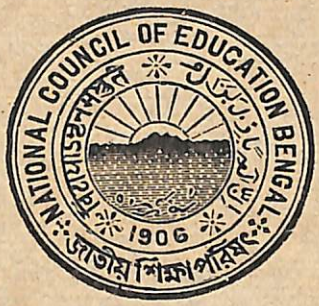
College of Engineering & Technology, Bengal



PROSPECTUS

SESSION 1949-50

PART I

P. O. JADAVPUR COLLEGE, 24-PARGANAS, BENGAL

Phone : Pk. 1910

For students of the college
Price As. -/8/- only

Price As. -/12/- only

CONTENTS

The College reserves the right to make changes in the regulations and courses announced in this prospectus.

HISTORY OF THE COLLEGE

The years 1905-06 are memorable ones in the annals of Bengal and indeed in the annals of India. The attempt by the Government to partition Bengal led to a country-wide agitation and intense nationalist movement, which, although political at the outset, had important economic and cultural aspects as well. The economic aspect of the movement found expression in the production and use of "Swadeshi" goods. The cultural aspect found expression in many forms, in the regeneration of Indian art and music, but most of all in the boycott of the then prevalent system of education and the establishment of a new system based entirely on national lines and intended to serve only national purposes.

It was in this way that the National Council of Education was started in 1906 "to impart education—literary and scientific as well as technical and professional—on national lines and exclusively under national control, not in opposition to, but standing apart from the existing system of primary, secondary and collegiate education, attaching special importance to a knowledge of the country, its literature, history and philosophy, and designed to incorporate with the best Oriental ideals of life and thought the best assimilable ideals of West, and inspire students with the genuine love for and desire to serve the country." The foundation of the National Council of Education was rendered possible by the munificence of three generous donors, the late Raja Subodh Chandra Mallick, Sj. Brojendra Kishore Roy Choudhury of Gouripur and the late Maharaja Suryya Kanta Acharyya Choudhury Bahadur of Mymensingh. The first President of the Council was Sir Rash Behari Ghosh, and with the early days of the N. C. E. were associated nearly all the notable figures of the time, some of whom later won world recognition, men like Poet Rabindranath Tagore, Sri Aurobindo and others.

In 1906, the year of the foundation of the National Council of Education, Bengal, there was established another body known as the Society for the Promotion of Technical Education in Bengal also under the Presidentship of the late Sir Rash Behari Ghosh, with the object of imparting scientific and technical education to the Indian people, calculated to further their industrial progress. Under the auspices of this Society there was started the Bengal Technical Institute (now known as the College of Engineering and Technology, Bengal), financed mainly by the late Sir Taraknath Palit. In 1910, the Society for the Promotion of Technical Education in Bengal was amalgamated with the National Council of Education.

The National Council at first maintained both Arts and Science and Technical Departments, but finding that public demand for Technical education was more insistent, the Council has been devoting for the last

30 years almost the whole of its resources to technical education through its College of Engineering & Technology.

In 1921 the Council had the good fortune to secure a donation of about 13 lacs (13,00,000) of rupees under the Will of the late Sir Rash Behari Ghosh. This princely bequest enabled the Council in 1924 to erect extensive buildings and workshops on its present site at Jadavpur. Besides the donations and endowments of the founders mentioned above, the Council has received up to date a sum of about 10 lacs of rupees as donations from various persons. The present site of the College of Engineering & Technology is a gift of the Corporation of Calcutta, which leased out to the Council 192 bighas of lands on a nominal rent. Besides this extensive plot of land, the Corporation has been making an annual grant of Rs. 30,000/- since 1927. Later on the Corporation made a non-recurring grant to the College of nearly 1½ lac of rupees, partly as a loan and partly as a gift.

The Government of West Bengal have made a non-recurring grant of 3 lacs of rupees and a recurring one of 40 thousand rupees per annum from last year for the further development of the Chemical Engineering Department of this College. In addition they have made non-recurring and recurring grants for development of the Overseer Course.

The Government of India have sanctioned the following very handsome grants and loans :—

(*a*) Capital grant—		
(*i*) for College buildings	...	Rs. 3,83,000
(*ii*) For Equipments	...	Rs. 21,77,000
(*b*) Recurring Annual Grant ...	...	Rs. 5,98,000
(*c*) Interest-free Loan for Construction of Students' Hostels	...	Rs. 13,91,000

These grants by the Central Government will enable the College to serve the country in a far more effective way than she is doing now.

ADMINISTRATIVE COMMITTEE

THE NATIONAL COUNCIL OF EDUCATION, BENGAL

MEMBERS OF THE EXECUTIVE COMMITTEE, 1949

Ex-officio Members :

Hon'ble Dr. B. C. Roy, M.D., M.R.C.P., F.R.C.S. (Eng.)—*President.*
Hon'ble Shri Nalini Ranjan Sarkar—*Vice-President.*
Shri Atul Chandra Dutta, A.M.Ch.E.—*Hony. Secretary.*
,, Brajendra Kishore Roy Chowdhury of Gouripur—*Hony. Treasurer.*
,, C. C. Biswas, M.A., B.L.—*Hony. Rector.*
Dr. Triguna Charan Sen, Dr. Ing. (Munich), M.I.E. (Ind.), A.M.M.E. —*Principal.*

Shri Sasanka Sekhar Bagchi, A.M.E.E.
—*Hony. Secretary, Managing Committee, College of Engineering & Technology, Bengal.*
,, Sudeb Chandra Dutta, A.M.E.E.—*Hony. Secretary, Managing Committee, Dept. of General Education.*

Donors' Nominees :

Shri Annada Prosad Chowdhury, M.Sc.
,, Khitish Chandra Dutt, M.A.
,, Narendra Kumar Mitra, B.Sc. (Glas.), M.I.E. (Ind.).
,, Ajendra Krishna Ghosh, B.L., Solicitor.

Elected Members :

Shri Hem Chandra Das Gupta, B.M.E. (Michi.).
,, Haripada Bhaumik, B.A., M.I.E. (Ind.).
,, Sachin Bandopadhyaya, B.Sc. (Glasgow), A.M.I.E. (Ind.).
,, Surendra Nath Dutt, B.Sc. (Glasgow), M.I.E. (Ind.).
,, Snehangsu Kanta Acharyya, Bar-at-Law.
,, Prafulla Kanta Banerjee.

Faculty Representative :

Prof. Baneswar Dass, B.S.Ch.E. (Illinois).

Representatives of the Alumni Association:

Prof. Surendra Kumar Roy, M.E.E. (Harvard), M.A.I.E.E., M.I.E. (Ind.).
Shri Mani Bhusan Majumdar, A.M.E.E.

Representative of the Institute of Engineers (India):

Shri J. Ganguly, B.E., M.I.E. (Ind.)

Representative of the Govt. of West Bengal:

Shri A. K. Chanda, M.A. (Oxon.), I.E.S.

Representatives of the Govt. of India:

(*i*) G. K. Chandiramani, Deputy Educational Adviser (Tech.) to the Govt. of India.
(*ii*) Vacant.

Representatives of the All India Council of Technical Education:

Vacant.

Co-opted Members:

Shri Sachindra Bhusan Dutt, B.Sc., A.M.Ch.E.
,, Amarendra Nath Halder, A.M.E.E.

THE NATIONAL COUNCIL OF EDUCATION, BENGAL

MEMBERS OF THE MANAGING COMMITTEE OF THE COLLEGE OF ENGINEERING AND TECHNOLOGY, BENGAL, 1949

Ex-Officio Members:

Shri C. C. Biswas, M.A., B.L.—*President of the Managing Committee.*
Hon'ble Shri Nalini Ranjan Sarkar—*Vice-President of the Executive Committee.*
Shri Atul Chandra Dutta, A.M.Ch.E.—*Hony. Secretary of the Executive Committee.*
,, Sasanka Sekhar Bagchi, A.M.E.E.—*Hony. Secretary.*
Dr. Triguna Charan Sen, Dr. Ing. (Munich), M.I.E. (Ind.), A.M.M.E. —*Principal.*
Prof. Dr. Satish Chandra Bhattacharyya, M.Sc. (Cal.), Dr. Ing. (Berlin), A.M.M.E., A.M.E.E., V.D.I., M.I.E. (Ind.).
Prof. Dr. Hira Lal Roy, A.B. (Harvard), Dr. Ing. (Berlin), M.I.Ch.E., M.I.E. (Ind.).
Prof. Hem Chandra Guha, B.Sc. (Edin.), A.M.I.E.E. (London), Mem. A.I.E.E., M.I.E. (Ind.).

Elected Members:

Prof. Atul Ch. Roy, B.Sc. (Glas.).
Dr. Kedareswar Banerjee, D.Sc., F.N.I.
Shri Kumarendra Bose, A.M.Ch.E., M.I.S.E., M.I.C. (Ind.).
,, Netai Chand Mallik, A.M.M.E.
,, Bhupendra Nath Banerjee, B.E.E., A.M.E.E.
,, Sisir Kr. Mitra, A.M.E.E.
,, Akul Ch. Lahiri, A.M.E.E.
,, Rash Behari Dey, V.D.E., A.A.I.E.E.
,, Himangshu S. Sinha, A.M.E.E.

Representatives of the Faculty:

Prof. Mohi Mohan Mukherjee, M.S. (Washington), A.M.M.E., M.A.I.E.E. (U.S.A.).

Shri Bireswar P. Ghosh, B.M.E.

Representatives of the Alumni Association:

Shri Chandra Sekhar Neogy, A.M.E.E.
,, Sailesh Ch. Das Gupta, A.M.E.E.

Co-opted Members:

Shri Biprodas Mohuri.
,, P. Mukherjee.
,, Benoy K. Mitter.

COLLEGE COUNCIL, 1949

Shri Charu Ch. Biswas, M.A., B.L.—*Rector.*
,, Hari Pada Bhaumik, B.A., M.I.E. (Ind.).
,, Narendra Kr. Mitra, B.Sc. (Glas.), M.I.E. (Ind.).
Prof. Satyendra Nath Bose, M.Sc., F.N.I.
,, Dr. Nikhil Ranjan Sen, D.Sc., Ph.D. (Berlin), F.N.I.
,, Meghnad Saha, D.Sc., F.R.S., F.N.I.
Shri Sachin Bandopadhyaya, B.Sc. (Glas.), A.M.I.E. (Ind.).
Dr. Chittaranjan Barat, M.Sc. (Cal.), Dr. Ing. (Munich).
Shri Atul Chandra Dutta, A.M.Ch.E.—*Hony. Secy., Ex. Committee.*
,, Sasanka Sekhar Bagchi, A.M.E.E.—*Hony. Secy., Tech. Mg. Committee*
,, Sudeb Chandra Dutta, A.M.E.E.—*Hony. Secy., Gen. Mg. Committee.*
Prof. Dr. Satish Ch. Battacharyya, M.Sc. (Cal.), Dr. Ing. (Berlin), A.M.M.E., A.M.E.E., V.D.I., M.I.E. (Ind.).
,, Atul Ch. Roy, B.Sc. (Glas.).
,, Dr. Hira Lal Roy, A.B. (Harvard), Dr. Ing. (Berlin), M.I.Ch.E., M.I.E. (Ind.).
,, Hem Chandra Guha, B.Sc. (Edin.), A.M.I.E.E. (Lon.), M.I.E. (Ind.), Mem. A.I.E.E.
,, Purna Chandra Biswas, M.Sc.
,, Satish Ch. Chakrabarty, M.Sc.
,, Benoyendra Nath Mondal, B.Sc. (Wales).
Dr. Pulin Behari Sarkar, D.Sc.
,, Kedareswar Banerji, D.Sc. F.N.I.
,, S. R. Sen Gupta, Ph.D. (Glasgow).
Shri Hem Chandra Das Gupta, B.M.E. (Michigan).
,, N. C. Ghosh.
,, J. Ganguly, M.I.E. (Ind.).
,, Triguna Sen, Dr. Ing. (Munich), A.M.M.E., M.I.E. (Ind.)—*Principal.*

College of Engineering & Technology, Bengal

THE FACULTY

Principal :

Dr. Trigunacharan Sen, Dr. Ing. (Munich), A.M.M.E. (B. Tech.), M.I.E. (Ind.), M.A.E.

DEPARTMENT OF MECHANICAL ENGINEERING

Professor-in-Charge :

Dr. Satish Chandra Bhattacharyya, M.Sc. (Cal.), Dr. Ing. (Berlin), A.M.M.E., A.M.E.E., V.D.I., M.I.E. (Ind.).

Professors :

Dr. Jatindra Nath Basu, Dr. Ing. (Berlin), A.M.M.E., A.M.E.E., M.I.E. (Ind.), V.D.I.

Sudhir Kumar Chakravarti, B.S. (Worcester), M.S. (Michigan), A.M.M.E.

Satyendra Bimal Sen, B. ENG. (Sheffield), A.M.I. MECH.E. (London).

Amiya Kumar Basu, B.Sc. (Cal.), A.M.M.E.

Gopal Chandra Sen, M.S.E. (Michigan), A.M.M.E.

Visiting Professor :

Jnan Ranjan Basu Mallik, M.Sc. (Cal.), M.S. (M.I.T.), M.A.S.R.E., A.M.A.S.H.V.E., A.M.INST.R. (London).

Asst. Professor :

Nirendra Nath Chattopadhyay, B.Sc. (Cal.), A.M.M.E., B.M.E.

Lecturers :

Sailaja Charan Sen Gupta, A.M.E.E.
Ananga Mohan Chatterjee, A.M.M.E. (on leave).
Pravash Chandra De, A.M.M.E., B.M.E.
Binode Lal Das, A.M.M.E., B.M.E.
Girindra Nath Das, A.M.M.E., B.M.E.
Amulya Prosad Ghosh, A.M.M.E., B.M.E.
Bibhuti Bhusan Majumdar, A.M.M.E., B.M.E.
Protap Chandra Roy, A.M.M.E., B.M.E.
Charu Chandra Bhattacharyya, A.M.M.E., B.M.E.
Bhabatosh Mukherjee, B.M.E. (on study leave in U.S.A.).
Madhu Sudan Sen Gupta, B.Sc., B.M.E.
Bimaladas Banerjee, B.M.E.
Hari Das Banerjee, B.M.E.
Bireswar Prosad Ghosh, B.M.E.
Santosh K. Banerjee, B.M.E.
Sachindra Nath Bhaduri, B.M.E.
Joydeb Chandra Das, B.M.E.
Krishna Chandra Chatterjee, B.M.E.
Jyotish Chandra Sarkar, B.M.E.
Anil Kumar Chowdhury, B.M.E.
Prakriti Bhusan Chatterji, B.M.E.
Sukumar Datta, B.M.E.
Amarendra Nath Chakraborty, B.M.E.
Narayan Chandra Kundu, B.M.E.
Rajat Kumar Chakraborty, B.M.E.
Profulla Chandra Choudhury, A.M.M.E., B.M.E.
Probodh Kumar Chakraborty, A.M.M.E., B.M.E.
Probhash Kumar Sen, B.M.E.
Jnan Kumar Mukherji, B.M.E. (on leave).

Engineering Geology Section

Visiting Professor :

Dr. Sivasundar Deb, Dr.-es-sc. (Paris).

Lecturer :

Tarun Kumar Bhattacharyya, M.Sc.

Instructor :

Pulin Behari Bhattacharyya.

DEPARTMENT OF ELECTRICAL ENGINEERING

Professor-in-Charge :

Hem Chandra Guha, B.Sc. (Edin.), Mem.A.I.E.E. (U.S.A.), A.M.I.E.E. (London), M.I.E. (Ind.).

Professor Emeritus :

Surendra Kumar Roy, M.E.E. (Harvard), M.A.I.E.E., M.I.E. (Ind.).

Professors :

Manmatha Nath Chakraborty, B.Sc. (Cal.), B.S. (Worcester), M.S. (Purdue), A.M.E.E.

Dr. Amiya Kumar Chatterjee, Ph.D. (Illinois), M.S. (Cornell), A.M.E.E.

Asst. Professors :

Debendra Nath Chakrabarty, B.E.E., A.M.E.E., A.M.I.E. (Ind.).

Mohi Mohan Mukherji, M.S. (Washington), A.M.E.E., M.A.I.E.E. (U.S.A.).

Lecturers :

Dhirendra Kumar Deb, A.M.E.E.
Mriganka Mohan Kar, B.Sc. (Cal.), A.M.E.E., B.E.E.
Benoy Krishna Sarkar, A.M.E.E., B.E.E.
Danindra Nath Roy Bardhan, A.M.E.E., B.E.E.
Prokash Chandra Mondal, B.Sc. (Cal.), A.M.E.E., B.E.E.
Probhat Kumar Sadhukhan, A.M.E.E., B.E.E.
Amar Nath Das, B.E.E.
Arabindo Das, B.E.E., B.M.E. (on study leave).
Abanindra Nath Deb, B.E.E.
Shyamapada Patra, B.E.E.
Sudhindra Kumar Basu, B.E.E.
Ardhendu Sekhar Sanyal, B.E.E.
Akshay Kumar Ghoshal, B.E.E.
Mukul Mitra, B.E.E. (on leave).

DEPARTMENT OF CHEMICAL ENGINEERING

Professor-in-Charge :

Dr. Hira Lal Roy, A.B. (Harvard), Dr. Ing. (Berlin), M.I.Ch.E., M.I.E. (Ind.).

Professors :

Baneswar Dass, B.S.Ch.E. (Illinois).
Dr. Sachindra N. Mukherjee, M.Sc., D.Sc.
Dr. Anil Kumar Mazumder, M.Sc., D.Sc., A.R.I.C.
Dr. Dilip Kumar Banerjee, M.Sc., D.Sc. (on study leave in U.S.A).
Dr. Bidyut Kamal Bhattacharyya, M.Sc., D.Sc. (,,)
Dr. Arabinda Nath Bose, M.Sc. (Cal.), Ph.D. (M.I.T.).
Gopal Chandra Banerjee, M.Sc.

Asst. Professors :

Provat Kusum Ray, M.Sc.
Dilip Kumar Dutta, B.Sc. (Cal.), A.M.Ch.E., B.Ch.E., M.S. (Carnegie).
Hari Gopal Ganguli, A.M.M.E.
Aswini Kumar Pal, A.M.M.E.
Jatindra Mohan Palit, A.M.M.E., A.M.E.E., B.E.E.

Hony. Lecturer in Chemical Engineering :

Dr. H. E. Eduljee, Ph.D. (London), A.M.I.Ch.E.

Lecturers :

Bimal Chandra Chanda, B.Ch.E., A.M.Ch.E.
Kamalendu Sen Gupta, M.Sc.
Sudhir Chandra Das Gupta, B.Sc.
Tarun Kumar Ghosh, B.Ch.E.
Prasun Kumar Dey, M.Sc.
Lochhu Pochhali, M.Sc.
Nitish Ch. Chakraborty, B.Ch.E.
Ramendra N. Sen Sarma, M.Sc.
Kshirod Ch. Roy Chaudhury, B.Sc., (Cal.), B.Ch.E.
Buddhadev Sen, M.Sc.
Probodh Ranjan Sinha, M.Sc.
Dr. Nalini Ranjan Mukherjee, B.Sc. (Cal.), B.Ch.E., A.M.Ch.E., Ph.D. (London) (on study leave in U.S.A.).

PHYSICS

Professor :

Purna Chandra Biswas, M.Sc.

Asst. Professors :

Naresh Chandra Sen, M.Sc., B.L.
Hari Pada Sen, M.Sc.

Lecturers :

Upendra Nath Banerjee, M.Sc., B.A.
Lakshmi Kanta Coondoo, M.Sc.
Sudhish K. Mukherji, M.Sc.

MATHEMATICS

Professor :

Satish Chandra Chakravarty, M.Sc.

Asst. Professor :

Amar Nath Pramanik, M.A.

Lecturers :

Sudhindra Nath Chaudhury, M.Sc.
(on study leave in France).
Dibendra N. Mukherjee, M.Sc.
Rampada Bhattacharyya, M.Sc.

HISTORY AND ENGLISH

Asst. Professor :

Siba Pada Sen, B.A. HONS. (London).

Lecturer :

Khagendra Nath Das Gupta, M.A.

DEPARTMENT OF OVERSEER

Asst. Professor :

Arun Kumar Basu, B.Sc. (Cal.), B. ENG. (Sheffield).

Lecturers :

Girindra Narayan Das.
Amiya Kr. Banerjee, B.M.E.
Prafulla Kr. Mukherjee, A.M.M.E.
Girija Bh. Pal, B.M.E.
Anil Kr. Chatterjee, B.M.E.

Instructor :

Pramatha Nath Roy.

DEPARTMENT OF AGRICULTURE

Professor :

Benoyendra Nath Mandal, B.Sc. (Wales), C.D.D. (Aberystwyth).

Lecturer :

Harendra Kumar Mazumdar, M.Sc.

DEPARTMENT OF AUTOMOBILE ENGINEERING

Lecturers :

Samarendra Nath Halder.
Sudhir Kumar Das, B.M.E.
Sudhi Ranjan Das Gupta.

TEACHER OF RELIGION

Pandit Heramba Nath Bhattacharyya,
Byakaran-Sankhya-Vedantatirtha.

PHYSICAL CULTURE

Baneswar Sarkar.
Jahar Paul.

Registrar:

Prabir Chandra Vasu Mallik, M.A. (Cantab).

STUDENTS' WELFARE OFFICER

Debnath Das, A.M.E.E.

MECHANICAL SUPERVISOR

Hara Mohan Bose, A.M.E.E.

ELECTRICAL SUPERVISOR

Bhawani Ch. Mitra, F.M. & U.S.

LIBRARY

Librarian:

(Vacant.)

Purna Chandra Chakravorty—*Asst. Librarian.*

COLLEGE CAMPUS

Location. The College stands on a fine piece of land measuring 192 bighas at Jadavpur within 5 miles by rail from the Sealdah Railway Station (Calcutta). The location is in the immediate vicinity of the Jadavpur Station and is also approachable by bus from Calcutta.

Buildings. The arrangements for instruction in the several departments of the College have been made in six spacious buildings. The main building, which is a three-storied one, occupies a floor space of 39,000 sq. feet. The Main Chemical Engineering Building has a total floor space of 18,200 sq. feet, and the Chemical Technology building covers a total floor space of 13,000 sq. feet. The Physics and the Electrical Engineering Departments are housed in a two-storied building; the ground floor which has a total floor space of 12,000 sq. feet is occupied by the Electrical Engineering Laboratory and the first floor occupied by the Physics Laboratory has a floor space of 10,000 sq. feet. The Mechanical Engineering Laboratory and the Power Plant have a floor space of 15,000 sq. feet in another building. The workshops are in spacious corrugated-sheds with a floor space of 48,000 sq. feet. There is another corrugated-shed for Foundry and Smithy. Elaborate extensions of the Mechanical Engineering and the Electrical Engineering Laboratories are ahead. Besides there is a separate Store-shed.

There are also two hostel-buildings, one dining hall for the same and five staff quarters at present within the campus.

There is a two-storied building with a floor space of 4,000 sq. feet comprising the Old Boys' Home and the Pavilion of the College Sporting Club. There is also a covered gymnasium with a floor space of 4,100 sq. feet. Two new sheds with a total floor space of 7,800 sq. feet have recently been constructed to accommodate different classes.

LIBRARY, LABORATORY AND WORKSHOP

Library. The Library which is located in the Main College Building containing 15,015 volumes. There is a well-equipped Reading Room attached to the Library to enable the students to utilise their leisure hours for general study. Besides, there are Departmental Libraries in the Electrical Engineering Department and in the Chemical Engineering Department mainly for the use of the students and staff of the two Departments.

The Electrical Engineering Laboratory is equipped with representative types of D.C. and A.C. machines. Bench Testing provisions include a Cathode Ray Oscillograph, an Electro-magnetic Oscillograph, D.C. Potentiometer, etc.

The Mechanical Engineering Laboratory is equipped with representative types of Steam and Oil Engines, a Gas Engine, a Steam Turbine, a Gas Generator and two Boilers. There are various types of Calorimeters, equipment for calibration of gauges, a Universal Testing Machine, and accessories for running tests on pumps, boilers, engines, and the turbine.

The Chemical Engineering Laboratory equipments include an Oil Extraction Plant, a Soap Plant, an Electroplating Plant, a Water Distillation Plant, different types of furnaces, Equipment for Refining of Vegetable Oils, etc.

The Chemical Engineering Department has been provided with a fully equipped Unit Operations Laboratory of Chemical Engineering and an Electro-chemical Laboratory with funds offered by the Government of Bengal.

Students will also have facilities to work in the Laboratories of the Glass and Ceramic Research Institute which is being set up by the Government of India on a portion of the Campus.

The Workshop is well equipped with representative types of machine tools and accessories for providing workshop training in Carpentry, Smithy, Foundry, Pattern Making. Fitting and Machine Shop.

Besides, a large Machine Shop equipped with an overhead travelling Crane and a large number of most up-to-date machine tools has recently been acquired and will provide unusual facilities for machine tool work, electric and gas welding, etc.

COURSES OF STUDY

The College Offers :

1. Degree Courses in Electrical, Mechanical and Chemical Engineering, leading to the Degrees of Bachelor of Electrical Engineering (B.E.E.), Bachelor of Mechanical Engineering (B.M.E.) and Bachelor of Chemical Engineering (B.Ch.E.) respectively. Each of these is a four years' course.
2. A Diploma Course in Engineering of three years.
3. An Overseer Course of three years.
4. An Agriculture Course of two years.
5. An Automobile Engineering Course of one year.

ADMISSION REQUIREMENTS

1. Admission to the Degree Courses :

Students who have passed at least the I.Sc. or equivalent Examination in the First or Second Divisions of any recognised University with Physics, Chemistry and Mathematics are eligible for admission into the Engineering First Year Class of any of the three Degree Courses. The Pre-Engineering Examination of the Delhi Polytechnic Institute which has been recognised by the Calcutta University as equivalent to their I.Sc.

Examination, is recognised for purposes of admission into the Degree Courses of this College.

Candidates for the B.M.E. and B.E.E. degrees after obtaining one of the above degrees will be required to study for two years before they are allowed to go up for the examination for the other Degree subject.

Students who pass the Final School Standard Examination of the National Council of Education, Bengal, will be admitted to the Engineering First Year Class of the College after two years' training in the Diploma Course in Engineering provided they satisfy the Principal about their eligibility for admission after such training in the Diploma Course in Engineering.

Students who have passed the Matriculation Examination and have passed the Final Technical Course Examination or the Diploma course in Engineering of the College at least in the Second Division will be eligible for admission into the First Year Class of the Engineering Course.

2. Admission to the Diploma Courses :

The Engineering Course.
The Overseer Course.
The Agriculture Course.
The Automobile Engineering Course.

The minimum qualification for any candidate for admission into any one of the courses mentioned above is that he has passed the Matriculation Examination of any recognised University or the Final School standard Examination of the National Council of Education, Bengal, or any other School Final Examination of equivalent standard.

ADMISSION PROCEDURE

Candidates seeking admission in the College for any of the Courses should apply to the Principal giving particulars required in the printed Admission Form obtainable on application from the College Office.

The Admission Form, duly filled in, must be submitted with a Registration Fee of Rs. 4/- within the 30th of April.

Applicants considered suitable for admission are called upon to appear before a Selection Board.

Registration of names does not confer any right on the applicant for being called for interview : a candidate is called for an interview only when the Selection Board deem that an interview is warranted. Registration Fee is not refunded under any circumstances.

Candidates selected for interview and coming from outside stations are informed that selection for interview is no guarantee nor even a formal promise that they will be selected for admission. Candidates are selected for admission when they can satisfy the Selection Board.

Candidates selected for interview will be informed at what time they are to appear before the Selection Board. Candidates not selected for interview will also be informed that they have not been selected ;

the Selection Board will not give any reason or explanation for such non-selection.

Interview cards are generally issued from the College Office by the middle of June or earlier or later according to the time of publication of the results of the local University. The College does not assume any responsibility for postal transit troubles, *viz.*, delay or non-delivery.

Applicants must communicate to the College Office the results of their Examination, at which they appeared last, if not previously communicated, as soon as they are published. Certificates of any description (original or copy) excepting University Certificates, will not be returned.

FEES AND DEPOSITS

1. TUITION FEE for all students taking admission in the Engineering Courses of the College is Rs. 180/- per annum payable in monthly instalments of Rs. 15/- up to the month of February of each Academic Session. (Re : fees from March to June, see Rule No. 5).

2. TUITION FEE for students in the Diploma Course in Engineering is Rs. 120/- per annum payable in monthly instalments of Rs. 10/- up to the month of February of each Academic Session. (Re : fees from March to June, see Rule No. 5).

3. TUITION FEE for students in the Overseer Course of the College is Rs. 120/- per annum payable in monthly instalments of Rs. 10/- up the month of February of each Academic Session. (Re : fees from March to June, see Rule No. 5).

4 TUITION FEE for students in the Agriculture Course of the College is Rs. 60/- per annum payable in monthly instalments of Rs. 5/- up to the month of February of each Academic session. (Re : fees from March to June, see Rule No. 5).

5. TUITION FEES for the months of April, May and June of each Academic session must be paid along with the Tuition Fee for the month of March, failing which permission to appear in the Annual Examinations will be withheld.

6. (*i*) TUITION FEE must be paid on or before the 15th of every month submitting the Fee-book which may be obtained from the Office on payment of annas four (-/4/-) per Fee-book per year.

(*ii*) Defaulters shall pay a fine of anna one for each day after 15th till the day on which their fees are paid and their names are also liable to be struck off at the end of the month in which default has been made.

(*iii*) Defaulters whose names have been struck off may be re-admitted on payment of tuition fees for the session due up to and inclusive of the month of such re-admission together with a re-admission fee of Rs. 4/-.

(*iv*) Re-admission fee and fines may be remitted wholly or partly in special cases on good and sufficient grounds.

7. No student shall be permitted to appear in the Annual Examinations unless he has paid his tuition fees and other dues including Hostel charges, if any, for the whole session.

8. At the time of admission to the College the following fees are payable by new entrants :

	Admission Fee	Tuition Fee for July	Magazine Fee	Contingency Fee	Students' Union Fee	Sporting Fee	Students' Aid Fee	Caution money Deposit	Medical Examination Fee	TOTAL
New students admitted to the First Year Class :										
(I) Engineering Department ...	15/-	15/-	1/8	2/-	1/-	5/-	-/8/-	10/-	1/-	51/-
(II) Diploma Course in Engineering	10/-	10/-	1/8	2/-	1/-	5/-	-/8/-	10/-	1/-	41/-
(III) Overseer Department ...	10/-	10/-	1/8	2/-	1/-	5/-	-/8/-	10/-	1/-	41/-
(IV) Agriculture Department ...	5/-	5/-	1/8	2/-	1/-	5/-	-/8/-	10/-	1/-	31/-
(V) Automobile Engineering Department ...	...	200/-	1/8	2/-	1/-	5/-	-/8/-	15/-	...	225/-
9. All students shall pay the following fees in January every year along with the Tuition Fee for the month ...			1/8	2/-	1/-	5/-	-/8/-	...	...	10/-

The caution money deposit of the Chemical Engineering students is Rs. 25/-.

All students excepting the newly admitted students will have to pay a Medical Examination Fee of Re. 1/- in July.

10. Admission once taken into any class shall be counted to be for one complete session.

When a student has been admitted he shall not ordinarily be allowed to take transfer or withdraw his name except on payment of tuition fees for the unexpired portion of the session and arrears of tuition fees and other charges if any.

Remission of tuition fees for the unexpired portion of the session and other charges, if any, may be made by the Managing Committee wholly or partly in special cases on good and sufficient grounds.

Note.—Caution money deposit for working in the laboratories, workshops and other practical classes is refundable at the end of the College career after deduction for breakage or dues if any. The Student must apply for its refund from the College within two years after he leaves the College and if he fails to do so, his deposit money will be forfeited.

At the beginning of each session students are to pay their respective breakage charges of the previous session.

11. Every new entrant must be prepared to provide himself with a Set of Drawing instruments and other requisites which will cost approximately Rs. 75/-.

STIPENDS, SCHOLARSHIPS & FREE STUDENTSHIPS

Stipends, Scholarships and Free Studentships are awarded to poor and meritorious students and the continuance of the same depends on good progress, regular attendance and good behaviour.

Scholarships in the form of Free Studentships are awarded to students who passing in all subjects, head the lists of successful candidates in the First and Intermediate Engineering Examination in the following way :

Examination	Position	Minm. Marks in Annual Examination	Tenure
First Engineering—			
Chemical	1st	70%	One year.
Mechanical & Electrical	1st, 2nd & 3rd	70%	One year.
Intermediate Engineering—			
Chemical	1st	70%	Two years.
Mechanical & Electrical	1st, 2nd & 3rd	70%	Two years.

Scholarships in the form of Free Studentship are awarded to students who head the lists of successful candidates in the Annual Examinations of the First and Second Year Classes of the Diploma Course in Engg. and Overseer Courses, securing not less than 70 per cent of the total marks.

Free-students, if they leave the College without sufficient and satisfactory reasons, must pay fees for the full period for which they were allowed exemption.

Loan scholarships, in lump sums, to meet Examination and College fees are awarded by the Alumni Association, N. C. E., Bengal, to deserving Final Year students under straitened pecuniary circumstances. Loans are also given to deserving students from the Students' Welfare Fund.

Deserving students may also avail of the following Stipends and Scholarships :

Goopee Kristo Bose Stipend.
Nemai Chand Chatterjee Stipend.
Kristo Mohon Bose Stipend.
Rasul Memorial Scholarship.
Dwijendra Memorial Scholarship.

Mani Lal Chatterjee Stipend.
Nabanalini Debi Stipend.
Mary K. Das & Taraknath Das Scholarship.
Sreemat Bhagabat Scholarship.
West Bengal Govt. Scholarships :—

(*i*) 48 Stipends of the value of Rs. 300/- each per year for Degree Courses.

(*ii*) 36 Stipends of the value of Rs. 200/- each per year for Diploma Students.

S. Ghose Memorial Scholarship of the value of not less than Rs. 700/- a year is awarded to a deserving Bengali Hindu candidate who has passed the Final Examination of the National Council of Education, Bengal, in Electrical Engineering to enable him to obtain practical training in the subject abroad.

Prizes are awarded to students who stand first in any paper of the First Engineering Examination securing not less than 80 per cent marks in the paper, and to those who stand first in any paper of the Intermediate and Final Engineering Examinations of the Third and Fourth Year Classes securing not less than 70 per cent marks in the paper.

Prizes are awarded to students who stand first in any paper in the Annual Examinations of the Diploma Course of Engineering First and Second Year Classes, the Overseer First Year and Second Year Classes and the Agriculture First Year Class securing not less than 80 per cent marks in the paper.

Prizes are awarded only to those students who have passed in all papers of their respective examinations.

COLLEGE HOSTELS

1. There are College Hostels within the campus with accommodation for 100 students only. *Steps are being taken to provide Hostel accommodation for all students.*

2. Applications from new students for admission into the hostel will only be considered after they have been admitted into the College.

Every admission shall be subject to the approval of the Principal. Boarders are liable for all charges from the beginning of the session.

3. All admissions are understood to be for a complete session, and boarders are liable for all charges from the beginning of the session.

4. Caution money of the amount of Rs. 50/- is payable in advance with every application for admission. The sum will be refunded in case a seat is not provided or when a boarder finally leaves the Hostel but in the latter case only after all dues have been paid up by him.

5. Admission fee of Rs. 5/- for a complete term shall be paid by every student on admission into the Hostel. Substitutes, when permitted, may however be exempted from such fees.

6. Each boarder shall have to pay the following scale of rent including charges for light and medical attendance by the 10th of every

month. For each day's delay, a fine of one anna per day will be realised, up to 20th of the month, after which his name will be struck off from the College register and he shall have to leave the Hostel.

Ground Floor	...	... Rs. 84/- per annum
First Floor	...	... Rs. 96/- ,, ,,

7. The above rents will be realised in 10 monthly instalments beginning from the month of July in every session.

Monthly instalments of seat rent etc. for the current month and boarding charges for the previous month, must be paid at the office of the College in one sum.

8. The Hostel will remain closed during the Puja Holidays and Summer Vacation.

9. Withdrawal from the Hostel will require the sanction of the Principal of the College. Application for withdrawal must be counter-signed by the guardian of the boarder.

GENERAL INFORMATION

(a) College Regulations :—

(*i*) *The New Student's Responsibility.*—With a student's first registration in the College there begins for him a period of great responsibility, greater, in most instances, than he has ever before been called upon to face. He should recognise that the success of his college career depends in large measure upon his own purpose, his own industry, and his own determination to make good use of his opportunities. The College offers instruction and the use of its equipments, teachers and other officers are ready to help with encouragement and advice; but after all, the responsibility for success or failure must rest with the student himself.

(*ii*) *Discipline.*—All students are subject to the disciplinary control of the authorities of the College. In any case of serious breach of discipline, the student concerned may be suspended from attendance by the Principal, and the Managing Committee may at its discretion expel any student from the College without assigning any reason.

(*iii*) *Attendance.*—The normal hours of attendance during the session are from 10-30 A.M. to 5 P.M. with half an hour's recess.

Students must attend 70 per cent of the lectures in theoretical classes and 70 per cent of the exercises in practical classes. Percentage of attendance is strictly observed.

Percentage rules being binding on all students, applications for leave from the students or from the guardians on their behalf are unnecessary, as a student failing to be present in his class on any account has necessarily to be marked 'absent' in the Attendance Registers, and no commutation is permissible under any circumstances without contravention of the Rules.

(*iv*) *Damage to College Property.*—Each student is held accountable for any apparatus or equipment that may be assigned to him and for any damage to College Property for which he is responsible. Damage to property that cannot be charged to individuals will be charged against all the students in the class (or section) where the loss occurs.

(*v*) *Accidents.*—The College Authorities cannot accept any liability in respect of any accident which a student may sustain when engaged in practical work in the laboratories or workshops.

(b) Students' Organisations and Activities :—

Reasonable participation in extra-curricular activities is a worthwhile part of a well rounded education. Opportunities for extra-curricular activities are provided through :

1. The Students' Union.
2. The Sporting Club.
3. The College Journal.

The Students' Union

All students of the College are members of the Students' Union. They meet and elect an Executive Committee of which the Principal is the President and two members of the teaching staff are Vice-Presidents. The Vice-Presidents act as Faculty Advisers to the Executive Committee of the Students' Union, while the management of the Union's affairs are left entirely to that body.

The Union control the disposal of the Students' Welfare Fund, organise debates, essay competitions, dramatics, and other literary activities and hold one 'social' every year.

The Sporting Club

Of the Sporting Club the Principal is the President and two members of the teaching staff act as Vice-President and General Secretary respectively. As in the Students' Union the Vice-President and the General Secretary act as Faculty Advisers leaving the management of the affairs of the Sporting Club to the elected student Secretaries of the various sections which comprise

1. The Football Section.
2. The Cricket Section.
3. The Hockey Section.
4. The Tennis Section.
5. The Gymnasium Section.

All students are expected to make use of the sports facilities provided for keeping themselves fit amidst a heavy academic programme and for recreation.

The College Journal

The College Journal is a four monthly publication managed by an elected student body under the guidance of a Faculty Advisory Committee

of which the Principal is the President and a member of the teaching staff is the Secretary.

A senior student is elected every year the Editor of the College Journal and is assisted by student sub-editors.

The 'Tech.'

The final year students publish every year a Year Book of their class called "TECH" containing life history and a photograph each, of the graduating students.

A Tech-Committee is elected every year from the final year classes and work under the guidance of a Tech Adviser who is the Chairman of the Committee.

(c) The Alumni Association :—

The Alumni Association is the Association of the "Old Boys" of the College. In addition to other activities directed to benefit the College the Loan Scholarship Fund for final year students of the College and the Placement Service may be specially mentioned. On the termination of their college career all students are eligible to be a member of the Association.

EXAMINATION RULES

1. Only those students who have satisfactorily completed their practical work, satisfied the attendance requirements and paid all dues for the whole session, are eligible to sit for the examination.

2. At the end of each Academic Session, all students must appear at the annual examinations held by the National Council of Education, Bengal, in papers as stated in the Prospectus.

3. In addition to the above Examination, every student shall, during each year of study, appear at three written periodical examinations in each theoretical paper. He shall also appear at periodical oral examinations, if such are held.

4. All examinations will be held on "Compartmental System". Students must pass separately in every paper in the above examinations. A student who has passed the examination in any paper will not have to sit for examination in that paper again.

5. Every candidate will be declared to have passed the examination in any paper if he obtains—

(*a*) 50 per cent of the total marks of periodical examinations in that paper, and

(*b*) 50 per cent of the marks at the annual examination. Provided that if a candidate fails to obtain pass marks either at the periodical examinations or at the annual examination, he may be credited with not more than 5 marks transferred from either part of the examination, in excess of the pass marks in the paper, in order to enable him to pass.

6. Students, who have passed the Final Engineering Examination, will be declared to have graduated (*i*) with First Class Honours if they have obtained 70 per cent marks on the average in the Periodical Examinations and 70 per cent marks on the average in the Annual Examinations in the Final Engineering papers and 70 per cent in practical class works of the Third and Fouth Year Classes, (*ii*) with Second Class Honours if they have obtained 60 per cent marks on the average in the Periodical Examinations and 60 per cent marks on the average in the Annual Examinations in the Final Engineering papers and 60 per cent in practical class works of Third and Fourth Year Classes provided always that they have passed in all the papers of the Final Engineering Examinations in the first chance.

7. Students of the First Year Classes who fail to complete practical class work satisfactorily or fail to pass in more than four papers, will not be allowed to continue their studies in this College any further.

8. Except in part of the Final Engineering Examinations held at the end of the Engineering Third Year Classes, a student who fails to pass in not more than two papers will be promoted to the next higher class, but he will have to pass examinations in those papers before he can be promoted further.

9. Students, who have passed in all subjects of their regular year, but cannot be promoted in accordance with Rule 8 above, shall have to attend classes in those back-papers for the whole session and have to pass the annual Examination in those papers, failing which they will not be allowed to continue their studies in this College any further. Such students will not be allowed to sit for the Supplementary Examinations in those papers.

10. If any student fails to get promotion to the next higher class he will be required to attend the classes and pay the regular tuition and other fees.

11. Students detained in any class for two consecutive years will not be allowed to continue their studies any further.

12. Students belonging to Engineering Third Year Classes, who have passed in all papers of the Intermediate Engineering Examination, will be promoted to the Engineering Fourth Year Classes with a maximum of three back-papers only.

13. Only those students of Final Year Classes, who fail to pass in not more than three papers of the Final Engineering Examination and in not more than two papers of the Final Examination of the Diploma Course, Final Overseer Course, and Final Agriculture Course, as the case may be, will be permitted to appear and pass in those papers in two subsequent and consecutive examinations, including Supplementary Examination, without attending the classes, provided they can satisfy the Authorities of the College that they are usefully employed in some recognised firm. Intimation of such employment should reach the College on or before the 1st day of September of the year in which they completed the study of the Final Year Class. They will also have to

register their names in the College by paying an enrolment fee of Rs. 10/- (Rupees ten) only and will have to pay a fee of Rs. 20/- (Rupees twenty) only for each examination they sit for. Students of this category not engaged in any factory will have to take admission in the College and attend classes and pay all fees for the session.

14. Students of the Final Year Classes, who fail to pass in more than three papers of the Final Engineering Examination and in more than two papers in the Final Examination of the Diploma Course, Final Overseer Course, and Final Agriculture Course as the case may be, will be required to attend the classes and pay regular tuition and other fees. They will have to pass in all remaining papers in the next Supplementary and annual examinations.

15. Those students who duly cleared their dues up to the end of the session and duly paid the examination fees, but owing to some accident or unavoidable circumstances could not appear in any of the examinations of the Council, are allowed to appear in the next annual examination without attending the classes and without paying any further tuition fees, excepting the examination fees. But they will have to enrol their names for the classes with payment of a fee of Rs. 5/- (Rupees five) only within a month after the beginning of the session.

16. A Supplementary Examination will be held each year between two Annual Examinations for the benefit of the students who, having failed to pass in one or more subjects at the Annual Examination, are permitted to prosecute their studies in the next higher class. Such students can appear only in back-papers in the Supplementary Examinations.

17. Students shall pay examination fees for Annual Examination as follows :—

(*a*) Agriculture 1st Year	Rs. 15/-
(*b*) Agriculture 2nd Year	,, 15/-
(*c*) Overseer 1st Year	,, 20/-
(*d*) Overseer 2nd Year	,, 25/-
(*e*) Overseer 3rd Year	,, 25/-
(*f*) Diploma Engineering 1st Year	,, 20/-
(*g*) Diploma Engineering 2nd Year	,, 25/-
(*h*) Diploma Engineering 3rd Year	,, 25/-
(*i*) First Engineering Examination	,, 30/-
(*j*) Intermediate Eng'g. Examination ...	,, 35/-
(*k*) Final Eng'g. Examination Part I (at the end of the 3rd Year)	,, 40/-
(*l*) Final Eng'g. Examination Part II (at the end of the 4th Year)	,, 45/-

For Supplementary Examinations and for Annual Examinations on back-papers only, candidates for the Engineering Courses, shall have to pay a fee of Rs. 20/- for each examination and those for other courses Rs. 15/- only for each examination.

18. Examination fees once paid shall in no case be refunded.

19. Applications for re-examination of answer papers will not be entertained if submitted later than a week after the re-opening of the College after the Summer Vacation. Those candidates who intend to have their papers re-examined may apply for the same with a fee of Rs. 5/- for each paper. Re-examination fees are never refundable.

20. No certificate will be issued by the Council on the results of the First and Intermediate Engineering Examinations. Degrees will be granted to students who pass the Final Engineering Examinations and Certificates to students who pass the Final Examinations of other courses.

21. Annual Examination fees must be paid within 18th February every year. Supplementary Examination fees must be paid within 30th September every year.

Fifteen days' grace with a penalty of Rs. 5/- may be allowed at the discretion of the Controller of Examinations.

PROGRAMME OF STUDY

I. ENGINEERING COURSES

(1) First Year Class

Students who are admitted to the First Year Class of the Electrical, Mechanical and Chemical Engineering Courses after passing the I.Sc. or B.Sc. examinations of any recognised University, study the following subjects in the Engineering First Year Class :

Electrical and Mechanical Engineering First Year

	Subjects of Instruction	Periods per Week Theoretical	Practical
M. 1	Co-ordinate Geometry ...	2	—
M. 2	Differential & Integral Calculus	4	—
P. 1	Physics	4	—
E. M. 1	Engineering Mechanics I	3	—
E. M. 8	Engineering Computation I	1	—
G. 1	English	1	—
G. 2	Modern World I ...	1	—
O. 1	Survey	1	—
D. 1	Drawing	—	6
D. 2	Descriptive Geometry ...	—	3
W. 1	Carpentry	—	3
W. 1	Moulding	—	3
P. 1A	Physics Laboratory ...	—	4
	Practical Survey ...	—	3
	Physical Training ...	—	2
		—	—
	Total ...	17	24

Chemical Engineering First Year

	Subjects of Instruction	Periods per Week Theoretical	Practical
M. 1	Co-ordinate Geometry ...	2	—
M. 2	Differential & Integral Calculus ...	4	—
P. 1	Physics	3	—
E. M. 1	Engineering Mechanics ...	3	—
Ch. 2	Inorganic Chemistry I ...	3	—
Ch. 3	Organic Chemistry I	3	—
G. 1	English	1	—
G. 2	Modern World I	1	—
D. 1	Drawing	—	6
P. 1A	Physics Laboratory	—	4
Ch. 2A	Qualitative Analysis	—	9
	Physical Training	—	2
		—	—
	Total ...	20	21

SUBJECTS OF EXAMINATION

I. ENGINEERING COURSES

(1) First Year Class

Students of the First Year Class, who have completed the above Programme of Study and have obtained at least 50 per cent marks in each of the practical subjects of instruction, will be allowed to appear in the First Engineering Examination of the National Council of Education, Bengal, held annually at the end of the Academic session. The following are the subjects of the First Engineering Examination :

(1) *Electrical & Mechanical Engineering*

Subject	No. of papers	Full marks
Modern World—I	1	100
English	1	100
Co-ordinate Geometry	1	100
Differential Calculus	1	100
Integral Calculus	1	100
Heat & Light	1	100
Electricity & Magnetism	1	100
Engineering Mechanics—I	1	100
Drawing	1	100
Descriptive Geometry	1	100
Survey	1	100
Engineering Computation	1	100
Physics Practical (Oral)	1	100
		1300

(2) *Chemical Engineering*

Subject	No. of papers	Full marks
Modern World—I	1	100
English	1	100
Co-ordinate Geometry	1	100
Differential Calculus	1	100
Integral Calculus	1	100
Heat & Light	1	100
Electricity & Magnetism	1	100
Inorganic Chemistry—I	1	100
Organic Chemistry—I	1	100
Drawing	1	100
Engineering Mechanics	1	100
Physics Practical (Oral)	1	100
		1200

Students must secure 50% on the aggregate to pass in (1) "Modern World" & "English"; (2) "Heat & Light" and "Electricity & Magnetism".

Students, who have passed in all subjects of the First Engineering Examination subject to Rules 3 and 5 of the Examination Rules, are promoted to the Engineering Second Year Classes.

Students, who fail to pass in not more than two papers in the above Examination, will be promoted to the Engineering Second Year Classes, but they will have to pass examinations in those papers before they can be further promoted.

PROGRAMME OF STUDY

I. ENGINEERING COURSES

(2) Second Year Classes

Students, who have been promoted from the First Year Class, study the following subjects in the second Year Classes :

Electrical and Mechanical Engineering

	Subjects of Instruction	Periods per Week Theoretical	Practical
E. M. 9	Engineering Computation II ...	2	—
M. 3	Integral Calculus & Differential Equation	2	—
E. M. 2	Engineering Mechanics II ...	3	—
M. E. 2	Mechanism	2	—
M. E. 1	Applied Thermodynamics ...	3	—

Electrical and Mechanical Engineering—Contd.

Subjects of Instruction		Theoretical Periods per Week	Practical Periods per Week
E. E. 1	Principles of Electrical Engineering I	3	—
E. E. 2	Electrical Wiring & Installations ...	1	—
E. E. 3	Direct Current Machines ...	2	—
Ch. 1	Chemistry of Engineering Materials	2	—
G. 3	Modern World II	1	—
M. E. 19	Machine Drawing	—	6
E. E. 22	Electrical Engineering Laboratory I	—	3
E. M. 7	Mechanism Drawing & Mechanics Laboratory	—	2
W. 2	Workshop—Forging	—	3*
	Pattern-making ...	—	3*
W. 3	Fitters' shop ...	—	3
		—	—
	Total ...	21	17

Chemical Engineering

Subjects of Instruction		Periods per Week Theoretical	Practical
M. 3	Integral Calculus & Differential Equation	2	—
E. M. 3	Engineering Mechanics ...	3	—
M. E. 3	Heat Engines	2	—
E. E. 17	Electrical Engineering	3	—
Ch. 4	Inorganic Chemistry II ...	2	—
Ch. 5	Organic Chemistry II	3	—
Ch. 6	Physical Chemistry I	3	—
G. 3	Modern World II	1	—
M. E. 19	Machine Drawing	—	6
E. E. 17A	Electrical Engineering Laboratories	—	2
Ch. 4A	Quantitative Analysis	—	12*
Ch. 5A	Organic Preparations & Detections	—	12*
		—	—
	Total ...	19	20

SUBJECTS OF EXAMINATION

1. ENGINEERING COURSES

(2) Second Year Class

Students of the Engineering Second Year Classes, who have completed the above Programme of Study and have obtained at least

* For half year.

50 per cent marks in the Practical Subjects of Instruction, are allowed to appear in the Intermediate Engineering Examination of the National Council of Education, Bengal, held annually at the end of the Academic session. The following are the subjects of the Intermediate Engineering Examination :

Electrical and Mechanical Engineering

Subject	No. of papers	Full marks
Engineering Mechanics—II ...	1	100
Applied Thermodynamics ...	1	100
Mechanism	1	100
Principles of Electrical Engineering ...	1	100
Direct Current Machines	1	100
Engineering Computation II ...	1	100
Integral Calculus & Differential Equations	1	100
Modern World II	1	100
Electrical Wiring & Installations ...	1	100
Machine Drawing (6 hours) ...	1	100
Chemistry of Engineering Materials ...		100
		1100

Chemical Engineering

Subject	No. of papers	Full marks
Inorganic Chemistry II	1	100
Organic Chemistry II	1	100
Physical Chemistry I	1	100
Engineering Mechanics	1	100
Electrical Engineering	1	100
Heat Engines	1	100
Integral Calculus & Differential Equations	1	100
Modern World II	1	100
Machine Drawing (6 hours) ...		100
		900

Students, who pass in all subjects of the Intermediate Engineering Examination subject to Rules 3 and 5 of the Examination Rules, are promoted to the Engineering Third Year Classes.

Students, who fail to pass in not more than two papers in the above Examination will be promoted to the Engineering Third Year Classes, but they will have to pass Examinations in those papers before they can be further promoted.

PROGRAMME OF STUDY

1. ENGINEERING COURSES

(3) THIRD YEAR CLASS

Students, who have been promoted from the Second Year Classes, study the following subjects in the Third Year Classes :

Chemical Engineering Third Year

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK Theoretical	Practical
E. M. 5	Strength of Materials	3	—
Ch. 7	Physical Chemistry II	2	...
Ch. 8	Electrochemistry	3	—
Ch. 11	Industrial Chemistry I ...	2	—
Ch. 12	Metallurgy	2	—
Ch. 10	Chemical Engineering I ...	3	—
Ch. 13	Fuels & Their Combustion ...	2	—
Ch. 10A	Industrial & Chemical Engineering Calculations I	2	—
Ch. 9	Physico-Chemical Measurements ...	—	18*
Ch. 11A	Technical Analysis	—	18*
M. E. 9C	Machine Drawing & Design ...	—	3
		—	—
	Total ...	19	21

Electrical Engineering Third Year

E. M. 5	Strength of Materials	3	—
M. E. 8	Hydraulics	2	—
M. E. 7	Prime Movers	3	—
E. E. 5	Differential Equations & Operational Calculus	2	—
E. E. 6	Alternating Current Machines I ...	4	—
E. E. 7	A.C. Machines II	2	—
E. E. 4	Principles of Electrical Engineering II	2	—
E. E. 8	Electrical Measuring Instruments ...	1	—
E. E. 21	Electrical Engineering Calculations	—	2
E. E. 19	Electrical Drawing & Design ...	—	3
E. E. 23	Electrical Engineering Laboratory II	—	3
M. E. 9B	Machine Drawing & Design ...	—	5
M. E. 21B	Mechanical Engineering Laboratory	—	3
W. 4A	Machine Shop	—	3
E. E. 4A	Electron Tubes and Circuits I ...	1	—
		—	—
	Total ...	20	19

* For half year.

Mechanical Engineering Third Year

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK Theoretical	Practical
E. M. 4	Strength of Materials and Theory of Structures	4	—
M. E. 8	Hydraulics	2	—
M. E. 9	Theory of Machine Design ...	2	—
M. E. 4	Steam Engines & Boilers ...	4	—
M. E. 5	Steam Turbine	2	—
M. E. 6	Internal Combustion Engines ...	2	—
E. E. 16	A.C. Machine & Power Distribution	3	—
M. E. 9A	Machine Drawing & Design ...	—	8
M. E. 21A	Mechanical Engineering Laboratory	—	6
E. E. 23A	Electrical Engineering Laboratory	—	3*
W. 4	Workshop Practice—Machineshop	—	6
		—	—
	Total ...	19	20

SUBJECTS OF EXAMINATION

I. ENGINEERING COURSES

(3) THIRD YEAR CLASS

Students of the Engineering Third Year Classes, who have completed the above programme of study and have obtained at least 50 per cent marks in the Practical Subjects of Instruction, are allowed to appear in the following subjects of the Final Engineering Examination of the National Council of Education, Bengal, held annually at the end of the Academic Session :

Chemical Engineering

SUBJECT	NO. OF PAPERS	FULL MARKS
Strength of Materials	1	100
Physical Chemistry II	1	100
Electro-Chemistry	1	100
Industrial Chemistry I	1	100
Metallurgy	1	100
Fuels & their Combustion ...	1	100
Industrial & Chemical Engineering Calculations I	1	100
Machine Drawing & Design (6 hours) ...	1	100
		800

* For half year instead of M. E. 21A.

Electrical Engineering

Subject	No. of papers	Full marks
Strength of Materials	1	100
Hydraulics	1	100
Prime Movers	1	100
Differential Equations & Operational Calculus ...	1	100
Alternating Current Machines I	1	100
Principles of Electrical Engineering II ...	1	100
Electrical Measuring Instruments	1	100
Machine Drawing & Design (6 hours) ...	1	100
Electron Tubes & Circuits I	1	100
Alternating Current Machines II	1	100
		1000

Mechanical Engineering

Subject	No. of papers	Full marks
Strength of Materials and Theory of Structures ...	1	100
Hydraulics	1	100
Theory of Machine Design	1	100
Steam Engines & Boilers	1	100
Steam Turbines	1	100
Internal Combustion Engines	1	100
A.C. Machines & Power Distribution ...	1	100
Machine Drawing & Design (6 hours) ...	1	100
		800

Students, who have passed in all subjects of the above Examination, subject to Rules 3 and 5 of the Examination Rules, are promoted to the Engineering Fourth Year Classes, provided they have also passed in all subjects of the Intermediate Engineering Examination and have satisfactorily completed a factory training of three months, to be arranged for by the College.

Students, who have passed in all subjects of the Intermediate Engineering Examination and have got plucked in not more than three of the above subjects of the Final Engineering Examination, will also be promoted to the Engineering Fourth Year Classes, provided they have satisfactorily completed three months' factory training to be arranged for by the College. They will, however, have to pass in those subjects of the Third Year Class in which they failed to secure pass marks before they can be granted the Degree at the end of the Course.

Practical training of the Third Year students of the Mechanical, Electrical and Chemical Engineering Courses will be treated as a special subject carrying 100 marks with special proviso that (*a*) the minimum number of days of attendance for practical training is 70 days and (*b*) Trainee should secure at least 50% marks on their training records.

PROGRAMME OF STUDY

I. ENGINEERING COURSES

(4) Engineering Fourth Year Class

Students, who have been promoted from the Engineering Third Year Classes, study the following subjects in the Fourth Year Classes :

Chemical Engineering

	Subjects of Instruction	Periods per Week Theoretical	Practical
Ch. 14	Chemical Engineering II ...	4	—
Ch. 15	Industrial Chemistry II ...	2	—
Ch. 14A	Industrial & Chemical Engineering Calculations II	2	—
G. 4	Engineering Economics ...	2	—
Ch. 16	Chemical Engineering Laboratory	—	18*
W. 4A	Machine Shop	—	3
	Electives :		
	Any of the following three :		
Ch. 17	Chemical Technology of Oils & Fats ... 3	3	6
Ch. 18	Glass Technology ... 3		
Ch. 19	Food Technology ... 3		6
	Total ...	13	27

Electrical Engineering

(Power Engineering option)

	Subjects of Instruction	Periods per Week Theoretical	Practical
M. E. 24	Power Plant & Boiler ...	2	—
E. E. 10	Electric Power Transmission ...	2	—
E. E. 12	Power Utilization & Traction ...	2	—
E. E. 11	Electric Power Generation ...	2	—
E. E. 13	Electrical Measurements ...	2	—
E. E. 14	Elements of Communications and Applied Electronics ...	3	—
E. E. 9	Electric Power Distribution ...	2	—
G. 4	Engineering Economics ...	2	—
E. E. 24	Electrical Engineering Laboratory III	—	6
E. E. 20	Electrical Project & Design ...	—	6
E. E. 25	Electrical Workshop	—	3
E. E. 26	Abstract	—	2
E. E. 18	Electrical Drawing	2	3*
G. 5	General Study ...	—	—
	Total ...	17	20

* Students are required to work in the Mechanical Engineering Laboratory for eight weeks as part of the work in Ch. 16.

Mechanical Engineering

	Subjects of Instruction	Periods per Week Theoretical	Practical
E. M. 6	Technical Dynamics ...	2	—
M. E. 11	Power Plant Engineering ...	2	—
M. E. 16	Factory Organization & Management	2	—
M. E. 15	Mechanical Handling of Material ...	2	—
M. E. 14	Materials of Construction ...	1	—
M. E. 13	Machine Tools	2	—
G. 4	Engineering Economics ...	2	—
G. 5	General Geology	2	—
	Electives :		
	Any two of the following six Subjects :		
G. 6	Engineering Geology ... 2		
M. E. 17	Refrigeration ... 2		
M. E. 18	Air Conditioning ... 2		
M. E. 12	Motor Car Engineering 2	4	—
M. E. 10	Hydraulic Machines & Water Power ... 2		
M. E. 23	Railway Engineering ... 2		
W. 4	Advanced Workshop Practice ...	—	6
M. E. 21A	Mechanical Engineering Laboratory	—	3
M. E. 20	Machine Design	—	9
M. E. 22	Abstract	—	2
		—	—
	Total ...	19	20

SUBJECTS OF EXAMINATION

I. ENGINEERING COURSES

(4) Fourth Year Class

Students of the Engineering Fourth Year Classes, who have completed the above Programme of Study and have obtained at least 50 per cent marks in the Practical Subjects of Instruction, are allowed to appear in the Engineering Examination of the National Council of

Education, Bengal, held annually at the end of the Academic Session in the following remaining subjects of that Examination :

Chemical Engineering

Subject	No. of papers	Full marks
Chemical Engineering I	 1	100
Chemical Engineering II	 1	100
Industrial Chemistry II	 1	100
Industrial and Chemical Engineering Calculation II	 1	100
Engineering Economics ...	 1	100
Chemical Engineering Design	... ... —	100
General knowledge in Chemistry and Chem. Engineering	... ... 1 (oral)	100
Electives :		
Chemical Technology of Oils & Fats or Glass & Ceramic Technology ... or Food Technology	1	100
		800

Electrical Engineering

(Power Engineering option)

Subject	No. of papers	Full marks
Power Plant & Boiler	... 1	100
Electric Power Transmission ...	... 1	100
Power Utilisation & Traction ...	... 1	100
Electric Power Generation ...	... 1	100
Electrical Measurements	... 1	100
Elements of Communications and Applied Electronics	... 1	100
General Study	... 1	100
Engineering Economics	... 1	100
Electrical Engineering Laboratory (oral)	... 1	100
Electric Power Distribution ...		
		1000

Mechanical Engineering

Subject	No. of papers	Full marks
Power Plant Engineering ...	1	100
Factory Organisation & Management ...	1	100
Mechanical Handling of Materials ...	1	100
Materials of Construction ...	1	100
Machine Tools	1	100
General Study (General Geology) ...	1	100
Engineering Economics ...	1	100
Advanced Workshop Practice (oral) ...	1	100
Mechanical Engineering Laboratory (oral) ...	1	100
Technical Dynamics	1	100

Electives: Any two of the following:

Engineering Geology ...	1	100	
Refrigeration	1	100	
Air Conditioning	1	100	
Motor Car Engineering ...	1	100	2 200
Hydraulic Machines & Water Power	1	100	
Railway Engineering Mechanical	1	100	
			1200

Students, who have passed in all subjects of the Final Engineering Examinations, subject to Rules 3 and 5 of the Examination Rules, held at the end of the Third and Fourth Year Classes, are granted Degree in Chemical, Electrical or Mechanical Engineering, as the case may be, by the National Council of Education, Bengal.

CURRICULUM OF COMMUNICATION ENGINEERING OPTION

In the Electrical Engineering 4th Year Class
1949-50

	Subjects of Instruction	Periods per Week Theoretical (1st Term : Aug.-Nov.)	Practical
E. E. 15.1	Electron Tubes and Circuits :		
	Recitations	4	—
	Computations	—	3
	Electronics Laboratory ...	—	3
E. E. 15.7	Basic Communication Systems ...	2	—
E. E. 15.2	Communication Networks :		
E. E. 15.3	Recitations	3	—
	Computations	—	3
E. E. 15.8	Electronic Equipment Shop I ...	—	3
		—	—
	Total ...	9	12

	Subjects of Instruction	Periods per Week Theoretical (2nd Term : Dec.-March)	Practical
E. E. 15.4	Radio and Communication Theory :		
	Recitations	4	—
	Computations	—	4
E. E. 15-6	Telephone and Telegraph Systems	2	—
E. E. 15.5	Ultrahigh Frequency Techniques ...	3	—
E. E. 15.9	Radio & Communication Laboratory	—	6
E. E. 15.10	Electronic Equipment Shop II ...	—	3
E. E. 15.11	Seminar	—	2
		—	—
	Total ...	9	15

(Throughout the year)

E. E. 10	Electric Power Transmission ...	2	—
G. 4	Engineering Economics ...	2	—
	French or German (General Study)	2	—
	Total ...	15	12—1st Term 14—2nd Term

Communication Engineering Option
Subjects of Examination

Subject		No. of papers	Full marks
1. *At the end of the 1st Term in November :*			
E. E. 15.1	Electron Tubes and Circuits ...	1	100
E. E. 15.2	Basic Communication Systems ...	1	100
E. E. 15.3	Communication Networks ...	1	100
2. *At the end of the 2nd Term in March :*			
E. E. 15.4	Radio and Communication Theory	1	100
E. E. 15.6	Telephone and Telegraph Systems	1	100
E. E. 15.5	Ultrahigh Frequency Techniques ...	1	100
E. E. 10	Electric Power Transmission ...	1	100
G. 4	Engineering Economics ...	1	100
	General Study		
	Electrical Engineering Laboratory (Oral)	1	100
			1000

The students, who have obtained the B.M.E. Degree, are to study the following subjects in their Electrical Engineering 3rd and 4th Year Classes respectively :—

Subjects for Electrical Engineering Third Year Class

1. Differential Equations & Operational Calculus.
2. Alternating Current Machines—I.
3. A. C. Machines—II.
4. Principles of Electrical Engineering—II.
5. Electrical Engineering Calculation.
6. Electrical Drawing & Design.
7. Electrical Engineering Laboratory.
8. Electrical Measuring Instruments.

Subjects for Electrical Engineering Fourth Year Class

1. Alternating Current Machines—II (for 1948-49 only).
2. Electrical Power Transmission.
3. Power Utilization & Traction.
4. Electrical Power Generation.
5. Electrical Measurements.
6. Elements of Communication and Applied Electronics
7. Telegraphy & Telephony.
8. Electrical Power Distribution.
9. Electrical Engineering Laboratory—III.
10. Electrical Project & Design.
11. Electrical Workshop.
12. Abstract.
13. Electrical Drawing.
14. Workshop—Machine shop (for 1948-49 only).

The students, who have obtained the degree of B.E.E. and want to obtain B.M.E. degree are to study the following subjects in their 3rd and 4th year classes respectively.

Subjects for Mechanical Engineering Third Year Class

1. Strength of Materials & Theory of Structures.
2. Theory of Machine Design.
3. Steam Engine & Boiler.
4. Steam Turbines.
5. Internal Combustion Engines.
6. Machine Drawing & Design.
7. Mechanical Engineering Laboratory.
8. Workshop Practical—Machine shop.

Subjects for Mechanical Engineering Fouth Year Class

1. Technical Dynamics.
2. Power Plant Engineering.
3. Factory Organization & Management.
4. Mechanical Handling of Materials.

5. Materials of Constructions.
6. Machine Tools.
7 & 8. and any two of the following six subjects :—
   1. Engineering Geology.
   2. Refrigeration.
   3. Air Conditioning.
   4. Motor Car Engineering.
   5. Hydraulic Machine & Water Power Engineering.
   6. Railway Engineering.
9. Advanced Workshop Practice.
10. Mechanical Engineering Laboratory.
11. Machine Design.
12. Abstract.

PROGRAMME OF STUDY

II. DIPLOMA COURSE IN ENGINEERING

First Year Class

Subjects of Instruction			Periods per Week Theoretical	Practical
D. G. 1	English	...	1	—
D. M. 1	Algebra & Trigonometry	...	4	—
D. P. 1	Physics	...	4	—
D. P. 3	Physics Laboratory ...	...	—	2
D. Ch. 1	Chemistry	...	2	—
D. Ch. 1A	Chemical Laboratory ...	...	—	2
D. D. 1	Drawing	...	—	9
D. W. 1	Carpentry	...	—	6
D. W. 1	Moulding	...	—	6
	Physical Training ...	...	—	2
			—	—
	Total	...	11	27

Second Year Class

Subjects of Instruction			Periods per Week Theoretical	Practical
D. M. 2	Practical Mathematics ...	...	3	—
D. P. 2	Physics	...	3	—
D. P. 4	Physics Laboratory ...	...	—	2
D. Ch. 2	Chemistry	...	2	—
D. E. E. 1	Electrical Engineering ...	...	2	—
D. E. M. 1	Mechanics & Mechanism	...	3	—
D. G. 2	Business English ...	...	2	—
D. D. 2	Drawing	...	—	6
D. W. 2	Forging	...	—	6
D. W. 2	Pattern Shop ...	...	—	6
			—	—
	Total	...	15	20

THIRD YEAR CLASS

	SUBJECTS OF INSTRUCTION	PERIODS PER WEEK Theoretical	Practical
D. E. E. 2	Electrical Engineering I ...	2	—
D. E. E. 3	Electrical Engineering II ...	2	—
D. M. E. 1A	Heat Engines	2	—
D. M. E. 1B	Boilers, Pumps & Auxiliary Machines ...	2	—
D. E. M. 2	Applied Mechanics	3	—
D. D. 3	Drawing	—	9
D. E. E. 4	Electrical Engineering Laboratory ...	—	3
D. M. E. 2	Power House Practice ...	—	3
D. W. 3	Machine Shop	—	6
D. W. 3	Fitting Shop	—	6
		—	—
	Total ...	11	27

Students, who have completed the above Programme of Study and have obtained at least 50 per cent marks in the Practical Subjects of Instruction, are allowed to appear in the annual examinations of the respective classes held at the end of the Academic Session by the National Council of Education, Bengal.

SUBJECTS OF EXAMINATION

II. DIPLOMA COURSE IN ENGINEERING

Annual Examination at the end of the First Year Class

SUBJECT	NO. OF PAPERS	FULL MARKS
Theoretical :—		
Algebra & Trigonometry	1	100
Physics (General Properties, Light, Sound & Elements of Electricity)	1	100
Chemistry	1	100
English	1	100
Drawing	1	100
Practical :—		
Carpentry	—	100
Moulding	—	100
		700

Students, who pass in all subjects of the above Examination subject to Rules 3 and 5 of the Examination Rules are promoted to the Diploma Course in Engineering Second Year Class.

Students, who fail to pass in not more than two papers in the above Examination will be promoted to the Diploma Course in Second Year Class, but they will have to pass examinations in those papers before they can be further promoted.

Annual Examination at the end of the Second Year Class

SUBJECT	NO. OF PAPERS	FULL MARKS
Theoretical :—		
Practical Mathematics	1	100
Physics (Heat, Electricity & Magnetism) ...	1	100
Chemistry	1	100
Mechanics & Mechanism	1	100
Electrical Engineering	1	100
Business English	1	100
Drawing	1	100
Practical :—		
Forging	—	100
Pattern making	—	100
		900

Students, who pass in all subjects of the above Examination subject to Rules 3 and 5 of the Examination Rules are promoted to the Diploma Course in Engineering Third Year Class.

Students, who fail to pass in not more than two papers in the above Examination will be promoted to the Diploma Course in Engineering Third Year Class, but they will have to pass examinations in those papers before they can be granted Diploma by the National Council of Education, Bengal.

Final Examination at the end of Third Year Class

SUBJECT	NO. OF PAPERS	FULL MARKS
Theoretical :—		
Heat Engines	1	100
Boiler, Pumps & Auxiliary machines ...	1	100
Applied Mechanics	1	100
Electrical Engineering I	1	100
Electrical Engineering II	1	100
Drawing (6 hours)	1	100
Practical :—		
Machine shop (6 hours)	—	100
Fitters' shop (6 hours)	—	100
Electric wiring (6 hours) ...	—	100
		900

Students, who have passed in all subjects of the Final Examination of Diploma Course in Engineering subject to Rules 3 and 5 of the Examination Rules held at the end of the Third Year Class, are granted Diploma by the National Council of Education, Bengal, provided that they have passed in all subjects of the Second Year Class as well.

III. OVERSEER COURSE

(Three Years' Course)

PROGRAMME OF STUDY

First Year

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK Theoretical	Practical
O. S. 1	Trigonometry & Mensuration ...	4	—
O. S. P. 1	Elementary Physics ...	4	3
O. S. E. M. 1	Applied Mechanics I ...	3	—
O. S. 1	Surveying I ...	2	—
O. S. 4	Civil Engineering I ...	4	—
O. S. 11	Drawing I ...	—	12
O. S. 14	Office Work I ...	—	6
O. S. 16	Practical Survey I ...	4	to 6 weeks
		—	—
	Total ...	17	21

Students are required to do field-work whole day in the months of November and December.

Second Year

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK Theoretical	Practical
O. S. E. M. 2	Applied Mechanics II ...	3	—
O. S. 2	Surveying II ...	2	—
O. S. 5	Civil Engineering II ...	4	—
O. S. 7	Highways & Irrigation ...	4	—
O. S. 8	Estimates & Specification I ...	4	—
O. S. 3A	Principles of Surveying Instruments	2	—
O. S. 12	Drawing II	—	12
O. S. 15	Office Work II ...	—	6
O. S. 17	Practical Survey II ...	4	to 6 weeks
		—	—
	Total ...	19	18

Third Year

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK Theoretical	Practical
O. S. 10	Sanitary Engineering	4	—
O. S. 3	Surveying III	3	—
O. S. 6	Civil Engineering III	4	—
O. S. M. E. 1	Elementary Mechanical Engineering	3	—
O. S. E. E. 1	Elementary Electrical Engineering	3	—
O. S. 13	Drawing & Design	—	12
O. S. 9	Estimates & Specification II ...	2	—
O. S. E. E. 2	Laboratory E. E.	—	3
O. S. 18	Practical Survey II	4	to 6 weeks
O. S. M. E. 2	M. E. Laboratory	—	3
		—	—
	Total ...	19	18

Students, who have completed the above Programme of Study and have obtained at least 50 per cent. marks in the Practical subjects of Instruction, are allowed to appear in the Annual examination of the respective classes held at the end of the Academic Sessions by the National Council of Education, Bengal.

SUBJECTS OF EXAMINATION

Annual Examination at the end of First Year Class

SUBJECT	NO. OF PAPERS	FULL MARKS
Theoretical :—		
Trigonometry & Mensuration ...	1	100
Elementary Physics	1	100
Applied Mechanics I	1	100
Surveying I	1	100
Civil Engineering I	1	100
Drawing 1 (6 hours)	1	200
Practical & Class Works :—		
Physics Laboratory	1	100
Office Work	1	100
Class Drawing	1	200
Practical Survey	1	100
		1200

Students, who pass in all subjects of the above Examination subject to Rules 3 and 5 of the Examination Rules, are promoted to the Overseer Second Year Class.

Students, who fail to pass in not more than two papers in the above Examination, will be promoted to the Overseer Second Year Class, but they will have to pass Examination in those papers before they can be further promoted.

Annual Examination at the end of Second Year Class

Subject	No. of papers	Full marks
Theoretical :—		
Applied Mechanics II	... 1	100
Surveying II	... 1	100
Civil Engineering II	... 1	100
High-ways & Irrigation ...	... 1	100
Estimates & Specifications I ...	... 1	100
Drawing II (6 hours)	... 1	200
Principles of Survey Instruments	... 1	100
Practical & Class Works :—		
Class Drawing	... —	200
Office Works	... —	100
Practical Survey	... —	100
		1200

Students, who pass in all subjects of the above Examination, subject to Rules 3 and 5 of the Examination Rules, are promoted to the Overseer Third Year Class.

Students, who fail to pass in not more than two papers in the above Examination, will be promoted to the Overseer Third Year Class, but they will have to pass Examination in those papers before they can be granted Certificate by the National Council of Education, Bengal.

Final Examination at the end of Third Year Class
(From 1949)

Subject	No. of papers	Full marks
Theoretical :—		
Sanitary Engineering	... 1	100
Surveying III	... 1	100
Civil Engineering III	... 1	100
Elementary Mechanical Engineering	... 1	100
Elementary Electrical Engineering	... 1	100
Drawing & Design (6 hours) ...	... 1	200
Estimates & Specifications II ...	... 1	100
Practical & Class Works :—		
E. E. Laboratory	... —	100
M. E. Laboratory	... —	100
Practical Survey	... —	100
		1100

Students, who have passed in all subjects of the Final Examination of Overseer Course, subject to Rules 3 and 5 of the Examination Rules, held at the end of the Third Year Class, are granted Certificates by the National Council of Education, Bengal, provided that they have passed in all subjects of the Second Year Class as well.

In order to pass the Final Overseer Course Examination, students who have passed the Final Survey and Draftsmanship Examination, are to appear in the following subjects :—(*i*) Highway and Irrigation, (*ii*) Civil Engineering and (*iii*) Oral test of practical knowledge regarding Overseership. They will be allowed to avail of three chances to pass the Examination.

PROGRAMME OF STUDY

IV. AGRICULTURE COURSE

First Year Class

	Subjects of Instruction	Periods per Week Theoretical	Practical
Ag. Ch. 1	Elementary Farm Chemistry ...	2	4
Agri. 1	Agricultural Botany	2	4
Agri. 2	Farm Crops (Vegetable Gardening)	2	16*
Agri. 4	Animal Husbandry I (first half year)	2	—
Agri. 5	Animal Husbandry II (second half year)		
Agri. 7	Soils and Fertiliser (first half year)	2	—
Agri. 3	Farm Crops II (second half year)		
Shop Works—			
Ag. W. 1	Carpentry (first half year) ...	—	6
Ag. W. 1	Smithy (second half year) ...	—	—
		—	—
	Total ...	10	30

* First half year.

Second Year Class

	Subjects of Instruction	Periods per Week Theoretical	Practical
Agri. II	Agricultural Zoology (first half year)	2	4
Agri. 6	Animal Husbandry III (Poultry) (first half year)	2	6
Agri. 10	Horticulture and Floriculture (first half year)	2	4
Agri. 3	Farm Crops II (first half year) ...	2	10
Agri. 12	Irrigation and Drainage (first half year)	2	—
Agri. 13	Agricultural Economics (first half year)	2	—
Agri. 9	Farm Machinery (first half year) ...	2	—
		—	—
	Total ...	14	24

During second half year students will specialise in one of the following subjects :—(*a*) Farm Crops, (*b*) Horticulture and Vegetable Gardening, (*c*) Dairy Husbandry, (*d*) Poultry Husbandry, (*e*) Animal Husbandry.

Students, who have completed the above programme of study and have obtained at least 50 per cent marks in the practical Subjects of Instruction, are allowed to appear in the Annual Examinations of the respective classes held at the end of the Academic Session by the National Council of Education, Bengal.

SUBJECTS OF EXAMINATION

IV. AGRICULTURE COURSE

Annual Examination at the end of First Year Class

Subject	No. of papers	Full marks
Chemistry	1	100
Agricultural Botany	1	100
Animal Husbandry	1	100
Agriculture	1	100
Oral and Practical	—	100
		500

Students, who pass in all subjects of the above Examination, subject to Rules 3 and 5 of the Examination Rules, are promoted to the Agriculture Second Year Class.

Students, who fail to pass in not more than two papers in the above Examination, will be promoted to the Second Year Class, but they will have to pass Examinations in those papers before they can be granted Certificate by the National Council of Education, Bengal.

Final Examination at the end of Second Year Class

Subject	No. of papers	Full marks
Animal Husbandry	1	100
Agriculture	1	100
Horticulture & Floriculture	1	100
Agricultural Engineering	1	100
Oral and Practical	—	100
		500

Students, who have passed in all subjects of the Final Examination of Agriculture Course, subject to Rules 3 and 5 of the Examination Rules, held at the end of the Second Year Class, are granted Certificate by the National Council of Education, provided that they have passed in all subjects of the First Year Class as well.

AUTOMOBILE ENGINEERING SECTION

The Institute of Engineering Technology Incorporating The F.M.C. School of Motoring with its staff and equipments has since been amalgamated with the College of Engineering & Technology, Jadavpur.

FEES & DEPOSITS

At the time of admission to the College, the following fees are payable by new entrants :

	Tuition Fees	Magazine Fees	Contingency Fee	Students' Union Fee	Sporting Fee	Students' Aid Fee	Caution Money Deposit	Total
Automobile Engineering ...	200/-	1/8/-	2/-	1/-	5/-	-/8/-	15/-	225/-

ONE YEAR COURSE

The above fees are payable fully in advance. Caution money deposit for working in the laboratories and workshops and other practical classes is refundable at the end of the College career after deduction for breakage or dues, if any.

EMPLOYMENT

The College does not guarantee to obtain employment for students on completion of the course, but it does guarantee that students will be quite capable of taking charge of any car and of carrying out repairs, adjustments, etc.

The Principal is always willing to answer enquiries which a prospective employer may make regarding any student, feeling confident that those who have taken the course will prove satisfactory.

DETAILED SYLLABUS

1. MOTOR CAR AND ITS MECHANISM :—

Working principles of Petrol engine and cycle of operations, Engine parts as cylinders, valves, pistons, piston rings, Gudgeon pin, Cranks, bearing etc. Curburettor and its principle of action. Fuel and different methods of feeding. Valves and valve setting cams, valve gears, Ignition

and ignition systems, Spark Plugs, Cooling systems, Pump and Thermo Syphon, Radiators, Lubrication of Engine. Starting, running and Maintenance of Engine.

Transmission :—Clutch, various types, Gear Box, Propellor Shaft, Universal Joints, Differential, Rear axle, 4-wheel drive.

Wheels & Brakes :—Different types of Brakes, Types of wheel rims, Tyres, Inflation.

Chasis :—Steering mechanism, Springs, Different types of suspension.

2. AUTO ELECTRIC APPLIANCES :—

Meaning of volt, Ampere, High and Low tension, Electro-magnets, Condenser, Magneto, Dynamo, Motor, Battery, Electric Lamps and Horns.

3. FITTINGS :—

Filing, Chipping, Use of Callipers, Scales and Micrometer. Use of other general fitters' tools, Drill machine, Dies and Taps, Soldering.

4. MAINTENANCE AND GENERAL REPAIR :—

Decarbonising, Valve grinding, Adjustment of Valves, Changing Piston rings, Adjustment of Bearing, Testing of Spark Plugs, Location and rectification of Engine defects.

5. MAINTENANCE OF AUTO ELECTRIC SYSTEMS :—

Care of Storage Batteries, Charging of Batteries, Electric wiring of ears, Adjustment of Self-Starter, Ignition systems, etc.

6. MACHINE SHOP PRACTICE :—

Turning and Screw cutting on lathe, Reboring cylinders, Making of new Bearings, Turning of brake drum, etc.

7. VULCANISING :—

Repair of tubes and tyres.

8. DRAWING :—

Use of Drawing Instruments, Lettering, Division of lines and angles, Construction of plane geometrical figures.

Plane, elevation and section of simple solids.

Section of standard screw threads, projection of threads. Standard bolts and nuts. Plane and elevation and end view of simple machine parts, such as, valves, bolts, nuts, screws, tappets, etc. Sketching and preparing drawings from sketches of simple machine parts, such as, piston, connecting rod, com-shaft, crank-shaft, etc.

9. PHYSICAL TRAINING :—

One hour per week.

Examinations will be held twice in a year at the end of each semester. At the end of the session each student shall have to appear in the following examination :—

1.	Motor car and Its Mechanism :—	
	Paper I one written paper	... 100 marks.
	Paper II one oral paper	... 100 marks.
2.	Auto Electrical Appliances :—	
	Paper I one written paper ...	... 100 marks.
	Paper II one oral paper	... 100 marks.
3.	Practical Tests on the mechanical side of a car	... 100 marks.
4.	Practical Test on the Electric Appliances of a car	... 100 marks.
5.	Drawing	... 100 marks.

Minimum Pass Mark is 50%. Students securing 75% or more in the aggregate will be declared to have passed with Distinction. In order to qualify for appearing at the annual examination a student must be present at least 80% of all the classes and must secure at least 50% of the marks in the practical classes.

The working days for the course will be the same as in the workshop and only those holidays granted to workshop will be observed as holidays.

WORKING HOURS :——

10-30 A.M. to 4-30 P.M. on week days.
10-30 A.M. to 2-00 P.M. on Saturdays.
Examination Fee will be Rs. 15/-.

Examination Rules :—

1. Only those students who have satisfactorily completed their practical work, satisfied the attendance requirements and paid all dues for the whole session, are eligible to sit for the examination.

2. A student who has passed the examination in any paper will not have to sit for the examination in that paper again.

3. Only those students of Final Automobile Engineering Course, who failed to pass in not more than two papers of the final examinations, will be permitted to appear and pass in those papers in two subsequent and consecutive examinations including Supplementary Examination, without attending the classes, provided they can satisfy the Authorities of the College that they are usefully employed in some recognised firm. Intimation of such employment should reach the College on or before the 1st day of September of the year in which they completed their study of the Final Year Class. They will also have to register their names in the College by paying an enrolment fee of Rs. 10/- (Rupees ten) only. Students of this category not engaged in any factory will

have to take admission in the College and attend classes and pay all fees for the session.

Students who fail to pass in more than two papers in the Final Examination will be required to attend the classes and pay regular tuition and other fees. They will have to pass in all remaining papers in the next Supplementary and Annual Examinations.

At the successful completion of the Course, Diploma will be awarded.

Students are to abide by the general discipline of the College and to abide by any Order of the Authorities.

Further, Students absenting themselves frequently or attending at irregular hours without plausible reasons are liable to dismissal without any claim for the fees paid.

Whilst every precaution is taken for preventing of accidents and to ensure the safety of the students, it must be clearly understood and agreed that the College cannot be held responsible for any accident which may occur during the training.

Published by P. C. Vasu Mallik, Registrar, National Council of Education, Bengal, P.O. Jadavpur College, 24-Parganas and Printed by P. C. Ray at Sri Gouranga Press, 5, Chintamani Das Lane, Calcutta.