granthagar, March 1984.

Inter-disciplinary (Water Resources Engineering)

1. B. Bose :

"Some aspects of Water Resources"—Proc. 3rd All Bengal Science and Tech. Conference Howrah, 1983.

"A note on Stack entitled "Pollution"—Proc. 13th AICEME, Calcutta, 1984.

**PAPERS PRESENTED AND LECTURES DELIVERED
AT SEMINARS/CONFERENCES**

Mechanical Engineering :

1. Management of watershed—lecture delivered at the 4th All Bengal Science and Technological Conference, Howrah, 1984 (B. Bose and S. Majumder).
2. Some aspects of noise problem—lecture delivered at the Conference of Ecological Exploration, Calcutta, 1983 (B. Bose).
3. A note on coherent structures on turbulence—paper communicated for publication to the Biennial conference on Turbulence, Rolla, U.S.A. (Bose).
4. Meteorological sky condition from infra-red radiation study (S. K. Ghosh and B. N. Chanda)—presented at the 2nd International Symposium on Instrumentation, Calcutta, 1983.
5. Computation of wave diffraction around arbitrary off-shore structures (S. Bose and B. N. Chanda)—accepted for publication in the Proc. 2nd Asian Conference on Fluid Mechanics, Beijing, 1983.
6. Heptal Rainfall analysis and soil moisture in Purulia District in West Bengal (B. K. Bhattacharyya, K. K. Basu and B. N. Chanda)—presented at the International Conference on Bio-Meteorology, Delhi, 1983.
7. Some aspects on the environmental pollution from the smokes emitted from industrial stacks—presented at the 13th AICEME, Calcutta 1983 (B. Bose).
8. Inductively coupled electromagnetic stimulation effect skeletal growth of embryonic chicken—Prce. W/S-cum-Symp. on Effect of Electromagnetic Radiation on Biological System, New Delhi, 1984 (A. Pal, S. Pal and S. Saha).
9. Mechanics of drilling by surgical pin—presented at the 12th All-India Machine Tool Design and Research Conference, Madras, 1984 (S. Pal).
10. Finite Element Methods of Bio-Mechanics—presented at the Seminar on Computational Mathematics, Calcutta 1984 (S. Pal).
11. Computer aided Reliability analysis of power generating system—presented at the Seminar on Computational Mathematics, Calcutta, 1984 (R. N. Banerjee).
12. Basic concept of reliability engineering with case study—invited lecture delivered at Haldia Dock Complex (R. N. Banerjee).

13. Statistical assessment of stick-slip motion during sliding—presented at the ICPE Conference, Tokyo (A. Bhattacharyya).
14. Tribo-testing of slides in vacuum—presented at the 11th AIMTDR, Madras (A. Bhattacharyya and S. K. Ghosh).
15. Computer aided analysis of Hydrostatic Extrusion—presented and published at the 11th AIMTDE Conference, Madras (T. Chattopadhyay).

Chemical Engineering :

1. Paper presented at the International Bio-Technology Conference at New Delhi (P. Sarkar).

Civil Engineering :

1. Computerized Techniques to evaluate seismic effect on Tall Frames (A. K. Mukherjee)—presented at the Seminar on Modern Trends in Structural Analysis, Benaras, Feb. 1984.
2. Tall structure, its necessity and hazards (B. Sen Gupta)—presented at the Seminar on Tall Buildings, April 1983.
3. Production of foam concrete with aluminium powder and its properties (B. Sen Gupta), P. K. Ghosh and B. N. Ghosh—presented at the seminar on Cement Product Industries, Calcutta, 1983.
4. Fundamentals of Solid Mechanics and Fictional Resistance of Piles (N. Som)—presented at the workshop on Pile Foundation at I.I.T. Bombay, August, '83 Nov. 1983 and March 1984.

Electronics and Tele-Comm. Engineering :

1. A simplified method of fabrication of front contact for a thin-film Cu_2S -Cds Solar Cell (S. Deb)—presented at the National Solar Energy Convention, Vadadora, December, 1983.
2. On the estimation of myocardial infraction size (A. N. Dey, Mrs. M. Mondal, A. K. Mondal)—presented at the 1st International Symposia-cum-Workshop on Bio-Engineering, Jadavpur University, December, 1983.
3. Microprocessor based data-logging for bio-medical signals—(P. Ganguly, Mrs. M. Mondal and A. K. Mondal)—presented at the 2nd International Symposium on Instrumentation, Calcutta, December, 1983.
4. Implementation of chest pain classifier using micro-processor (Mrs. M. Mondal, Mrs. I. Roy and A. K. Mondal)—presented at the Symposium on microprocessor based system, CEERI, Pilani, May 1983.

5. Multichamber model for CKMB release in myocardial infraction (Mrs. M. Mondal and A. K. Mondal)—presented at the 2nd International Symposium on Instrumentation, Calcutta, December, 1983.
6. Electric fields in a charged tuner layer on a photoreceptor and X-Ray imaging (M. K. Mukherjee)—presented at the IEEE Conference on IAS, Mexico, October, 1983.
7. Circuit implementation on current conveyer and some applications (R. Nandi and P. B. Jana)—presented at the 26th Midwest Symposium on circuits and systems, Mexico, August, 1983.
8. A microprocessor based real time arrhythmia monitoring system (M. Nasipuri, D. K. Basu, R. Dattagupta and S. Seth)—presented at the 2nd symposium De Ingenieria Bio-medica, Madrid, October, 1983.
9. A New microprocessor based data reduction for monitoring communication and storage of ECG Signal (M. Nasipuri, D. K. Basu, R. Dattagupta & S. Seth)—presented at the 7th symposium on Computer Applications in Medicine, Bultimore, October 1983.
10. Prof. M. K. Mukherjee delivered the keynote address in the 1st International Symposium-cum-workshop on Bio-Engineering, Mech. Engineering Deptt. Jadavpur University, December, 1983.

Production Engineering :

1. Research papers submitted by A. Bhattacharyya at the Commonwealth Engineering Conference, Harare, Zimbabwe and at the UNESCO-CIRP. Seminar on Machine Tools Development at Singapore.
2. Research paper on Robotics (S. Deb)—presented at the Seminar on Machine Tools organised by the Indian Institution of Plant Engineers, W.B. Chapter, October, 1983.
3. Automation and Robotics: A step towards Job Enrichment (S. R. Deb)—presented in the All India Seminar on Productivity Maximisation in Industries organised by the Institution of Engineers (India), Calcutta, April 1983.
4. Aiding productivity through Maintenance (S. K. Sorkhel)—presented in the All India Seminar on productivity Maximisation in Industries organised by the Institution of Engineers (India), Calcutta, April, 1983.

Food Tech. and Bio-Chem. Engineering :

1. Studies on momentum transfer in spouted bed for gas solid system (G. K. Biswas and A. Ghose)—presented in conference of Fine Particle Society in Honolulu, August, 1983.

2. Cryofreezing characteristic of Rohu Fish (S. Bhattacharyya, Sm. Sila Bhattacharyya and D. R. Chaudhuri)—presented in 3rd Indian Convention of Food Sc. and Tech., Mysore, June 1983.
3. Simu Haneous deshelling and drying of prawn (H. Ganguly, D. R. Chaudhuri and S. Mukherjee)—presented in 3rd Indian Convention of Food Sc. and Tech., Mysore, June 1983.
4. Sri Amit Ghosh attended 3-week course on "Modern Techniques of Genetic Manipulation" held at Calcutta in Nov.-Dec. 1983 organised jointly by IICB, Calcutta and I.M.T. Chandigarh.
5. Determination of Cadmium in food by atomic absorption spectro-photography (D. R. Chaudhuri et al)—presented at 3rd Indian Convention of Food Sc. and Tech., Mysore, June 1983.
6. Studies on "Immobilisation of Papain" (Research Scholar of S. K. Mukherjee)—presented in the VIII International Symposium on Biotechnology at New Delhi in Feb. 1984.
7. Jute Fibre as a substitute of glasswool in Microbial air filter (B. N. Srimani)—presented at the VII International Biotechnology Symposium at New Delhi, Feb. 1984.

Metallurgical Engineering :

1. D. Ghosh and S. Mukherjee attended Winter School on "Rate Phenomona in Extractive Metallurgy" held in December 1983.
2. Recent development in Testing Methods and Equipment in Foundry (B. Chakraborty)—presented in Institute of Indian Foundrymen in Sept. 1983.
3. Evaluation of structural damage in low stress cycling loading (B. Chakraborty and A. K. Ghosh)—presented at the 37th A.T.M. of Indian Institute of Metals, Nov., 1983.
4. Studies on the effect of vibration of modification and surface tension of Al-Si liquid metals (P. K. Mitra and I. N. Bhattacharyya)—presented in 37th A.T.M. of Indian Institute of Metals, Nov., 1983.
5. Effect of SIO on Nickel Segregation (S. Mukherjee, S. Bhattacharyya and B. Chakraborty)—presented in the 37th A.T.M. of Indian Institute of Metals, Varanasi Nov., 1983.
6. Kinetics of reduction of ferric oxide with methane (D. Ghosh)—presented in the Seminar during the Winter School in I.I.T., Kanpur, December 1983.

Architecture :

1. Defects of Buildings (D. P. Sarkar)—presented at the Session

on Metropolitan Housing in the Regional Science Congress held at Jadavpur University.

2. Computer application in Architectural Design (S. Chakraborty)—presented in a workshop at Trichinopally.

Electrical Engineering :

1. Bar Graph Display using Table-top Micro-Computers (H. Chattopadhyay and S. Bhattacharyya)—presented at the Symposium of Micro-Computer based Instrumentation held at Jadavpur University in Nov. 1983.
2. Design and Development of simple Communication Processor (G. Bhattacharyya and A. Roy)—presented at the Symposium of Micro-Computer based Instrumentation held at Jadavpur University in Nov. 1983.
3. A simple High Level Language for programming Logic Controllers (K. Ghosh, T. K. Ghoshal and K. K. Dutta)—presented at the 2nd International Symposium on Instrumentation organised by Institution of Instrumentation Scientists and Technologists (India) in Dec. 1983.
4. A simple cold-junction compensated thermocouple Amplifier (G. Bhattacharyya and K. Roy)—presented at the 2nd International Symposium on Instrumentation organised by I.I.S.T. (India) in December, 1983.
5. An Isolation Transducer for current Measurement in Adjustable Frequency power conditioning and Controlled Rectifiers (S. Roy and K. Roy)—presented at the 2nd International Symposium on Instrumentation organised by IIST (India) in December, 1983.
6. Selection of Homoeopathic medicines by a Digital Computer (P. K. Mukherjee, P. K. Bhattacharyya and N. Roy)—presented at the 2nd International Symposium on Instrumentation organised by IIST (India) held in December, 1983.
7. Electric Fields in a charged toner layer and X-Ray Imaging (M. K. Mukherjee, P. K. Mukherjee and A. K. Ghosh)—paper presented at IEEE-IAS Conference held in Mexico City in October, 1983.
8. Behaviour of Plastic Insulating Materials with Artificial Voids under Lightning Impulse (N. Chatterjee)—paper presented at 4th International Symposium on High Voltage Engineering held in Athens (Greece) in September, 1983.
9. Computation of Electric Field in a Condenser Busling by Fictitious Area Charges (P. K. Mukherjee and C. K. Roy)—paper presented at 4th International Symposium on High Voltage Engineering held in Athens (Greece) in Sept., 1983.

10. Micro-processor based underfrequency detection system (S. Paul and S. K. Basu)—presented in the seminar on micro-processor.
11. A few applications of Micro-processors (S. Chakraborty and S. K. Basu)—paper presented in the Seminar on Micro-processor.
12. Fost decoupled load flow solution for with AC/DC link (P. K. Chattopadhyay and G. P. Purakayastha). presented at the All India Seminar on Integrated Operation of Hydro thermal combined system organised by the Institution of Engineers in August, 1983.
13. Some operational problems of hydel generators connected to a grid (S. R. Bandopadhyay and S. Basu)—ibid.
14. Degital Distance relaying for h.v. Systems (U.S. Hazra)—ibid.
15. Prof. S. P. Patra was invited by the Institution of Engineers to deliver the 1st A.K. Ghosh Commemoration Lecture in April, 1983.
16. Prof. R. N. Dhar was invited to deliver a talk on Integrated Operation of hydro-thermal system by Institution of Engineers.

Pharmacy :

1. Physico-Chemical aspects of Serum—Protein Binding of Drugs (S. K. Datta)—presented at the IPCA Congress held at Hyderabad in December, 1983.
2. Separation of an Active Principle from Syzigium Cumini L. Seed Extract and its effect on Pentobarbitone induced sleeping time in mice (P. Pal)—presented at 71st Science Congress held at Ranchi, January, 1984.
3. Alkaloids of *M. Stipulosa* (D.C.) O. Kuntze' (P. K. Lala)—presented at the Indian Pharmacy Congress held at Hyderabad in December, 1983.
4. Colorant : the Pharmaceutical Adjuvant (P. K. Lala)—delivered at the 11th Annual Conference of Bengal Chemists and Druggist held at Hooghly in April, 1983.

Physics :

1. A paper was presented by A. Roy Choudhury at XII International Seminar on Group Theoretical Methods in Physics held at I.C.T.P. Published in Lecture notes in Physics Vol. 20, Springer Verlag, 1984.
2. On Scaler tensor theory of gravitation (A. Banerjee, S. B. Dutta Choudhury and N. Banerjee)—presented at the Symposium of Application of General Relativity in Astrophysical problems held at Poona in November, 1983.

3. Crystal and Molecular structure etc. (A. K. Mukherjee, M. Mukherjee)—presented at XIV National Seminar on Crystallography at I.I.T., Kharagpur.
4. Central Collision of heavy target etc. (D. K. Bhattacharyya) presented at 18th International Cosmic Ray Conference, Bangalore, August, 1983.
5. Low energy direct channel Regge pole etc. (D. K. Bhattacharyya) presented at I.P.S. Seminar held at Saha Institute of Nuclear Physics, Oct., 1983.
6. Probable Contribution to Cosmic Rays by Jupiter etc. (S. R. Ganguly et al)—presented at 18th International Conference on Cosmic Rays, Bangalore, 1983.
7. The Change of Jorian Decametric Radio Emission etc. (S. R. Ganguly et al)—presented at the National Space Science Symposium held at Poona in 1983.
8. Resistivity of Liquid Alkali-metals (D. Roy et al)—presented at the Nuclear Physics and Solid State Physics Symposium held at Mysore, December 1983.
9. 10 papers have been contributed by D. Ghosh and Collaborators to the 18th International Cosmic Roy Conference held at Bangalore in August, 1983.
10. 3 papers have been contributed by D. Ghosh and Collaborators to the Nuclear Physics and Solid State Physics Symposium, 1983.

Chemistry :

1. K. K. Rohatgi Mukherjee delivered lectures in the following National and International Conferences.
 - (a) Delivered the key-note address and a series of lectures in the winter school in photo chemistry held at Madras University in December, 1983.
 - (b) Delivered special lectures in Modern Trends in Photo-chemistry in Bhilwara, Rajasthan in March, 1984.
 - (c) UNESCO sponsored conference by Bangladesh Science Academy, Dhaka, Bangladesh in January, 1984.
 - (d) National Symposium on Molecular Spectroscopy, IACS, Calcutta.
 - (e) Presented a working papèr on Photogalvanic Cell in the workshop on Chemical Rontes for trapping of solar energy TIFR, Bombay.

- (f) Indian Science Congress, Ranchi, January, 1984.
- (g) Convention of Chemists, Cuttack, December, 1983.

2. K. K. Mahalanabis :

Delivered an invited Talk on "Acylation of *B* enamionitrites : some novel observation" at the National Symposium on New Reagents, Reactions and Rearrangements held in the University of Madras, January, 1984.

Economics :

Mrs. Manjula Bose delivered the key-note address on Inter-District Development in West Bengal at the Annual Conference of Bangiya Arthaniti Parishad in March, 1984.

Bengali :

1. P. B. Sarkar delivered three talks in Bengali (on Vidyasagar, World Literacy Day and Review of Probodh Chandra Sen's books) and two talks in English (on Modern Poetry and Bankim Chandra) over the All India Radio, Calcutta Centre.
2. Madan Mohan Goswami delivered an address on "The Importance of Nama—Samkirtana in Chaitanya's religious system" at Majdia College, Nadia.
3. P. B. Sarkar Chaired two sessions in the Comparative Indian Literature Conference, held at the University of Delhi in January 1984. He conducted a workshop on Theatre and the People, organised at Darjeeling by the Committee for Cultural Communications, Calcutta. He also read a paper on Bengali Spelling Reform in a seminar held at Vinaya Bhavan, Visvabharati in March, 1984.

Comparative Literature :

1. "Problems of Translating Literature from one Indian Language into another" (M. Bandopadhyay)—presented at the First International Conference on Translation, J.N.U. New Delhi in March, 1984.
2. From the Conservative 50's to the Radical 60's (M. Bandopadhyay)—presented at the National Seminar at the American Studies Research Centre, Hyderabad in August, 1983.
3. Towards Formulation of a Common Poetic for the Literatures in India Today (M. Bandopadhyay)—Dhvanyaloka Mysore, January, 1984.
4. Comparative Indian Literature and National Integration (M. Bandopadhyay)—The School of Punjabi Studies, Punjab University, 1984.

5. A lecture on Comparative Literature (M. Bandopadhyay)—Criticism Workshop, Burdwan University, Sept. 1983.
6. On Womens' Studies (N. Dev Sen)—Centre of Womens' Development Studies, Delhi, September-October, 1983.
7. On Comparative Literature Studies on National Integration (N. Dev Sen)—Punjab University, March, 1984.
8. Modern Indian Novel (S. Ray Chaudhuri)—Fakir Mohan Senapati Seminar, Sahitya Akademi, May, 1983.
9. Indian Encyclopaedias' (S. Ray Chaudhuri)—Thanjuar University, Madras, December, 1983.
10. On Book-Reviewing in Eastern India (S. Majumder)—Sahitya Akademi, August, 1983.
11. On Comparative Literature in India (S. Majumder)—Delhi University, January, 1984.
12. On Bengali Spellings (S. Majumder)—Visvabharati, March, 1984.

English :

1. V. Chatterjee presided over the British Poetry Section of the All-India English Teachers' Conference at Trivandrum in December 1983. He also presented a paper on T.S. Elliot's *Four Quarters* at the Conference.
2. J. Bagchi presented a paper on "Literary History and Modernity in Nineteenth Century Bengal" at the Maison de l' Inde in Paris in May 1983. She also gave a talk on "Mathew Arnold's Interpretation of Poetry" at the Department of English, Visvabharati in March, 1984.
3. M. R. Bhattacharyya read a paper on "Marxism and the Production of Literature" in an All India Conference on Karl Marx, North Bengal University in May 1983. In January 1984 he also read a paper on "Manik Bandopadhyay and the Remoteness of War" at a Conference on the Colonial Theme in Commonwealth Short Stories, University of Mysore.
4. Sm. M. Bhattacharyya read a paper on the "Colonial Theme in the Short Stories of Tagore" at a Conference on the Colonial Theme in Indian Literature, University of Mysore, January 1984. In March 1984 she also read a paper on "Marxbad O Shilpa-sahityabichar" at a seminar organised by the School of Social Sciences, Calcutta.

History :

1. Dr. A. De was invited to attend and read a paper at the 31st International Congress of Human Sciences in Asia and North

Africa held at Tokyo and Kyoto, Japan from August 31 to Sept. 7, 1983. He presented a paper on "Aurobindo Ghosh in Indian Politics (1893-1910): An assessment of the role of a noted Bengali Intellectual".

2. Being invited by Chinese People's Association for Friendship with foreign countries, Prof. A. De visited China to study the present day development of modern China in September 1983.
3. Prof. A. De was invited to deliver the following talks:
 - (a) Indian Nationalist Revolutionary Movement and Rash Behari Bose, at the Institute of Developing Economics, Tokyo, Japan in September, 1983.
 - (b) Islamic Fundamentalism and Indian Muslims: Historical Perspective at the Institute of Developing Economics, Tokyo, Japan in September, 1983.
 - (c) Various Aspects of Indian Life in the present century at the Institute for the study of Languages and Cultures of Asia and Africa held in Tokyo in September, 1983.
 - (d) Women and Modernisation in China at Calcutta in November, 1983.
 - (e) Source materials on Rash Behari Bose in Japan at Mahajati Sadan, Calcutta in February, 1984 on the 69th Memorial Day of the All India Armed Insurrection organised by Anusilan Samity.
 - (f) Derozio's Contributions to Indian Rationalism at Calcutta Book Fair, in March, 1984 organised by Derozio Commemoration Committee.
4. N. S. Bose read a paper on "Problems and Prospects of a Global Perspective in Higher Education : A Third World View" in the 4th International Conference of the European Association for Research and Development in Higher Education in Frankfurt, in Sept., 1983.
5. (a) A. Mukherjee read a paper on "Vivekananda's Ideas of Social Change" at a Regional Seminar organised by the Ramakrishna Mission at Hyderabad in Oct., 1983.
(b) A. Mukherjee delivered three endowment lectures at the Ramakrishna Mission Institute of Culture, Calcutta in June, 1983 on "Socialism as Vivekananda visualised it".
6. Smt. B. Lahiri read a paper at the Annual Conference of the Numismatic Society of India on Evolution of the coinage of Kashmir (upto the rise of the Utpala Dynasty held in Madras in December, 1983.

Library and Information Science :

1. Paper on "Information Service through Public Library System" (P. Roy Choudhury) presented as Guest Speaker in the Library Seminar organised by the Govt. of Tripura.
2. Paper on "Pre-requirement for a responsive rapport for information work" (B. R. Mukherjee as co-author) presented in a Seminar on perspectives of Information Science, DRTC Annual Seminar 21, Bangalore, March, 1984.

Sanskrit :

1. B. P. Bhattacharyya attended the All India Symposium on Re-orientation of the Syllabus and the Method of teaching Sanskrit held under the auspices of Rabindra Bharati University in January, 1984 and presented a paper.
2. B. P. Bhattacharyya attended the convention on "Relevance of Sanskrit Studies" held at the Rabindra Bharati University in March, 1984.
3. N. K. Basu participated in the All-India Symposium on "Re-orientation of the syllabus and the Method of Teaching Sanskrit" at the Rabindra Bharati University. in January, 1984.

He was invited to give a talk in Sanskrit on the occasion of the birth anniversary of Harinath De, celebrated under the joint auspices of Harinath De Centenary Celebration Committee and Federation Hall Society.

He attended a Seminar on "Disarmament and Development" organised by Gandhi Peace Foundation in collaboration with the Gandhi Study Centre.

4. Mrs. S. Bhattacharyya delivered three lectures on Vedic and Classical Literature in the Oriental Institute, Warsaw University, Poland. She also delivered the inaugural lecture in the session of Indo-Polish Friendship Association in Ploci, Poland. She presented a paper in the UGC Seminar in Visvabharati University on the relevance of Classical Studies. She also presented a paper in the UGC Seminar in the Rabindra Bharati University on the relevance of Sanskrit in the present day India.
5. S. Goswami delivered a lecture on "Vedanta and Sri Ramakrishna" in March, 1984 at Howrah Sri Ramakrishna Sangha. He also spoke in a symposium on "Re-orientation of the Syllabus and the Method of Teaching Sanskrit in Rabindra Bharati University" in January, 1984.

International Relations :

1. Dr. J. Bandopadhyaya participated in an International Sympo-

sium at the United Nations Headquarters on the independence of Namibia. He delivered a lecture on the Obstacles to the Independence of Namibia in a Symposium held under the auspices of the Economic and Social Council of the United Nations.

2. Dr. B. Ghoshal was a Guest Lecturer under the auspices of Asia Society, New York and gave a talk in Columbia University on Political Development in Indonesia.
3. Dr. J. Banerjee participated in a Seminar in Calcutta sponsored by the German Historical Institute, London and the Max Muller Bhavan, Calcutta.

Philosophy :

1. Prof. P. K. Sen gave talks in a Seminar jointly with Prof. B. K. Motilal, at All Souls' College, Oxford on Frege's Context Principle and Anvitabhidhanavada in the Hilary Term, 1983-84.
2. Prof. D. P. Chattopadhyaya attended the following seminars :
 - (a) Karl Jaspers Birth Centenary Seminar of UNESCO, Paris, 1983 where a paper on "Jasper's Philosophy of History" was presented.
 - (b) UNESCO Seminar at Bangkok where the key-note address on "Philosophy in Far East and the Pacific Area" was delivered.
 - (c) Seminar at Christ Church College, Oxford where a paper on "Governance Obedience and Legitimacy" was presented.
 - (d) Seminar on "Sri Aurobindo's Philosophy of Language with reference to some Contemporary Theories", Visva-bharati, Santiniketan. He also delivered Premnath Memorial Lectures at Panjab University, Chandigarh on "Some problems of Historiography in Science".

Inter-disciplinary (Water Resources Engineering) :

1. Prof. B. Bose gave a talk on "Tidal Energy" at the All-India Seminar on Integrated Power System organised by the Institution of Engineers (India), Calcutta in December, 1983.
2. Prof. B. Bose attended the All-India Seminar on Command Area development organised by the Institution of Engineers (India), Calcutta.

JADAVPUR UNIVERSITY

*Statement of Awards of Doctorate Degrees
(1983-84)*

Sl. No.	Date of Admission to the Degree	Name of the candidate	Degree awarded
ENGINEERING			
1.	12. 3. 83	Sri Anup Kumar Bandopadhyay	Ph.D. (Engg.)
2.	26. 2. 83	Sri Dinakar Sasmal	Ph.D. (Pharm.)
3.	26. 3. 83	Sri Tapan Kumar Chatterjee	Ph.D. (Pharm.)
4.	21. 5. 83	Sri Anirban Chakraborty	Ph.D. (Engg.)
5.	21. 5. 83	Sri Gautam Kumar Bagchi	Ph.D. (Pharm.)
6.	9. 7. 83	Sri Sekhar Kumar Seth	Ph.D. (Engg.)
7.	9. 7. 83	Sri Akhilesh Roy	Ph.D. (Pharm.)
8.	6. 8. 83	Sri Ajoy Kumar Datta	Ph.D. (Engg.)
9.	10. 9. 83	Sri Suman Roy	Ph.D. (Pharm.)
10.	24. 9. 83	Sri Maya Prakash Singh	Ph.D. (Pharm.)
11.	8. 10. 83	Smt. Snigdha Basu	Ph.D. (Engg.)
12.	8. 10. 83	Smt. Anjali Majumder (Nee 'Hore)	Ph.D. (Pharm.)
13.	7. 1. 84	Sri Gautam Kumar Chatterjee	Ph.D. (Pharm.)
14.	3. 3. 84	Sri Anup Kumar Majumder	Ph.D. (Engg.)
SCIENCE (CHEMISTRY)			
1.	7. 5. 83	Sri Biswanath Basu	Ph.D. (Science)
2.	7. 5. 83	Smt. Syamasri Gupta	Ph.D. (Science)
3.	7. 5. 83	Smt. Madhumita Dhar	Ph.D. (Science)
4.	21. 5. 83	Sri Sekhar Chandra Basu	Ph.D. (Science)
5.	25. 6. 83	Sri Samir Kumar Roy Choudhury	Ph.D. (Science)
6.	10. 9. 83	Sri Sribrata Goswami	Ph.D. (Science)
7.	24. 9. 83	Sri Saroj Kumar Roy	Ph.D. (Science)
8.	8. 10. 83	Sri Dipankar Roy	Ph.D. (Science)

Subject	Title of the thesis
Electronics and Tele-Com. Engg.	Some investigations on active integrator type networks and their applications.
Pharmacy	Neuropharmacological and biochemical toxicity studies of mycotoxins in foods or agricultural products.
Pharmacy	Pharmacological studies of a new mycotoxins.
Electrical Engg.	On some optional design techniques for linear control systems.
Pharmacy	Pharmacological studies of some pesticides.
Elec. & Tele-Com. Engg.	Studies on some New Adaptive Active R. C. Circuits.
Pharmacy	Investigation of some possible non-steroidal anti-inflammatory agents.
Elec. & Tele-Com. Engg.	Some studies on Distributed System using Petrinets.
Pharmacy	Studies on Cross Resistance and Synergism of several Antibiotics and Chemo-Therapeutic Agents to Ambodryl.
Pharmacy	Studies of Semi Synthetic Penicillins.
Food Tech. and Bio-Chem. Engg.	Microbial Production of α -Amylose and Amyloglucosidase.
Pharmacy	Synthetic Biological Activity and Quantitative Structure Activity Relationship of some Glutamine Analogs as Possible Antineoplastic Agents.
Pharmacy	Studies on the Anti-inflammatory Action of Morus Indica Linn.
Elec. & Tele-Com. Engg.	On the Analysis of Respiratory Sounds and its Applications.
Chemistry	Kinetics of the oxidation of some inorganic compounds by transition metal ion oxidants.
Chemistry	Physico-Chemical studies of the interactions of amylose with small molecules anadions.
Chemistry	Higher co-ordinated copper (II) complexes importance of steric hindrance and electronic effect in the formation of addition products of (N-arylbenzohydroxamates) copper (II) complexes with lewis bases
Chemistry	Studies on photo-physical properties of anthracene sulphonate by absorption, fluorescence and polarisation spectroscopy.
Chemistry	Physico-Chemical investigations on the interactions of m-xylohydroquinone with gonadotropic hormones and their carbohydrate constituents.
Chemistry	Studies on the Chemistry of Ruthenium.
Chemistry	A study on solid state-thermal decomposition of some metallic derivatives of some organic compounds with ionic character.
Chemistry	Physico-Chemical studies on the microencapsulation of chlorpromazine with a view to develop a suitable Drug Delivery System.

Sl. No.	Date of Admission to the Degree	Name of the candidate	Degree awarded
9.	7. 1. 84	Sri Ahindra Kumar Saha	Ph.D. (Science)
10.	7. 1. 84	Sri Partha Sarathi Roy	Ph.D. (Science)
11.	7. 1. 84	Sri Syamal Kumar Nandi	Ph.D. (Science)
12.	28. 1. 84	Sri Arun Kumar Datta	Ph.D. (Science)
13.	24. 3. 84	Sri Bijoy Banerjee	Ph.D. (Science)
SCIENCE (PHYSICS)			
1.	7. 5. 83	Sri Rajni Kant Tewari	Ph.D. (Science)
2.	9. 7. 83	Sri Narayan Prasad Datta	Ph.D. (Science)
3.	24. 9. 83	Sri Sudhish Kumar Mukherjee	Ph.D. (Science)
4.	18. 11. 83	Sri Satyabrata Sarkar	Ph.D. (Science)
5.	28. 1. 84	Sri Alok Sanyal	Ph.D. (Science)
6.	18. 2. 84	Smt. Madhumita Basu	Ph.D. (Science)
7.	24. 3. 84	Sri Amal Kanti Sarkar	Ph.D. (Science)
SCIENCE (MATHEMATICS)			
1.	11. 6. 83	Sri Rabin Kanti Pal	Ph.D. (Science)
2.	23. 7. 83	Sri Prasenjit Bhattacharyya	Ph.D. (Science)
3.	6. 8. 83	Sri Tapasendra Basu	Ph.D. (Science)
4.	10. 9. 83	Smt. Snigdha Banerjee	Ph.D. (Science)
5.	24. 9. 83	Sri Arup Kumar Dhar	Ph.D. (Science)
6.	8. 10. 83	Md. Abdul Mokid	Ph.D. (Science)
7.	8. 12. 83	Sri Sailendra Nath Pal	Ph.D. (Science)
8.	7. 1. 84	Sri Chandan Kr. Roy Choudhury	Ph.D. (Science)
9.	3. 3. 84	Smt. Gourisri Datta	Ph.D. (Science)
SCIENCE (GEOLOGICAL SCIENCE)			
1.	7. 5. 83	Sri Barin Chatterjee	Ph.D. (Science)

Subject	Title of the thesis
Chemistry	Studies on some aspects of Drug Action and Metabolism of Bishmanic Donovan promastigote.
Chemistry	Reductive nitrosylation of Reo Synthetic Studies on the Rehenium myrosyl derivatives.
Chemistry	Studies on some Transitional Metal Complexes with Nitrogen and Sulphur bearing Ligands.
Chemistry	Synthetic investigation on Heterocyclic Compounds.
Chemistry	Thermal investigation on some Inorganic Compounds in solid state.
Physics	The studies on the effects of vegetation on Radio wave propagation in tropical rain forests of India.
Physics	Application of Geophysics to some aspects of domestic problems with special reference to electrical resistivity and seismic method.
Physics	On standardisation of Fundamental Units.
Physics	Thermal Diffuse Scattering of X-Rays from organic crystals.
Physics	Investigation on Environmental Pollution in and around Calcutta.
Physics	Excitation and Ionisation of Atoms by Electron Impacts.
Physics	Theoretical Investigations on Measons as quorkonium Systems.
Mathematics	Studies on non-linear effects in the problems of wave propagation in Semi-conductor with plasma stream.
Mathematics	Studies in Mathematical Modelling of some aspects of Financial Management.
Mathematics	Some problems on fixed point of single valued and multivalued mappings.
Mathematics	Studies in vibration of some elastic bodies.
Mathematics	Studies on some Dynamical Problems on Thermoelasticity.
Mathematics	Some problems on Meteorology of Lower Atmosphere.
Mathematics	Studies of Precessional Rotation and Related Non-Linear Effects of Electromagnetic Waves in Plasmas by some Formations.
Mathematics	Studies on Topological Information Content of Linear and Multi-graph and their Applications.
Mathematics	Some problems on the Wave Resistance of Ships.
Geology	Appraisal of the problems of Engineering Geology and their implication in the planning and execution of the hydroelectric project in Darjeeling Himalayas.

Sl. No.	Date of Admission to the Degree	Name of the Candidate	Degree awarded
2.	24. 9. 83	Sri Sisir Kanti Nag	Ph.D. (Science)
3.	28. 1. 84	Sri Sankar Sen	Ph.D. (Science)
ARTS (BENGALI)			
1.	21. 5. 83	Smt. Jayanti Bhattacharyya	Ph.D. (Arts)
2.	9. 7. 83	Sri Dipak Kumar Das	Ph.D. (Arts)
3.	8. 12. 83	Sri Sankar Prasad Bandopadhyay	Ph.D. (Arts)
4.	8. 12. 83	Smt. Ananya Sen Gupta	Ph.D. (Arts)
ARTS (COMPARATIVE LITERATURE)			
1.	8. 12. 83	Smt. Subha Das Gupta	Ph.D. (Arts)
2.	24. 3. 84	Md. Moniruzzaman	Ph.D. (Arts)
ARTS (ENGLISH)			
1.	23. 7. 83	Smt. Sheila Lahiri Choudhury	Ph.D. (Arts)
2.	8. 12. 83	Sri Parbati Charan Chakraborty	Ph.D. (Arts)
3.	8. 12. 83	Sri Saibal Kanti Ghosh	Ph.D. (Arts)
4.	7. 1. 84	Sri Apurba Kumar Sanyal	Ph.D. (Arts)
5.	24. 3. 84	Smt. Aparajita Mukherjee	Ph.D. (Arts)
ARTS (ECONOMICS)			
1.	7. 5. 83	Sri Satyabrata Basu	Ph.D. (Arts)
2.	8. 10. 83	Sri P. V. Sheno	Ph.D. (Arts)
3.	8. 10. 83	Sri Gangadhar Bandopadhyay	Ph.D. (Arts)
4.	18. 2. 84	Sri Indrajit Roy	Ph.D. (Arts)
5.	3. 3. 84	Smt. Snigdha Chakraborty	Ph.D. (Arts)
ARTS (HISTORY)			
1.	12. 2. 83	Sri Salil Kumar Gangopadhyay	Ph.D. (Arts)
2.	20. 8. 83	Sri Abhijit Datta	Ph.D. (Arts)
3.	8. 12. 83	Smt. Anuradha Chanda	Ph.D. (Arts)

Subject	Title of the thesis
Geology	Magnetic stability and other parameters and their co-relations in a single Rajmahal, Lova, India.
Geology	Variation of Magnetic properties and Fe-Ti Oxide.
Bengali	The idea of sorrow in songs of Rabindra Nath Tagore.
Bengali	Sarat Prasango-O-Bangla Samaeek Patra (Bharat Barsha).
Bengali	Akshoy Kumar Datta and Nineteenth Century.
Bengali	Samajik O Sahityik Bitarke Rabindranath.
Comp. Literature	A defination of popular fiction in the contemporary world taking into account the work of serious writers.
Comp. Literature	Gerasion Stepenvich Leabedef: Tar Jiban-O-Karmabali.
English	D. H. Lawrence in transition: Titu Meeri.
English	Jane Austen : A critical Survey.
English	The Prose-style of Burke's speeches.
English	The Moral Vision of John Webster.
English	Studies in Allegorical Mode : The Faeri Queen and Tudor Allegorical Drama.
Economics	Public undertakings in Road Passanger transport in West Bengal : A study in evaluation of their performance.
Economics	External capital assistance in Indian agriculture : A critical review and analysis of the criteria.
Economics	Structural changes in Tea Plantation Industry since 1958.
Economics	Road Net work planning in West Bengal : An Econometric Approach.
Economics	Travel demand and expenditure behaviour.
History	The Chahamanas of Sha Kambhuri.
History	Muslim Society in transition : Titu Meeri Revolt (1931)—A case study.
History	Some Aspects of Public Administration and Public Opinion in Bengal (1854-1885).

Sl. No.	Date of Admission to the Degree	Name of the candidate	Degree awarded
ARTS (INTERNATIONAL RELATIONS)			
1.	26. 3. 83	Sri Dipti Kumar Roy	Ph.D. (Arts)
ARTS (PHILOSOPHY)			
1.	26. 3. 83	Smt. Indrani Sanyal	Ph.D. (Arts)
2.	8. 12. 83	Sri Gopeswar Das	Ph.D. (Arts)
ARTS (SANSKRIT)			
1.	8. 10. 83	Sri Sitanath Acharya	Ph.D. (Arts)

Subject	Title of the thesis
Int. Relations	Role of M. N. Roy in Indian Politics (1930-1948).
Philosophy	Some Philosophical problems of quantified modal logic.
Philosophy	The Concept of Knowledge and Philosophies of Descartes, Locke and Hume.
Sanskrit	Mahakavya Samiksha Bharavi Maghoyoh.

**DISTINCTION / FELLOWSHIP / MEMBERSHIP
EARNED BY FACULTY MEMBERS**

Mechanical Engineering :

1. Prof. M. Bhattacharyya has worked in the Expert Committee to advise on the "Revolving Angel" atop the Victoria Memorial Hall, Calcutta.
2. Prof. S. Dutta and Prof. R. K. Chakraborti have been nominated as members in the Telephone Advisory Committee by the Govt. of India.

Civil Engineering :

1. Prof. P. Som has been nominated a member of the I.I.T. Review Committee of UGC, New Delhi.
2. Dr. N. Som has been appointed a member of the West Bengal Govt. Expert Committee to investigate the status of the building of R. G. Kar and Calcutta Medical College Hospital, Calcutta.
3. Dr. A. K. Mukherjee has been appointed a member of the Expert Committee on Rectification of the Rotating Angel of Victory atop Victoria Memorial, Calcutta.

Electronics and Tele-Com. Engineering :

Sri S. K. Ray and Prof. A. K. Mondal have been awarded the Senior membership of the Institute of Electrical and Electronics Engineering Inc., USA during 1983-84.

Production Engineering :

1. Prof. Dr. A. Bhattacharyya has been nominated by the Planning Commission, Govt. of India, as a member of the following VII plan working groups.
 - (a) Technical Education.
 - (b) Science and Technology.
2. Prof. Dr. A. Bhattacharyya has been elected member in :
 - (a) Organising Committee of the 12th World Energy Conference.
 - (b) Indian National Committee for WEC.
 - (c) Executive Committee of the World Federation of Engineering Organisations.
3. Prof. Dr. A. Bhattacharyya has been nominated the Organising Secretary of the 12th World Mining Congress to be held in New Delhi in November, 1984.

4. Prof. Dr. A. Bhattacharyya presided over a session of the International Seminar on "Technology Developing Nations" at Nairobi, Kenya.
5. Prof. Dr. A. Bhattacharyya presided over the meeting of the International Committee on Engineering Education at Prague, Czechoslovakia.
6. Prof. Dr. A. Bhattacharyya has been nominated to the Senate of Roorkee University, Governing Body of the Bengal Engineering College, Managing Committee of the North Eastern Regional Institute of Science and Technology, Governing Body of the Engineering Staff College, Hyderabad, Project Appraisal Committee of the Department of Science and Technology, Executive Body of the Central Mechanical Research Institute.
7. Dr. S. K. Sorkhel has been nominated by the Institution of Engineers (India) as a member of the Governing Body of the Birla Institute of Technology, Calcutta.
8. Prof. S. R. Deb has been nominated by the Indian Jute Industries Research Association, Calcutta, as an expert member to advise on research activities.

Chemical Engineering :

Prof. R. N. Mukherjee has been nominated a member of the Task Force of the National Bio-technology Board and as Member of the Advisory Committee, Eastern Regional Sophisticated Instrument Centre, Govt. of India.

Metallurgical Engineering :

Sri D. Ghosh has been nominated as a member of Indian Society for Technical Education.

Food Technology and Bio-Chemical Engineering :

1. Dr. Sankar Mukherjee and Sri Amit Ghosh have been elected Treasurer and Jt. Secretary respectively of the Association of Food Scientists and Technologists (India), Calcutta Chapter.
2. Prof. D. K. Chattoraj served as Scientist-in-charge, Bio-Chemistry Division, Convention of Chemists, Indian Chemical Society, Cuttack Session, December, 1983.

Architecture :

1. Prof. Manideep Chatterjee has been elected a member of the Development Planning Committee to advise the Calcutta Metropolitan Development Authority on the preparation of Development Plans.

He has also been elected a Council Member of the Institute of Town Planners (India).

2. Prof. T. K. Chattopadhyaya has been elected member of the Executive Council of the Kharagpur Chapter of the Institute of Planners (India).

Pharmacy :

Prof. (Mrs.) M. Gupta has been nominated a member of Asiatic Society during 1984.

Bengali :

Dr. Pabitra Sarkar was a Judge for deciding the Rabindra Prize in Literature.

Sanskrit :

1. Sri Nirmal Kanti Basu has been elected Vice-President of Sanskrita Sanskriti Sangram Samiti. He has also been elected member of the Executive Committee of Sanskrita Sahitya Parisad.
2. Dr. S. Goswami has been re-appointed external member of the Board of Studies in Philosophy of the Sampurnananda Sanskrit University, Varanasi.

Library and Information Science :

1. Prof. P. Roy Choudhury has been nominated a member of the State Library Council and the Local Library Authority, constituted under the West Bengal Public Libraries Act, 1979.
2. Sri P. B. Roy has been nominated a member of the State Library Council constituted under the West Bengal Public Libraries Act, 1979.

History :

1. Dr. A. De was nominated a member of the Statute Committee of the University of Kalyani.

He was nominated a member of the Indian Historical Records Commission.

Dr. De was nominated a member of the Regional States Records Commission, West Bengal.

He was nominated a member of the Advisory Committee for Renaming of Roads, Streets etc. in Calcutta.

2. Dr. N. S. Bose was appointed Director of the project on "Collection of Missionary Records in and around Calcutta" undertaken

by the Institute of Historical Studies, Calcutta and Supported by the Ford Foundation.

3. Dr. P. K. Bhattacharyya was appointed Director of the project of "Freedom Movement in Tamruk (Midnapore), 1901-1947" sponsored by the Tamralipta Swadhinata Sangram Itihas Committee, Midnapore in collaboration with the Institute of Historical Studies, Calcutta.

Mathematics :

Dr. D. K. Sinha was the Treasurer, Indian Science Congress Association during the period 1982-83. He was also elected as the President of the Indian Society of Theoretical and Applied Mechanics (ISTAM) in December, 1983.

Chemistry :

Dr. K. K. Rohatgi Mukherjee was nominated Fellow of the Indian National Science Academy.

She was elected President of the Chemistry Section of Indian Science Congress (72nd Session).

She was also nominated a member of the Committee on Chemical Sources of Energy under the Department of Non-Conventional Energy Sources, Ministry of Energy, Govt. of India.

Geological Sciences :

Dr. (Miss) S. Sen Gupta, successfully completed her participation in the Third Indian Expedition to the Antarctica.

Physics :

1. Dr. A. Banerjee was elected member of the Executive Committee of Indian Association for General Relativity and Gravitation. He also chaired a session at the Symposium on the Application of General Relativity to Astrophysics and Cosmology held at Poona in November, 1983.
2. Dr. D. K. Bhattacharyya was elected member of the Executive Committee of Indian Vacuum Society (Calcutta Chapter).

LECTURES DELIVERED BY VISITING EXPERTS

Mechanical Engineering :

Prof. J. Vanek, Professor of Economics, Cornell University, USA and founder of the Solar Technology and Energy for Vital Economic Needs, USA visited the Department on 9-10 January 1984. He demonstrated the working of a Solar Pump.

Electrical Engineering :

Mr. B. J. Vasanath and Mr. R. R. Sule of BHEL, Bangalore delivered lectures on Computer Control and BHEL Experience.

Civil Engineering :

1. Dr. A. K. Kar, TOKTEN scholar delivered a series of lectures on analysis of soil structure inter action problems of tall buildings.
2. Dr. A. Halda of Priveeton University, USA delivered a series of lectures on statistical and probabilistic methods in Civil Engineering.

Electronics and Tele-Com-Engineering :

1. Dr. A. K. Bhattacharyya, Asstt. Professor (Radar and Communication Centre) I.I.T. Kharagpur, delivered series of lectures on Microstrip Components Design and Measurements in April, 1983.
2. Dr. R. Garg, Asstt. Prof. (Radar and Communication Centre), I.I.T. Kharagpur, delivered series of lectures on Microstrips Components Design and Measurements in April, 1983.

Production Engineering :

1. A lecture on "CAD-CAM SYSTEMS" by Prof. B. J. Davies of the University of Manchstor Institute of Science and Technology (UMIST), UK was organised in the Department in collaboration with the British Council, Calcutta in November, 1983.
2. Dr. R. C. Skelton, a British expert delivered a talk in the field of Robotics and Computer-Aided-Manufacture in September, 1983.

Architecture :

Sri S. Banerjee, Supdt. Engineer, PWD delivered a series of lectures on different aspects of valuation of land and buildings.

Metallurgical Engineering :

The following experts delivered lectures on special topics during the year :

- (a) Sri R. N. Parbat, Works Manager, Indian Aluminium Co. Belur on "Recent Developments in Al-alloys".
- (b) Sri S. Das Gupta, Director, M. N. Dastur and Co. Calcutta on "Blast Furnace Design".
- (c) Dr. S. K. Bhattacharyya, Chairman, Westing House Saxby and Farmar on "Space and Reactor Materials".
- (d) Sri Amarnath Mukherjee, Additional Chief (Marketing), Steel Authority of India Ltd. Calcutta on "Alloy Steel used in India".
- (e) Dr. Mukulesh Sengupta, Director, High duty Metals, Ltd., Calcutta on "Fracture Mechanics".
- (f) Dr. G. Chatterjee, Chief Metallurgist, Inspection Indian Ltd., Calcutta on "Non destructive Testing".
- (g) Sri Arup Das Gupta, Senior Research Engineer, R. & D. Centre, SAIL, Ranchi on "SQC Techniques in Metallurgical Industries".
- (h) Dr. A. K. Biswas, Professor of I.I.T., Kanpur on "Dewatering Operation and Flocculation in mineral dressing".
- (i) Dr. H. S. Ray, Professor, Metallurgical Engineering Deptt. of I.I.T., Kharagpur on "Non-Isothermal Kinetics in Metallurgy".

Pharmacy :

The following experts delivered lectures in the Department during the year :

- (a) Dr. Dipak Ghosh of Chesborough Ponds Laboratories, Pharmaceutical Division, USA on "Retinoic Acid in the Treatment of Acne" in January, 1984.
- (b) Dr. Kurt Serum, German Scientist on "in Vitro Fertilisation" in January 1984.
- (c) Dr. Mihir Banerjee of Nebraska University on "Chemical Carcinogenesis and Chemotherapy".
- (d) Prof. A. Ordal, Associate Professor of Bio-Chemistry, Illinois University on "Bacterial Chemotaxics" in February, 1984.

Philosophy :

1. Prof. Gopinath Bhattacharyya delivered lectures on "Analytic Ethics in Indian Philosophy".

2. Prof. Bishnupada Bhattacharyya delivered lectures on "Indian Theories of Language and Meaning".
3. Dr. Bernard Williams of the University of Cambridge delivered lectures on "Utilitarianism" and "Ethical Knowledge".
4. Dr. Mihir Chakraborty of the Department of Pure Mathematics, Calcutta University, gave a course on "Fuzzy Set Theory and Fuzzy Logic".

Bengali :

The following Guest Lecturers delivered lectures in the Department during the year :

- (a) Mr. Ludmilla Chayefkina of the USSR, delivered lectures on "Sociolinguistic Scene of Bangladesh".
- (b) Sri Sakti Chattopadhyay and Sri Birendra Chattopadhyay delivered lectures on "Me and My poems".
- (c) Sri Manibhusan Bhattacharyya also delivered lectures on "Me and My poems".

Sanskrit :

1. Prof. Jyoti Bhattacharyya, Professor of English, Calcutta University delivered two extension lectures on "Banbhat Chitralpa" on 11 January, 1984.
2. Prof. Venkatachalan, National Lecturer in Sanskrit, delivered lectures in Sanskrit on a special topic on 6 February, 1984.
3. Prof. Rabindra Nath Bhattacharyya, Head of the Deptt. of Sanskrit, Womens' Christian College, Calcutta delivered two extension lectures on "Vedanta darshaner Anubandha Chatus-taya" on 22 February, 1984.
4. Prof. Gopika Mohan Bhattacharyya, Professor of Sanskrit, Kurukhstra University, delivered lecture on "Nayadarshaner Anumitir Swarup" on 23 February, 1984.
5. Dr. Richard Gombrich, Boden Professor of Sanskrit, Oxford University visited the Department on 6 March 1984 and discussed various academic matters pertaining to the Department.
6. Dr. Niranjana Goswami, Curator, Asutosh Museum of Indian Art, Calcutta University delivered two extension lectures on "Yuge Yuge Bharatiya Chitrikalar Vaisistya".
7. Dr. Chittaranjan Basistha, Ex-principal, Burdwan Raj College, Burdwan, delivered two extension lectures on 29 March, 1984.

8. Dr. Pratap Bandopadhyay, Professor of Sanskrit, Burdwan University delivered two extension lectures on "Sanskrita Alamkar Shastre Kabir Lakshman" on 30 March, 1984.

Comparative Literature :

Yu Dienzhou from Beijing, Peoples Republic of China who is the Head of the Bengali Sections of Foreign Publishing House visited the Department in March, 1984 and gave a talk on "Translation and Interchange in Culture : Emphasis on Bengali Chinese relationship".

English :

1. In November 1983, Mr. C. D. Roberts, an Inspector of Schools and a pupil of the late Professor F. R. Leavis, visited the Department for an informal discussion on problems relating to English Syllabi.
2. On 2nd Feb. 1984, Mr. Michael Holroyd visited the department and spoke on the "Art of Biography". He was accompanied by his wife, Mrs. Margaret Drabble, a novelist of wide appeal, who spoke on "D. H. Lawrence and Arnold Bennett: Tragedy Vs: Misery".
3. On 20th Feb. 1984, the renowned Renaissance Scholar Miss M. M. Mahood visited the department, first giving a talk on Shakespeare's minor characters and then holding a discussion on the teaching of Renaissance Literature and on the novels of Paul Scott.

History :

1. Dr. Gail Minault of the University of Texas gave a talk in April '83 on "Feminism in History : some problems of current scholarship".
2. Prof. Queyamuddin Ahmed of the Patna University gave a talk in August 1983 on "The Historiography of Wahabism".
3. Dr. Elliot Barkan of the California State College, USA gave a talk in November, 1983 on "Black American History (1860-1954)".
4. Lt. Gen. S. K. Sinha gave a talk in December, 1983 on "Military Aspects of the Battles of Panipat".
5. Prof. C. H. Philips of the London University, U.K. had an informal discussion with teachers and students in January, 1984.
6. Prof. Salauddin Ahmed of Dhaka University, Bangladesh, gave extension lecture in January, 1984 on "Muslim Rationalist thought in Nineteenth Century Bengal".

7. Dr. Tapan Roy Chaudhuri of the University of Oxford gave a lecture on "Recent Research into Indian Economic History during British Rule" in February, 1984.
8. Prof. Sunil Kr. Sen of the Rabindra Bharati University gave a lecture on "Working Women and Popular movements in Bengal (1920-1947)" in February, 1984.
9. Dr. Hiteshranjan Sanyal of the Centre for studies in Social Sciences Calcutta gave a lecture on "Architecture in Medieval Bengal" (with slides) in March, 1984.
10. Prof. Rafiuddin Ahmed of the Chittagong University, Bangladesh gave a lecture on "Bengali Muslims: Aspects of Social mobilisation in the 19th and 20th centuries" in March, 1984.

Mathematics :

1. Prof. T. Prasad of the Faculty of Engineering, University of Waterloo (Canada) delivered lectures on "Stochastic Modelling of Biosystems" on 22 December, 1983.
2. Dr. Michael A. B. Deakin of the Department of Applied Mathematics, Monash University (Australia) delivered lecture on "The Hennistics of Catastrophy Theory" on 16 January, 1984.
3. Prof. T. Neubrunn of Comeniuf University, Bratislava, Czechoslovakia on "Quasi Continuity and product spaces" on 4 February, 1984.

Geological Sciences :

Dr. David Cronan of the Imperial College, London, visited the Department as a UNDP specialists on marin mineral deposits.

Physics :

Prof. G. C. Castagnoli of the University of Tarino, Italy delivered a lecture on "Detection of Supernovac Explosions by Thermoluminescence".

**CULTURAL EXCHANGE PROGRAMME
AND INTERNATIONAL COLLABORATION**

International Relations

Dr. Baladas Ghoshal went to U.S.A. on a Senior Fulbright Fellowship. In 1984 he was a Visiting Fulbright Professor in the Department of Political Science, Rutgers University, New Burnswick, and Visiting Fellow in the Centre for South East Asian Studies, Cornell University, Ithaca, New York.

Dr. Arun Kumar Banerjee spent the academic year 1983-84 at the University of Pennsylvania, Philadelphia as a Fulbright A.CLS Fellow.

English :

Prof. Jasodhara Bagchi spent several months in U.K. under the sponsorship of British Council, first as a Summer Visitor in Darwin College and later as a Visiting Research Associate in Queen Elizabeth House, Oxford.

History :

Being invited by Chinese People's Association for Friendship with foreign countries Prof. Amalendu De visited China to study the present day development of modern China in September, 1983.

Mathematics :

Prof. K. S. Choudhury visited Hungary in November, 1983 under the Indo-Hungarian Cultural Exchange Programme.

Physics :

Dr. R. N. Joardar visited the University of Anglia, U.K. as a Senior Visiting Fellow sponsored by the British Council for nine months during 1983-84.

Dr. Soumya Chakraborty visited Hanta-Meitner Institute fur Keroforschurg, Berlin as a Guest Scientist during Sept.-Dec. 1983.

A collaborative research programme with the University of Lyon, France, CRN, Strassbourg, France and University of Santader, Spain is being continued under the name of JADAVPUR-LYON-SANTADER-STRASSBOURG Collaboration.

Production Engineering :

Dr. S. R. Deb was invited to visit the Robotics and CAD-CAM Laboratories in different U.K. Universities viz, UMIST, Manchester, Imperial College of Science and Technology, Brunnel University

and City University, London under the sponsorship of British Council. An objective of Prof. Deb's visit was to initiate discussions on the collaborative research programme on Robotics and CAM between U.K. Universities and the Production Engineering Deptt. of the University.

Chemical Engineering :

Prof. D. N. Ghosh, sponsored by the U.G.C. visited the Tashkent Polytechnic Institute, Tashkent, USSR to explore the possibilities of collaborative programme between the Tashkent Polytechnic Institute and Jadavpur University. The Tashkent polytechnic Institute has proposed a collaborative programme in the field of Automatic Control and Mechanization in Chemical and Food Industries.

Food Technology and Bio-Chemical Engineering :

Prof. Sunit Mukherjee visited USSR under Exchange Programme during September and October, 1983.

Pharmacy :

Dr. T. K. Pal carried out research work in Darmstadt (West Germany) under the invitation of German Academic Exchange Service (DAAD) during September to November, 1983.

Electrical Engineering :

1. Dr. S. Goswami has, on invitation of the Govt. of Nigeria, taught at the Polytechnic, Ibadan during this period.
2. Dr. N. Chatterjee and Dr. C. K. Roy visited Athens (Greece) in September, 1983 for participation in the Fourth International Symposium on High Voltage Engineering.

Civil Engineering :

1. Dr. R. D. Purkayastha went on a two-year research assignment at the Nova Scotia Technical Institute, Halifax, Canada.
2. Dr. B. Chattopadhyaya returned from U.K. after completing his research assignment in structural engineering at the Polytechnic of Central London, U.K.

Mechanical Engineering :

Sri Arun Kr. Bhattacharyya worked at the Stevens Institute, U.S.A. for a period of 6 months as a Visiting Scholar.

Electronics and Tele-Communication Engineering :

1. Dr. D. K. Basu visited Madrid, Spain to attend the 2nd International Symposium De Ingerieria Bio medica in October, 1983.

Dr. D. K. Basu also visited Bultimore, U.S.A. to attend at 7th Symposium on Computer Applications in Medicine in October '83.
2. Dr. R. Dutta Gupta visited G.M.D. Bona (FRG) as a research Scientist from January '83 to February 1984.

Dr. R. Dutta Gupta visited Bultimore, U.S.A. to attend the 7th Symposium on Computer Applications in Medicine in Oct. '83.
3. Dr. M. K. Mukherjee visited Mexico to attend the I.E.E.E. Conference on I.A.S. in October, 1983.
4. Sri R. Nandi visited Mexico to attend the 26th Midwest Symposium on Circuits and Systems in August, 1983.
5. Sri A. K. Nath visited Institute of Control Engineering, National Chiao Tung University, Taiwan as a Visiting Expert from October 1981 to December, 1983.

6. Dr. J. S. Chatterjee visited National Chiao Tung University, Taiwan as a Visiting Research Professor from December 82 to March 1983.

Production Engineering :

Prof. A. Bhattacharyya went to present papers at the Commonwealth Conference, Harare, Zimbabwe and also at the UNESCO-CIRP Seminar on Machine Tools Development at Singapore.

He visited Prague, Czechoslovakia to preside over the meeting of the International Committee on Engineering Education.

He also visited Tunis and Zerba (Tunisia) in connection with CIRP, Sofia (Bulgaria) to see the Lenin Higher Technology Institute and also Bangkok to meet Regional Director, UNEP.

Prof. Bhattacharyya went to Sri Lanka to deliver the keynote address in the National Convention of the Institute of Engineers (Sri Lanka).

He also attended F.I.E.S.C.A. meeting held at Kammander and W.F.E.O. Executive Committee meeting at Paris.

Chemical Engineering :

1. Prof. R. N. Mukherjee attended the 8th International Chemical Engineering Congress at Prague and Pittsburgh Coal Technology Conference.
2. Prof. D. N. Ghosh being sponsored by the UGC visited the Tashkent Polytechnic Institute, Tashkent, U.S.S.R. to explore the possibilities of a collaborative programme between the Tashkent Polytechnic Institute and Jadavpur University.
3. Sri G. K. Biswas attended the International Conference of the Pacific Region meeting of the Fine Particle Society, U.S.A., held in Honolulu, Hawaii and presented a paper.

Food Technology and Bio-Chemical Engineering :

Prof. Sunit Mukherjee attended Tashkent Polytechnic Institute, U.S.S.R.

Architecture :

Prof. Manideep Chatterjee visited Portugal to attend International Congress of the International Association of City and Regional Plans. He also visited Edinburgh University, U.K. to attend Town Planning Summer School.

Pharmacy :

Prof. S. P. Pal, participated in the First Soviet Indian Symposium in Neurophysiology as Indian Delegate held on 11-13 October, 1983

at Tzohkadzor City, U.S.S.R. and presented a paper entitled "Effects of some Indian Medicinal plants on behaviour".

Philosophy :

1. Prof. P. K. Sen visited Oxford University at a Visiting Fellow at All Soul's College for Michaelmas and Hilary Terms 1983-84 for research in Philosophy of Language.
2. Prof. D. P. Chattopadhyaya visited Paris, Oxford and Delhi to attend various seminars for giving key note address and presenting paper.

International Relations :

1. Prof. J. Bandopadhyaya was invited by the United Nations to participate in an international symposium at the United Nations Head quarters on the independence of Namibia. He delivered a lecture on the obstacles to the independence of Namibia at the Symposium.
2. Dr. Arun Kumar Banerjee attended a number of seminars in different Universities of the U.S.A.
3. Dr. Baladas Ghoshal attended seminars and delivered lectures at different Universities and research centres of the U.S.A. in 1984. He was a guest lecturer under the auspices of Asia Society, New York and gave a talk in Columbia University on Political Development in Indonesia.

Sanskrit :

Dr. (Mrs.) S. Bhattacharyya delivered three lectures on Vedic and Classical Literature in the Oriental Institute, Warsaw University, Poland. She delivered the inaugural lecture in the session of Indo-Polish Friendship Association in Ptoci, Poland. She also gave a talk at a Seminar at Linacre College, Oxford, U.K.

English :

1. Prof. (Mrs.) Kitty Dutta visited U.K. in August-Sept., 1983 for collection of research materials in Britain in connection with a project to study a number of Scottish members of the Asiatic Society of Bengal and Scottish Orientalists.
2. Prof. Jasodhara Bagchi went to Paris under an invitation from Maison des Sciences de l' Homme to look at source materials and hold discussion with scholars working in related areas for her work on Comteian Positivism and its impact of Nineteenth Century Bengal.

Under the sponsorship of the British Council she spent several months in the U.K. first as a Summer Visitor in Darwin College

and later as a Visiting Research Associate in Queen Elizabeth House, Oxford.

3. Dr. Sobha Chattopadhyay was on study leave for two years upto September 1983 at Lamar University, Texas, U.S.A. She also taught English at the Lamar Language Institute during the Spring Semester, 1982.

History :

1. Dr. A. De, was invited to attend and to read a paper at the 31st International Congress and Human Sciences in Asia and North Africa held at Tokyo and Kyoto, Japan from August 31 to Sept. 7, 1983. He presented a paper on "Aurobindo Ghosh in Indian Politics (1893-1910): An Assessment of the Role of the noted Bengali Intellectual. He also acted a chair-person in a session of this congress.
2. Being invited by Chinese Peoples Association for Friendship with Foreign Countries, Dr. A. De visited China in September, 1983 to study the present day development of Modern China.
3. Dr. N. S. Bose was invited to the 4th International Conference of the European Association for Research and Development in Higher Education in Frankfurt in Sept. 1983 and to read a paper on "Problems and Prospects of a Global Perspective in Higher Education : A Third World View".

Mathematics :

1. Dr. D. K. Sinha participated in
 - (i) ICTP (Trieste, Italy) programme on Dynamical Systems in 1983.
 - (ii) Fourth International Conference on Mathematical Modelling (Zurich, Switzerland), 1983.
 - (iii) International Congress on Acoustics, Paris, 1983.
2. Prof. K. S. Chaudhury visited Hungary in November 1983 under Indo-Hungarian Cultural Exchange Programme.

Physics :

1. Dr. R. N. Joardar visited the University of East Anglia, U.K. as a Senior Visiting Fellow Sponsored by the British Council during 1983-84.
2. Dr. A. Roy Choudhury visited I.C.T.P. Trieste, Italy during September-November, 1983 as an Associate Member.
3. Dr. Soumya Chakraborty visited Hanhn—Meitner Institute fur Kernforschung, Berlin as a Guest Scientist during September-December, 1983.

FOREIGN VISITORS UNDER EXCHANGE PROGRAMME

Sl. No.	NAME	COUNTRY	DESIGNATION	PERIOD OF STAY
1.	Mrs. Elena Panova	BULGARIA	Prof. of Sofia University	14. 4. 83 to 19. 4. 83
2.	Prof. Dr. Todor Krumov Nikalov	BULGARIA	Prof. of Mongolia University	6. 3. 84 to 9. 3. 84
3.	Mrs. Marie Claude Mahias	FRANCE	Anthropologist	7. 5. 83 to 16. 5. 83
4.	Dr. (Mrs.) Hiltraud Ruestau	GERMANY		6. 1. 84 to 16. 1. 84
5.	Prof. E. P. Cherlyshev	U.S.S.R.	Scientist, Academy of Science, U.S.S.R.	20. 11. 83 to 6. 12. 83
6.	Prof. Ing. Ludevzt Vegh	CHEKOSLOVEKIA	Associate Prof. Technical University, Praha	27. 11. 83 to 1. 12. 83
7.	Mr. Z. Hewadmal	AFGANISTHAN	Research Scholars	10. 10. 83 to 11. 11. 83
7A.	Mr. Abdul Zadrán		"	
8.	Mr. Geza Bethlenfalvy	HUNGARY	"	10. 1. 84 to 12. 1. 84
9.	Prof. Gerbwad Boegelsocok	G.D.R.	Scientist with Specialisation in Precision Engineering.	7. 12. 83 to 12. 12. 83

**FACULTY APPOINTMENT/PROMOTIONS/
RETIREMENTS/RESIGNATION ETC.**

New Appointments	Designation	Department
Dr. Biswanath Sa	Lecturer	Pharmacy
Sri Gopeswar Ch. Das	Lecturer	Metallurgical Engg.
Sri Ajit Kumar Paul	Reader	Geological Science
Dr. Himadri Banerjee	Lecturer	Geological Science
Sm. Sukla Das	Lecturer	History
Sri Purusattam Bhattacharyya	Lecturer	International Relations

Promotion

Promotion	Designation	Departments
Dr. J. R. Biswas	Professor	Electrical Engg.
Dr. R. N. Dhar	Professor	Electrical Engg.
Dr. Debesh Bhattacharyya	Professor	Electrical Engg.
Sri Tapas Kr. Basak	Reader	Electrical Engg.
Dr. Kalyan Kr. Roy	Reader	Electrical Engg.
Sri R. K. Das Gupta	Professor	Civil Engg.
Sri K. K. Ghosh	Reader	Civil Engg.
Dr. Subhas Ch. Roy	Professor	Chemical Engg.
Sri Netai Ch. Mukherjee	Reader	Chemical Engg.
Sri A. K. Nath	Professor	Elec. & Tele-Com. Engg.
Dr. D. Mukherjee	Professor	Elec. & Tele-Com. Engg.
Sri A. K. Mondal	Professor	Elec. & Tele-Com. Engg.
Sri S. K. Choudhury	Professor	Elec. & Tele-Com. Engg.
Dr. Shyamal Majumder	Professor	Elec. & Tele-Com. Engg.
Dr. Saktibrata Roy	Reader	Elec. & Tele-Com. Engg.
Dr. Sankar Pd. Pal	Professor	Pharmacy
Dr. Sujata Ghosh Dastidar	Professor	Pharmacy
Dr. Shadan Kr. Datta	Professor	Pharmacy
Dr. A. U. Dey	Professor	Pharmacy
Dr. S. C. Lahiri	Professor	Pharmacy
Dr. Malaya Gupta	Professor	Pharmacy
Sri Upal Kanti Majumder	Reader	Pharmacy
Dr. (Mrs.) Manjusree Pal	Reader	Pharmacy
Sri Anutosh Nandy	Reader	Pharmacy
Sri Saroj Kr. Ghoshal	Reader	Pharmacy
Sri Tapan Kr. Pal	Reader	Pharmacy
Dr. B. P. Saha	Reader	Pharmacy
Dr. (Mrs) Chandana Sen Gupta	Reader	Pharmacy
Sri Sanat Kr. Basu	Reader	Pharmacy
Dr. D. K. Chattoraj	Professor	Food Tech & Bio-Chem.
Sri Amit Kr. Mukherjee	Reader	Food Tech. & Bio-Chem.
Sri Hiranmay Ganguly	Reader	Food Tech & Bio-Chem
Sri K. P. Bhattacharyya	Professor	Architecture
Sri Alope Nath Das	Reader	Architecture
Sri B. Chakraborty	Professor	Metallurgical Engg.
Sri A. Ghosh	Professor	Metallurgical Engg.
Sri B. Choudhury	Professor	Metallurgical Engg.

Promotion

Promotion	Designation	Department
Sri Siddhartha Mukherjee	Reader	Metallurgical Engg.
Dr. Sachinath Mitra	Professor	Geological Science
Dr. Sukumar Basu Mallick	Professor	Mathematics
Dr. P. C. Bhakta	Professor	Mathematics
Dr. R. K. Mahalanabis	Professor	Mathematics
Dr. Amitava Chakraborty	Professor	Mathematics
Dr. K. S. Choudhury	Professor	Mathematics
Dr. B. Chakraborty	Professor	Mathematics
Sri Narayan Chakraborty	Professor	Mathematics
Dr. Bimanesh Sur	Professor	Inorganic Chemistry
Dr. R. G. Bhattacharyya	Professor	Inorganic Chemistry
Dr. Viswanath Chatterjee	Professor	English
Dr. Jasodhara Bagchi	Professor	English
Dr. Manjula Bose	Professor	Economics
Sm. Debjani Sarkar	Reader	Economics
Sm. Susmita Rakshit	Reader	Economics
Dr. Ranjit Ranjan Das	Reader	Economics
Dr. Debesh Chakraborty	Reader	Economics
Sm. Jaba Guha	Reader	Economics
Sm. Papiya Chakraborty	Reader	History
Dr. K. K. Ghosh	Professor	International Relations
Dr. J. Banerjee	Reader	International Relations
Dr. (Miss) Kalyani Bandyopadhyay	Reader	International Relations
Dr. (Miss) Sucheta Ghosh	Reader	International Relations
Dr. P. K. Mukhopadhyay	Professor	Philosophy
Dr. S. K. Bhattacharyya	Professor	Philosophy
Sm. Krishna Roy	Reader	Philosophy
Sm. Sutapa Saha	Reader	Philosophy
Sri T. K. Chakraborty	Reader	Philosophy
Dr. Chinmayee Chatterjee	Professor	Sanskrit
Dr. R. S. Banerjee	Reader	Sanskrit
Dr. (Mrs.) Nandita Banerjee	Reader	Sanskrit

Retire/Expired/Resigned

Dr. S. Das Gupta	Professor	Electrical Engg.
Sri P. C. Mondal	Professor	Electrical Engg.
Sri M. Chakraborty	Reader	Civil Engg.
Dr. Naresh Guha	Professor	Comp. Literature
Sm. Manju Dam	Lecturer	History
Dr. B. B. Bhattacharyya	Reader	Sanskrit

PART—C

CENTRALISED SERVICES /
STUDENTS ACTIVITIES

University Science Instrumentation Centre

The Principal Scientific Officer and one Scientific Officer joined in June 1983 and started functioning from one room of the Metallurgical Engineering Department Building. Report on the Analytical Instruments for the year under review are given below:

1. Defects of the Scanning Electron Microscope

(ISI Model 60A, located at the Metallurgical Engineering Deptt.) have been detected. The spare parts which require replacement have been identified and Proforma Invoice for the same from the Principal have been procured. Letter of Credit will be opened as soon as the money is granted by the UGC for purchasing spare parts.

2. Atomic Absorption Spectrophotometer

(Perkin Elmer Model 2380) have been set up in 1. 8. 83 in the Metallurgical Engineering Deptt. Building and one Scientific Personnel of the Department of Metallurgical Engg. has been attached with USIS in determinations in AAS. Nine hollow cathode lamps (viz. Ca, Co, Cu, Mg, Ni, Pb, Sn and Zn) are available at present. Trial run standards and samples have been made. Routine determinations will start after installation of the Exhaust Vent.

3. Fluorescence Spectrophotometer

(Perkin Elmer Model MPF 44B) is located at the Department of Chemistry. Proforma Invoice for Xenon Lamp, Photomultiplier Tube and Standard Cell which require replacement have been procured. Letter of credit will be opened as soon as UGC sanction the money required for purchasing the items.

4. FPM Integrating Weissenburg Goniometer

(Cz Instruments Type WBG 2 located at the Deptt. of Physics). During the year under review, three papers have been communicated for publication. It has also been utilised for determination of crystal structures of several organic and inorganic samples of different research groups of the University.

5. Preparative Ultracentrifuge

(JRNZKI Model VAC 601) located in the Department of Food

Technology and Biochemical Engg. This instrument is not in working condition. Some spare parts which require replacement is being procured.

6. Microcomputer Development System

(Intel Type MDS 210) Universal Room Programmer URP 103, Paper Tape Reader PTR 800)

During the year under review, 7 ME and 20 BE Project Works have been completed. The instrument is working satisfactorily.

7. Gas-Chromatograph

(Hewlett Packard Model HP 5711A). Located at the Deptt. of Pharmacy will be installed shortly.

Status report (as on March 1984) of all the Instruments of the University costing more than Rs. 25,00,000/- have been completed. This will be printed in the form of a booklet.

The Principal Scientific Officer visited the 'Central Workshop and Instrument Service Section, (CWISS) of IIT, Kharagpur in August 1983.

Advisory Committee of USIC, Jadavpur University has been formed as follows (vide University Council Resolution item 2 dt. 6. 8. 83).

Vice-Chancellor — Chairman
Deans of the Faculty of Arts, Science and Engineering and Technology.

Heads of the Departments of the Faculty of Science and a nominee of the Board of Studies of each of the Departments under the Faculty of Science.

Heads of the Departments of Engineering and Technology and a nominee of the Board of Studies from each of the Department of the Faculty of Engineering and Technology.

Two experts to be nominated by the Vice-Chancellor.
One nominee of the Council
The Registrar
The Development Officer
The Workshop Superintendent
Principal Scientific Officer, USIC—Convenor

The Principal Scientific Officer delivered a lecture on 'Vacuum Technology' during the National Workshop on Electron Microscopy held at the Jadavpur University between 26—30th December 1983.

**TRAINING AND PLACEMENT
SECTION**

The above section, in conjunction with the University Employment Information and Guidance Bureau, continued to render useful student service in the critical area of employment and training.

The broad functions carried out included :

- (a) Vocational Guidance
- (b) Career Guidance
- (c) Individual Information
- (d) Occupational Information
- (e) Career walks
- (f) Personality Development Programmes
- (g) Practical Training
- (h) Opportunities for Higher Studies in this Country and Abroad
- (i) Information on Self Employment
- (j) *Placement Assistance*

Reports containing monthly statistics were sent regularly to the Directorate of National Employment Services and also to the Directorate General of Employment and Training, New Delhi.

Statistical figures in support of the work done are shown in the next page.

**TRAINING AND EMPLOYMENT POSITION OF
OUTGOING STUDENTS (1983-84)**

	Mech. Engg.	Chem. Engg.	Elec. Engg.	Civil Engg.	IEE	Prod. Engg.	Met. Engg.	ETCE	FTBE	Pharmacy	Total No.
1. No. of Students sent for Summer Vacational training 1984	70	21	68	30	11	11	9	11	2	5	238
	approx	approx	approx	approx	approx	approx	approx	approx	approx	approx	
2. No. of Students who registered for placement assistance (Day unit only)	81	28	71	67	19	19	NIL	24	NIL	NIL	
3. No. of Students placed :											
(a) Private Sector	53	12	41	41	9	15	4	7	2	—	
(b) Public Sector	9	—	11	3	6	2	—	2	—	—	
(c) Self-Employed	—	—	—	—	—	—	—	—	—	—	
(d) Higher Studies	11	13	9	8	1	—	2	13	—	—	
(e) Position not known	8	3	10	9	3	2	3	2	—	5	

NATIONAL SERVICE SCHEME (1983-84)

Main Programmes, Activities and Achievements

The main programmes and activities undertaken by our N.S.S. volunteers during the year 1983-84 are described below :

The normal activities inside and outside the University campus broadly included regular blood donation programmes, tree plantation, sanitation, campus beautification, coaching of blind students and work for establishment of Adult literacy Centres. The special camping programmes included one mixed camp (male and female students combined) at Ukilerhat in the Sunderbans area and another exclusively for girl students at Joyrambati in the district of Hooghly, West Bengal.

Normal N.S.S. activities

- (a) Volunteers of the Azad Group organised different Blood Donation programmes in the different Deptt. of the University during the year 1983-84. Nearly 212 volunteers donated their blood.

Volunteers also sponsored different blood donation camps outside the University campus in collaboration with Association of voluntary blood donors, W.B. They organised 18 Blood Donation camps and 2,508 persons donated their blood.

Azad group worked in collaboration with Adult, Continuing Education and Extension Centre and Association of Voluntary Blood Donors, West Bengal for organising a course on "Social Service—Blood Donor Motivation" during the period from September 1983 to December 1983.

- (b) The Nivedita Group organised a tree plantation programme in the University campus on 3rd August, 1983 as Vanomohatsava. Teachers, students and other staff members of the University participated in this programme. Students also organised a short eco. development camp at the University.

- (c) Volunteers of Vidyasagar Group regularly taught some blind students in their courses of study.

Special Camps

- (a) Special Camp held at Ukilerhat, Dist. 24-Parganas, West Bengal:

A camp was held at Ukilerhat during the Puja vacation (from 22. 10. 83 to 31. 10. 83) under the supervision of the Programme Officer Shri D. K. Banerjee. Total number of participants were 37 (including 5 girls). Projects undertaken in this period included (i) complete renovation and construction of 67.5 feet bridge with wooden

pillars and bamboo platform, (ii) free coaching to Sent-up candidates for Final Secondary and Higher Secondary Examinations and (iii) Cultural exchanges with local villagers through sports, games, music and folk songs etc.

The above work on the bridge was as part of follow-up action of one of our earlier projects in this area. *Involvement of local people was good. Availability of local resources (except personnel) was marginal.*

- (b) Special Camp held at Jayrambati, Dist. Hooghly, West Bengal

The Nivedita Group of the National Service Scheme of the Jadavpur University had a Special Camp at Jayrambati, from 2nd to 7th January, 1984 under the supervision of the programme officer Smt. Krishna Dutta. Number of participants were 19 (all girls). The group arrived at the village on 2nd January '84 and immediately on reaching the village it made a survey of the village comprising several 'Paras'. The group visited Ghoshpara, Colonypara, Goalpara, Bagdipara and Santhalpara. The survey reveals that most of the families depend on agriculture and own small plots of land. The inhabitants of Goalpara mainly depend on cows for their livelihood, as they sell milk and cowdung.

Every day during the camping period the volunteers used to go to Santhalpara to impart instructions on family planning to the Santhal villagers who did not hear about it earlier. They showed great interest in family planning as they felt that it would be economically unwise to maintain big families. They were taught about pre-and post-natal care and childcare in general. They very much appreciated these teachings.

The volunteers also worked in attachment with "Pallimangal", an organization for rural development. It maintains a training-cum-production centre, where a large number of village people have been engaged. The products of the centre include handloom Sari, Dhuti, Napkin, Duster, Sidebags, Candle and incensed sticks.

The volunteers on their own part managed to devote sometime in learning the art of grafting, budding etc. of trees from a senior monk who used to serve as a judge in 'All Indian Flower Shows'.

STUDENTS ACTIVITIES (Sports and Games)

The following teams of the University were sent to participate in the the Inter-University Tournaments, 1983-84 :

- (a) Football, (b) Table Tennis, (Men and Women), (c) Badminton (Men and Women), (d) Basketball, (e) Volleyball, (f) Swimming (Women), (g) Rowing and (h) Hockey.

FOOTBALL :

- (a) The team reached the Quarter Final but unfortunately lost to Calcutta in the Tie-breaker after giving excellent display. The Captain of the team was Sri Amit Guha. A good number of friendly matches were arranged as preparatory games against 1st division and other teams of the Inter-University Tournaments.
- (b) Prof. G. C. Sen Invitation Football Tournament was organised in which the following 5 teams of the University participated :
- (i) F.E.T., (ii) Combined team of Science and Arts Faculties, (iii) (Physical Education) College of Education (iv) Staff team, (v) Ex-Blues.

The following Colleges also participated in the tournament St. Xavier's College, B. E. College, D.M.E.T., Bhowanipur Education Society.

The Combined team of Science and Arts Faculty became the Champion while the F.E.T. team became the runners-up.

Sri Runu Guha Thakurta, Ex-All India Football Player, was the Chief-Guest and the Vice-Chancellor was the President at the Prize distribution ceremony.

The Inter-deptt. tournament was also held in which a large number general students participated.

CRICKET :

The East Zone Inter-University Cricket Tournament was not held during the year.

At the West Bengal Inter-University Cricket Tournament (Ajoy Ghosh Trophy) organised by the Cricket Association of Bengal, our team became the Champion. Incidentally, the Sports Board undertook the responsibility of conducting the tournament.

A good number of friendly matches were arranged against the 1st division and other teams of the C.A.B. League.

The F.E.T. team participated in the All India Inter-Engineering Tournament held at Durgapur and became the runners-up.

The Inter-departmental competition was also held in which a large number of students participated.

TABLE TENNIS :

The University Men's team won the All India Inter-University Tournament after becoming the North Zone Champion. At the Zonal Stage, our team defeated Delhi University and other teams while at the Semi-final and Final, our team beat Bombay and Poona by 5-2 and 5-0 games.

The following players participated on behalf of the University :

Rajib Singh (Captain), Debangshu Bhattacharya, Soumen Ganguly and Siddhartha Majumder. The first three named players also represented the Senior team of West Bengal.

The Women's team also reached up to the Quarter-final. Srimanti Ukil was the Captain of the team. Both men and Women teams participated in the local Inter-College Tournaments and other leading competitions organised by the Bengal Table Tennis Association and won a number of laurels.

BADMINTON :

The Women's team became the Champion in the East Zone Inter-University Tournament and qualified to participate in the All India Stage.

The men's team reached the Quarter Final.

In the West Bengal Inter-University Badminton Tournament organised by the West Bengal State Badminton Association, our teams both men and women, made brilliant results. Sm. Mousumi Roy of our University had the distinction of becoming No. 1 player (Women) of the State of West Bengal and also represented the Sr. State team in the National Championships.

In a number of important tournaments organised by the West Bengal State Badminton Association the University Badminton team won a number of laurels.

Sri Arup Datta was the Captain of the University team.

BASKETBALL :

The University team participated in the East Zone Inter-University Tournament and reached up to the Quarter Final. Sri Saibal Mukherjee was the Captain.

In the Wathoo Memorial Basketball Tournament organised by the Sports Board, our became the runners-up. Heramba Chandra College was the Winner.

The following Colleges participated in the tournament :

1. B. E. College, 2. D.M.E.T., 3. St. Xaviers College, 4. Viswa Bharati, 5. Umesh Chandra College, 6. Heramba Chandra College, 7. Jadavpur University and 8. Burdwan Raj College.

VOLLEYBALL :

The University team participated in the East Zone Tournament and lost to Ravishankar University. Sri Rajat Kanti Chakrabarty was the Captain of the team.

HOCKEY :

The University team participated in the East Zone Tournament but lost to Berhampur University in the first round.

A number of friendly matches were arranged against some important local teams. Vinod Swami was the Captain.

SWIMMING :

The University women's team participated in the All India Inter-University Meet and made fine results.

In both 4X100 metre Medley Relay and Free Style, our team reached the final stage. In the individual events also, in Breast Stroke and Free Style, the Swimmers, reached the final stage. Smt. Nandini Sen Gupta was the Captain of the team.

ROWING :

The team participated in the All India Competition held in Calcutta. Our team secured the 3rd position in the Pairs event. Sri T. N. Champak was the Captain of the team.

ANNUAL SPORTS :

The Annual Sports of the University was held in the last week of February on the University Ground.

About 260 Athlets took part in the Meet including the students of the University and the B.Ed. (Phy. Edn.) students of College of Education. Ex-Students and Teaching and Non-teaching staff of the University, the trainers of Physical Education courses excelled others in most of the events.

Sri Surojit Sen Gupta, renowned Football Player, acted as the Chief

Guest and the Vice-Chancellor presided over the prize distribution ceremony.

SELECTION OF CANDIDATES ON SPORTS QUOTA IN THE 3 FACULTIES :

During the year 1983-84, 17 candidates were selected for admission on sports quota (11-F.E.T., 3-Arts and 3-Science).

COACHING PROGRAMME OF DIFFERENT GAMES :

The Coaching programme of different games was arranged for 2 to 4 months for each game under renowned and expert coaches appointed on Part-time basis.

The coaching programme includes physical fitness training, weight training at the Gymnasium with the help of various instruments, increasing stamina by various scientific physical activities and practising games etc. Sometimes, theoretical classes are also taken by the Coaches. 2 to 4 hours coaching was held daily during the coaching programme.

Nutritive food was also provided for the trainees.

BEST SPORTSMAN OF THE YEAR :

Sri Avijit Datta was selected by the Sports Board as the Best Sportsman of the year. He was awarded the Trophy at the Convocation of the University as in previous years. Incidentally, Avijit Datta was the first Badminton player (Men) of the University to represent the Senior State team of West Bengal in the National Championship.

**CENTRE FOR ADULT, CONTINUING EDUCATION
AND EXTENSION CENTRE**

A report on the Activities of the Centre during the period 1983-84

On 2. 5. 1983 Prof. Dr. Nakul Chandra Das joined as the Director of the Adult, Continuing Education and Extension Centre, a department framed by the University in accordance with the revised guidelines of the U.G.C.

The Centre organised a birth bi-centenary celebration of N.F.S. Grundtvig, universally recognised as the pioneer of non-formal education, at Gandhi Bhavan of the University on 23. 7. 1983.

Besides conducting a course on Social Service-Blood Donor Motivation by name in four batches in its newly shaped form of Adult, Continuing Education and Extension Centre, the old Centre i.e. Continuing Education Centre also conducted three courses on X-Ray Technique, Acupuncture and Hydraulics and Water Resources Engineering respectively.

The planning to offer some courses in collaboration with Spastics Society of Eastern India began during the end of the year under consideration which however materialised in the year to follow.

The Director of the Centre participated in one International Conference on non-formal education in Dublin, Ireland and in one national conference on distance education at Pune.

Three part-time employees of the Centre joined sometime during November, 1983 and on 21. 2. 1984 Sri A. Bhattacharya joined as Assistant Director of the Centre.

STUDENTS' POPULATION 1983-84

1. Undergraduate Courses:

Name of the Course offered	STUDENTS ON ROLL			
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.
B.A.				
Bengali	34	28	28	—
Comparative Literature	42	36	32	—
Economics	47	43	46	—
English	48	44	48	—
History	38	43	37	—
Political Science	47	45	37	—
Philosophy	47	42	38	—
Sanskrit	2	8	8	—
Bachelor of Library & Information Science	58	—	—	—
TOTAL	363	289	274	—
B.Sc.				
Chemistry	36	36	32	—
Geological Sciences	25	22	23	—
Mathematics	56	31	44	—
Physics	38	24	27	—
TOTAL	155	113	126	—
B.E.				
Architecture	23	21	16	14
Chemical Engg.	45	55	28	30
Civil Engg.	99	91	64	57
Electrical Engg.	81	99	77	74
Electronics & Telecom. Engg.	33	36	28	25
Food Tech. & Bio-Chem. Engg.	12	8	15	—
Instrumentation & Elec. Engg.	22	20	21	—
Mechanical Engg.	87	101	72	83
Metallurgical Engg.	12	25	6	9
Pharmacy	66	54	27	10
Computer Science & Engg.	30	29	21	—
Production Engg.	22	21	18	19
TOTAL	532	560	393	321

Name of the Course offered	STUDENTS ON ROLL				
	1st Yr.	2nd Yr.	3rd Yr.	4th Yr.	5th Yr.
B.E. (Evening):					
Civil Engg.	31	31	33	32	28
Electrical Engg.	27	29	29	28	29
Mechanical Engg.	32	31	29	34	32
TOTAL	90	91	91	94	89

2. Post Graduate Courses:

M.A. (2-yr. Course):

Bengali	51	35	—	—	—
Comparative Literature	51	28	—	—	—
Economics	52	32	—	—	—
English	55	55	—	—	—
History	58	45	—	—	—
International Relations	47	51	—	—	—
Philosophy	54	35	—	—	—
Sanskrit	14	13	—	—	—
TOTAL	382	294	—	—	—

M.A. (Evening):

3-yr. Course:

Bengali	52	—	51
Economics	28	—	21
English	61	—	54
History	56	—	36
Philosophy	36	—	18
Sanskrit	14	—	14
TOTAL	247	—	194

M.Sc.

Applied Geology	18	13	17
Chemistry	28	23	—
Mathematics	57	48	—
Physics	22	23	—
TOTAL	125	107	17

M.Sc. (Evening):

3 yr. Course:

	1st Yr.	2nd Yr.	3rd Yr.
Chemistry	28	—	21
Mathematics	49	—	23
Physics	22	—	29
TOTAL	99	—	73

M.E. Degree:

(2-yr. Course)

	1st Yr.	2nd Yr.
Architecture	5	5
Chemical Engg.	11	19
Civil Engg.	20	15
Electrical Engg.	22	20
Elec. & Telecom. Engg.	20	13
Food Tech. & Biochem. Engg.	8	2
Mechanical Engg.	19	20
Metallurgical Engg.	11	7
Pharmacy	21	20
Production Engg.	14	—
TOTAL	151	121

**STUDENTS' POPULATION
AT A GLANCE, 1983-84**

(a) **University Teaching Departments :**

3-Year B.A. (Hons.) Course in Arts Subjects	868
2-Year M.A. Courses in Arts Subjects	676
3-Year M.A. (Evening) Courses in Arts Subjects	441
3-Year B.Sc. (Hons.) Courses in Science Subjects	394
2-Year M.Sc. Courses in Science Subjects (excluding Applied Geology)	201
3-Year M.Sc. Course in Applied Geology	48
3-Year M.Sc. (Evening) Courses in Science	172
4-Year Degree Courses in Engineering	1708
5-Year Part-time (Evening) Degree Courses in Engg.	455
2-Year P. G. Courses in Engg.	260
2-Year M.Phil. Courses	57
1-Year Library and Information Science Degree Course	58
3-Year B.Tech. Courses	98
2-Year M.Tech. Courses	10

TOTAL 5446

(b) **Affiliated Colleges :**

Home Science Courses
Bachelor of Education Course

**POPULATION OF RESEARCH
FELLOWS/ASSOCIATES**

Authority	Department	Type of Fellowship			
		JRF	SRF	RA	Total
University	Physics	1	—	—	1
	Mathematics	1	—	—	1
	Chemistry	8	2	—	10
	Food Tech.	2	4	—	6
	Chemical Engg.	6	4	—	10
	Sanskrit	1	—	—	1
	Pharmacy	3	10	—	13
	Computer Centre	6	8	—	14
	International Relations	9	1	—	10
	Geological Sciences	8	—	—	8
	Philosophy	16	1	—	17
	Mechanical Engg.	—	3	—	3
	Electrical Engg.	—	4	—	4
	Civil Engg.	—	3	—	3
	Water Resources Engg.	—	2	—	2
	Architecture	—	2	—	2
			61	44	—
C.S.I.R.	Chemistry	4	4	2	10
	Physics	1	—	—	1
	Mathematics	2	2	—	4
	Geological Sciences	1	—	1	2
	Pharmacy	3	3	—	6
	Food Tech.	—	2	—	2
	Mechanical Engg.	—	—	—	—
	Electrical Engg.	—	2	—	2
	E.T.C.E.	—	1	—	1
	Chemical Engg.	—	2	1	3
		11	16	4	31
U.G.C.	Physics	3	2	1	6
	Chemistry	2	6	3	11
	Mathematics	2	7	4	13
	Geological Sciences	2	1	—	3
	History	1	1	—	2
	Comp. Literature	2	—	—	2
	Bengali	2	—	1	3
	International Relations	1	2	—	3
	Economics	1	2	—	3
	Sanskrit	2	1	—	3
	Philosophy	—	1	—	1

Authority	Department	Type of Fellowship			
		JRF	SRF	RA	Total
	English	2	—	1	3
	Food Tech.	—	—	1	1
	Chemical Engg.	—	—	—	—
	Pharmacy	10	—	5	15
	Architecture	—	—	—	—
	Electrical Engg.	5	—	—	5
	E.T.C.E.	2	—	—	2
	Mechanical Engg.	—	—	—	—
	Production Engg.	—	—	2	2
	Metallurgical Engg.	1	—	—	1
		<u>38</u>	<u>23</u>	<u>18</u>	<u>79</u>
Other than UGC & CSIR	Mathematics	1	—	—	1
	Chemistry	1	2	—	3
	Pharmacy	1	7	1	9
	Food Tech.	7	—	4	11
	Geological Sciences	—	1	—	1
	Physics	5	—	—	5
	Economics	2	—	—	2
	Philosophy	3	—	—	3
	Chemical Engg.	1	1	—	2
		<u>21</u>	<u>11</u>	<u>5</u>	<u>37</u>
		Sanctioned post			
Pool Officer (CSIR)	Mechanical Engg.				3
	Electrical Engg.				1
				<u>Total</u>	<u>4</u>
Teachers' Trainee (Sponsored by the Govt. of India)	E.T.C.E.				7
					7
UGC Teacher Fellow	Different Departments				27
				<u>Total</u>	<u>27</u>
Foreign Research Scholar from Bangladesh	Different Departments				5
				<u>Total</u>	<u>5</u>
				<u>GRAND TOTAL</u> (of all categories)	<u>295</u>

EXAMINATION RESULTS

Faculty	Courses	EXAMINATION RESULTS			
		No. Appeared	No. Passed	No. Incomplete	Failed
ARTS	B.A. (all subjects)	304	299	—	5
	B.Ed. (Phy. Edn.)	64	64	—	—
	B.Ed.	288	276	—	7
	M.A. (all subjects)	378	316	—	62
	M.A. (Education)	25	25	—	—
SCIENCE	B.Sc. (all subjects)	83	79	—	4
	B.Sc. (Home Science)	33	33	—	—
	M.Sc. (all subjects)	111	104	—	7
	M.Sc. (Home Science)	13	13	—	—
ENGG. & TECH.	B.E. (all subjects)	330	328	—	2
	B. Pharmacy	14	14	—	—
	B. Tech.	35	35	—	—
	B.E. (Evening Course)	97	97	—	—
P. G. ENGG.	M.E. (all subjects)	65	38	27	—
	M. Pharmacy	19	19	—	—
	M. Tech.	1	1	—	—
	M.E. Tel. E.	19	13	—	6
D.Sc. PH.D.		1	1	—	—
	Arts	23	23	—	—
	Engg.	5	5	—	—
	Pharmacy	3	3	—	—
M.PHIL.	Science	42	42	—	—
		9	9	—	—

JADAVPUR

Calcutta

**Table Income and Expenditure of University
Financial Year**

INCOME		AMOUNT	
PART-I		Plan Rs.	Non-Plan Rs.
(i) Recurring			
A. From :			
(i) Central Government		6,15,000	4,09,465
(ii) U.G.C.			
(iii) State Government(s) (Grant-in-Aid)		Nil	5,49,69,631
(iv) Local Boards		Nil	Nil
(v) Other Sources		Nil	7,49,028
	TOTAL (A)	6,15,000	5,61,28,124
B. Fees :			
(i) Tuition Fees (including Laboratory fees) only		Nil	8,36,424
(ii) Hostel		Nil	1,04,020
(iii) Examinations		Nil	2,44,695
(iv) Others		Nil	3,71,333
	TOTAL (B)		15,56,472
C. Endowments		Nil	1,000
	TOTAL (C)		1,000
D. Other Sources		Nil	Nil
	TOTAL (D)	Nil	Nil
	TOTAL RECURRING (A+B+C+D)	6,15,000	5,76,85,596

UNIVERSITY

700 032

**and University Teaching Departments
1983-84**

EXPENDITURE		AMOUNT	
PART-I		Plan Rs.	Non-Plan Rs.
(i) Recurring			
A. Salaries :			
(i) Research guiding & Teaching Staff		1,27,122	1,06,19,160
(ii) Administrative & Other Staff		57,790	96,62,455
(iii) Provident Fund & Pension		45,182	16,46,157
(iv) Other allowances including addl. D.A. & other benefits		Nil	1,65,45,900
	TOTAL (A)	2,30,094	3,84,73,672
B. Grants:			
(i) Constituent Colleges		Nil	Nil
(ii) Affiliated Colleges		Nil	Nil
(iii) Other Institution		Nil	Nil
	TOTAL (B)	Nil	Nil
C. Equipment:			
(i) Apparatus, Chemical & Consumable Stores		1,63,326	12,71,619
(ii) Furniture		Nil	6,42,729
	TOTAL (C)	1,63,326	19,14,348
D. Miscellaneous:			
(i) University expenses on scholarship, stipends & other financial Assistance		Nil	70,030
(ii) Library (Excluding Staff)		Nil	5,65,074
(iii) Games, Sports & other activities of students		Nil	7,46,988
(iv) Conduct of Examinations (Excluding Staff)		Nil	6,71,668
(v) Hostel		Nil	10,39,335
(vi) Repairs of Buildings, furniture & apparatus		Nil	32,77,074
(vii) Other Items		Nil	41,36,866
	TOTAL (D)	Nil	1,05,07,035
	TOTAL RECURRING (A+B+C+D)	3,93,420	5,08,95,055

CENTRAL LIBRARY

1. Total number of books and periodicals (completed Volumes at the beginning of the year (1st April 1983)—359851 (including non-book materials).
 - (a) Books—249741
 - (b) Periodicals (completed volumes)—48044
2. Addition during the year (1983-84)
 - (a) No. of Books purchased—8206
 - (b) No. of periodicals (completed volumes) added—821
 - (c) No. of gift books and publications—250
 - (d) Bound volumes of Journals—82
 - (e) Doctoral thesis—110
 - (f) Pamphlets, Calender Specifications, Note Book Materials (Slides microfilms maps, charts etc.—1546
3. Total no. of books and periodicals at the end of the year (31st March 1984)—370784.
4. Other relevant information :
 - (a) No. of current Journals (subscribed and gifted)— $974 + 300 = 1274$
 - (b) No. of Readers in the Reading Rood.
 - (i) Ground floor—1,38,000
 - (ii) 1st floor—31,729
 - (iii) Top floor—5,000
 - (c) Total No. of volumes in the Reading Rood—32,220
 - (d) No. of volumes issued loan— $70,250 + 4,400$ overnight
 - (e) Inter-Library loan—B 25+L 125
 - (f) Requisition slip handled—1,43,000
 - (g) No. of questions and journals used—58,892
 - (h) No. of volumes processed for users—7879

- (i) No. of reference querries—1800
- (j) No. of Journals bound—3290
- (k) Renewal of student membership—5000
- (l) No. of new Library membership—1969 approx.
- (m) No. of photo copies, xerox prints etc.—12,084
- (n) Books and Journals labelled—6900
- (o) No. of borrowers—9400 approx.
- (p) Hours of opening and closing from 10-20 A.M. to 8-15 P.M.
- (q) Details of exhibitions held, if any (1) Manisha Granthalaya,
(2) By International Book Traders.



NOT TO BE LENT OUT

