

Jadavpur University

College of Engineering & Technology, Bengal



PROSPECTUS
SESSION 1957-58

P. O. JADAVPUR UNIVERSITY, CALCUTTA 32, BENGAL

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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 Mallik, Sj. Brojendra Kishore Roy Choudhury of Gouripur and the late Maharaja Suryya Kanta Acharya 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 devoted 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 received 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.

In view of the fact that the College of Engineering & Technology, Bengal, had been virtually functioning as a University and in order that the Degree of the National Council of Education, Bengal, should receive statutory recognition, the Government of West Bengal with the concurrence of the Government of India has enacted the necessary legislation for the establishment of a University at Jadavpur under the name "JADAVPUR UNIVERSITY" which came into being on the 24th December, 1955.

The Jadavpur University Act provides—"Any degree conferred by the National Council at any time between the first day

of January 1944 and the commencement of this Act shall, for all purposes, be deemed to be a degree corresponding to such degree of the University as may be declared by the State Government".

The University has received grants from the Central Government, the University Grants Commission, the Government of West Bengal, the Corporation of Calcutta, some Public Trusts and benevolent persons.

COLLEGE CAMPUS

Location. The College stands on a fine piece of land 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 College has the following buildings for the accommodation of administrative offices, class rooms, laboratories and other shops :

1. The three-storied Main Building (Sri Aurobinda Building) accommodates at present the Library and the administrative offices on the ground floor, office of the Controller of Examinations and some Drawing Classes on the first floor and class rooms on the second floor.
2. Electrical Engineering Department with its H. T. Laboratory, Machine Laboratory, Measurement Laboratory and Communication Laboratory is housed in one three-storied (Harendra Nath Datta Building) and one two-storied building. The Physics Department is at present accommodated in the same building with the Electrical Engineering Department.
3. The Chemical Engineering Department is accommodated in one three-storied (P. C. Roy Building) and one two-storied building (Brojendra Kishore Building).
4. The Mechanical Engineering Laboratory is housed in a two-storied building (Ashutosh Choudhury Building).

Corrugated Iron Sheds accommodates the Machine Shop, Foundry and other Shops of the Mechanical Engineering Department.

There are fifteen staff quarters at present within the campus.

The College hostel is situated on a separate plot of land measuring some ten bighas by the side of the campus. There are four three-storied buildings accommodating over 500 students, two dining halls and Superintendent's quarters.

There is a two-storied building with a floor space of 4,000 sq. feet comprising the Old Boy's 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 been constructed to accommodate the N.C.C.

Four new buildings have been constructed for residential accommodation of N.C.C. Staff.

Three spacious buildings for the College of Arts and Science and the Library are nearing completion. Construction of buildings for a Hydraulics Laboratory and the Civil Engineering and Tele-Communication Engineering Departments is under way.

COURSES OF STUDY

The College offers :

1. Post Graduate Courses in Electrical, Mechanical and Chemical Engineering, leading to the degrees of Master of Electrical Engineering (M.E.E.), Master of Mechanical Engineering (M.M.E.) and Master of Chemical Engineering (M.Ch.E.) respectively. Minimum requirement of attendance for these courses is one year.

2. Degree courses in Electrical Engineering, Telecommunication Engineering, Mechanical Engineering, Civil Engineering and Chemical Engineering, leading to the degree of Bachelor of Electrical Engineering (B.E.E.), Bachelor of Tele-

communication Engineering (B.Tel.E.), Bachelor of Mechanical Engineering (B.M.E.), Bachelor of Civil Engineering (B.C.E.) and Bachelor of Chemical Engineering (B.Ch.E.) respectively. Each of these is a four years' course.

ADMISSION REQUIREMENTS

1. ADMISSION TO THE POST-GRADUATE COURSES :

Graduates in Electrical, Mechanical and Chemical Engineering of this and other recognised universities are eligible for admission into these courses.

2. ADMISSION TO THE DEGREE COURSES :

Students who have passed the I.Sc., or equivalent Examination of any recognised University with Physics, Chemistry and Mathematics (at least with 50 per cent marks in Mathematics) and those who have passed the B.Sc. Examination with Physics, Chemistry and Mathematics (with 50 per cent marks) of any recognised University are eligible for admission into the Engineering First Year Class of any of the five 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.

The age of candidates who have passed the B.Sc. and I.Sc. Examinations must not exceed 22 and 20 years respectively on the date of admission, minimum age being 17 years.

It is compulsory for all students admitted into the First Year Degree Classes to get enrolled into any of the Units of the National Cadet corps at the College.

ADMISSION PROCEDURE

Candidates seeking admission into the College for any of the Courses should apply to the Registrar of the University giving particulars required in the printed Admission Form obtainable on application from the Office from 1st March to 28th April.

The Admission Form, duly filled in, must be submitted with a Registration Fee of Rs. 5/- in postal order for the Degree Courses so as to reach the Office by the 30th April.

Admission forms must be properly filled in. Incomplete or irregular Admission Forms will not be entertained.

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

Applicants must communicate to this office the results of the examination, at which they appeared last, as soon as they are published, if not previously communicated. Certificates of any description (original or copy) excepting University Certificates, will not be returned. Only copies are to be sent.

Selection of candidates will be made upon the total number of marks obtained by a candidate in the I.Sc. or B.Sc. Examination in Physics, Chemistry and Mathematics, provided that at least 50 per cent of marks have been secured in Mathematics, and subject to interview of candidates by the Admission Board which may reject any candidate on ground of poor health or other reason.

There will be no interview for candidates from States other than West Bengal.

Preference will be given to students who have passed the B.Sc. Examination with Physics, Chemistry and Mathematics with Honours in any of these subjects.

A student of another University seeking admission to this University shall produce, before admission, a migration certificate from the University from which he has passed the last examination.

ALLOCATION OF SEATS FOR DIFFERENT STATES OTHER THAN WEST BENGAL

Mechanical Engineering—

Jammu & Kashmir ...	...	...	2	
Union Territories ...	...	...	4	
*UNALLOTTED ...	...	...	28	
			—	34

Electrical Engineering—

Jammu & Kashmir ...	...	...	2	
Union Territories ...	...	...	4	
*UNALLOTTED ...	...	...	42	
			—	28

Chemical Engineering—

Jammu & Kashmir ...	...	...	2	
Union Territories ...	...	...	1	
Rajasthan ...	...	...	1	
Assam ...	...	...	2	
Bihar ...	...	...	2	
Orissa ...	...	...	2	
*UNALLOTTED ...	...	...	8	
			—	18

Civil Engineering—

*UNALLOTTED ...	...	...	...	30
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Tele-communication Engineering—

*UNALLOTTED ...	...	...	...	40
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* Open on merit to candidates from all parts of India including West Bengal.

FEES AND DEPOSITS

1. TUITION FEE for all students taking admission into the Engineering Courses of the College is Rs. 180/- per annum payable in nine equal instalments of Rs. 20/- from July to March.

Tuition fee for students taking admission into the Post Graduate Courses is Rs. 240/- per annum payable in ten equal instalments of Rs. 24/- from July to April.

2. (i) TUITION Fee must be paid on the dates to be notified by submitting the Fee-book which may be obtained from the Office on payment of annas four (-/4/-) per Fee-book per year.

(ii) Students who will be in default in paying their dues within the month will have to pay a late fine of As. -/12/- per month and their names are liable to be struck off the Rolls.

(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 Re. 1/-.

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

3. 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.

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

5. All students excepting the newly admitted students will have to pay a Medical Examination Fee of Re. 1/- and Students' Health Home Membership fee of Rs. 1/- in July.

6. The caution money deposit for the students of the Chemical Engineering Course is Rs. 25/- and for the students of the other four Degree Courses is Rs. 10/-.

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 University

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.

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

	Admission Fee	Tuition Fee for July Instalment	Magazine Fee	Contingency Fee	Students' Union Fee	Sporting Fee	Students' Aid Fee	Caution Money Deposit	Medical Examination Fee	Students' Health Home Membership Fee	Registration Fee	Total
New students admitted into the First Year Classes	20/-	20/-	2/8	2/-	2/-	5/-	/8/-	10/-	1/-	1/-	4/-	68/-
New students admitted into Post Graduate Courses	24/-	24/-	2/8	2/-	2/-	5/-	/8/-	10/-	1/-	1/-	4/-	76/-
All students shall pay the following fees, in July every year along with the Tuition Fee for the month			2/8	2/-	2/-	5/-	/8/-	—	1/-	1/-	—	14/-

N.B.—Caution Money Deposit for Chemical Engineering Course is Rs. 25/- and for other Courses Rs. 10/-.

8. 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.

STIPENDS, SCHOLARSHIPS AND 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, Intermediate and Third year Annual Engineering Examinations in the following way :

Examination	Position	Minimum Marks in Annual Examination	Tenure
<i>First Engineering :—</i>			
Chemical & Telecommunication Engineering ..	1st	70%	One year
Mechanical, Electrical & Civil Engineering ..	1st, 2nd & 3rd	70%	One year
<i>Intermediate Engineering :—</i>			
Chemical & Telecommunication Engineering ..	1st	70%	One year
Mechanical, Electrical & Civil Engineering ..	1st, 2nd & 3rd	70%	One year
<i>Final Engineering :—</i>			
<i>3rd Yr. Annual Examination</i>			
Chemical & Telecommunication Engineering ..	1st	70%	One year
Mechanical, Electrical & Civil Engineering ..	1st & 2nd	70%	One year

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 Student's Aid Fund.

Deserving students may also avail of the following stipends and scholarships :

Gopee Kristo Bose Stipend.
Nimai Chand Chatterjee Stipend.
Kristo Mohan Bose Stipend.
Rasul Memorial Scholarship.
Dwijendra Memorial Scholarship.
Mani Lal Chatterjee Stipend.

Nabanalini Debi Stipend.

Hiranmoyee Debi Stipend.

Mary K. Das & Taraknath Das (Loan) Scholarship.

48 West Bengal Government Stipends of the value of Rs. 300/- each per year for Degree Courses.

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 Jadavpur University in Electrical Engineering to enable him to obtain Practical training in the subject abroad.

Prizes are awarded to students securing not less than 60 per cent marks in the aggregate according to the following scheme :—

First & Intermediate Engineering Examinations :—(on the results of the 1st & 2nd semester examinations).

(i) Chemical & Telecommunication Engineering Candidates—1st to 5th places for each examination.

(ii) For Electrical, Mechanical & Civil Engineering Candidates—1st to 10th places for each examination.

For Final Engineering Examination (3rd year) :—

For all the courses—1st to 5th places.

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

A sufficient number of Industrial Training Stipends to the graduates are awarded by the Government of India every year for practical training in different factories for two years. Six stipends are also awarded by the Government of West Bengal to the graduates for practical training under the Government for one year.

COLLEGE HOSTELS

There are College Hostels with accommodation for over 500 students.

RULES AND REGULATIONS OF THE HOSTEL

I. ADMISSION

1. Applications for admission to the College Hostel from new students will only be considered after they have been admitted into the College. Every admission shall be subject to the approval of the Principal of the College of Engineering & Technology, Bengal.

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

II. FEES

3. A Caution money of the amount of Rs. 50/- and a Messing Deposit of Rs. 40/- are 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.

4. 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. No boarder will be readmitted into the Hostel in the following session if he is not promoted to the next higher class.

5. Each boarder shall have to pay the following scale of rent including charges for 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 the 20th of the month, after which his name will be struck off the Hostel register and he shall have to leave the Hostel.

Two-seated rooms ... Rs. 144/- per annum.

Four-seated rooms ... Rs. 120/- per annum.

6. The above rents will be realised in 9 equal monthly instalments beginning from the month of July in every session.

7. Monthly instalment of seat rent etc. for the current month and boarding charges for the previous month, must be

paid at the office of the University in one sum by the 10th of every month. Failure to pay messing dues by the above date will make a boarder liable to have his meals stopped.

8. Boarders will have to pay for the total cost of the board including charges for electricity.

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

III. ACCOUNTS

10. Separate books of account will be maintained for all deposits, receipts and expenditure of the Hostel.

11. A separate current bank account will be maintained to be operated upon by the Superintendent and the College authorities.

12. The monthly statement of expenditure will be drawn up by the Mess Assistant in collaboration with the Secretary of the Mess Committee and placed before the Mess Committee by the 5th of the subsequent month for adoption.

IV. FURNITURE

13. A bedstead, a table and a chair will be provided for each student. Wardrobe space will also be provided.

14. Furniture must not be removed from one room to another. In case of any damage wilfully or carelessly caused to any furniture, electric fixtures, utensils or any property belonging to the Hostel, it must be made good by the boarder or boarders causing it and fines shall be imposed on party or parties concerned.

15. Lights must be put out when a boarder leaves his room.

16. Extension of the existing electric wiring by any boarder is not permitted. Violation of this rule will be severely dealt with.

17. Boarders will have to provide their own electric bulbs. Bulbs must not exceed the wattage of 60 except with the express permission of the Superintendent and subject to such extra charges as may be fixed.

18. Electric fans, heaters, irons and other appliances must not be used except with the express permission of the Superintendent and subject to such extra charges as may be fixed.

19. A set of utensils for the dining-room and kitchen will be supplied to the Mess Committee which will be held responsible for its proper use and safe custody.

V. DISCIPLINE

20. The Hostel is divided into 4 blocks named as follows :
KIRON CHANDRA ROY MEMORIAL BLOCK
BENOY KUMAR SARKAR MEMORIAL BLOCK
GOORODAS BANDHOPADHYAYA MEMORIAL BLOCK
SARAT DUTT MEMORIAL BLOCK

21. There are Wardens in the different blocks nominated by the Principal.

22. The Wardens will assist the Hostel Superintendent in maintaining discipline.

23. The Wardens will enjoy free accommodation.

24. The Wardens will call the roll at 7 o'clock in the morning and 8 o'clock in the evening. Boarders should return to the Hostel before evening roll call. In case of delay in their return after 8 p.m. they will be fined in the following scale :

Between 8 and 9 P.M.	... 1 anna
Between 9 and 11 P.M.	... 8 annas

After 11 P.M. they will be fined Re. 1/- and their names will be sent to the Principal of the College.

25. In case of absence from the Hostel, previous permission from the Hostel Superintendent is necessary.

26. There will be periods in the morning and in the evening fixed as study hours by the Superintendent.

27. Boarders will be expected to remain in their respective rooms and should behave in such a manner as not to cause any disturbances to others, specially during study hours.

28. Boarders must always confine to their respective seats after 11 P.M.

29. Allotment of seats for the boarders will rest entirely on the discretion of Hostel Superintendent.

30. Remaining in the Hostel, without sufficient reason, during College period is considered to be against Hostel discipline.

31. Any insubordination or incivility on the part of the menials should be at once reported to the Block Wardens or the Mess Assistant.

32. If the conduct of any boarder is found unsatisfactory, he may be asked to leave the Hostel immediately without assigning any reason whatsoever.

VI. MESSING

33. The arrangement for meals will be made by a Mess Committee composed of :

<i>President</i>	: Hostel Superintendent (ex-officio)
<i>Vice-Presidents</i>	: Wardens (ex-officio)
<i>Student Members</i>	: One member for every 30 boarders
<i>Mess Assistant</i>	:

The Committee will meet regularly once at the beginning of the month to adopt the mess account and on other occasions as necessary. The Secretary will convene the meetings after consultation with the Superintendent.

34. The Mess Committee will have the following functions :

- (a) Checking of the suppliers' rates with market rates of different commodities.
- (b) Inspection and checking of the quality and quantities of all articles supplied for messing as well as the receipts and issue of articles in and from the stores.
- (c) Fixing menus for meals and to seeing that utensils are properly cleaned, spices properly ground, cooking and serving of food done properly and in a hygienic manner.

The above functions will be discharged by different sub-committees appointed by the Mess Committee in a general meeting to be held immediately after election as provided under rule 35.

35. The Mess Committee will be formed twice during a session. Election of its members will take place once in July, and again in January.

36. Secretary of the Mess Committee will be elected from amongst its elected members once in every month. Mess Committee will be responsible for management of messing affairs.

37. The following deductions from messing charge are allowed :

- (a) Full remission of meal charges, other than establishment charge which will be determined by the Mess Committee for absence from 30 consecutive meals in a month.
- (b) Deduction of two annas per meal for absence from 15 or more consecutive meals in a month.
- (c) No deduction will be granted to any boarder who is absent on leave from the Hostel but attends the College from outside.

38. Boarders must take their meals in the dining hall between a certain specified time in the morning and in the evening as notified by the Hostel Superintendent.

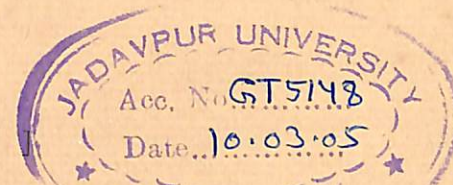
39. Meals will not be served in the rooms unless recommended by the Medical Officer and intimation for such should be made to the Mess Assistant before 9 A.M. and 7-30 P.M.

VII. MISCELLANEOUS

40. All appointments and dismissals of servants and cooks will be made by the Hostel Superintendent.

41. Boarders, when ill, will be attended by the Medical Officer, who attends the Hostel every morning. Boarders requiring medical attention are to have their names entered in the register kept for the purpose.

42. In the case of infectious diseases like plague, small-pox etc., the patient will be at once removed from the Hostel.



43. Visitors will not be allowed to stop in the Hostel overnight.

44. The Hostel will remain closed during Puja vacation and Summer vacation.

45. In all other matters not covered by the above rules the decision of the Principal will be final.

46. Any additions or alterations in the above rules will be made by the Principal as and when he thinks such to be necessary.

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 University 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 University. In any case of serious breach of discipline, the student concerned may be suspended from attendance by the Principal, and the University 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 10-10 A.M. to 5 P.M. with half an hour's recess with slight modification in the winter.

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.

The 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) National Cadet Corps (N.C.C.) :—

This College has got four Technical Units N.C.C.

- (i) 8 Bengal Engineer Platoon N.C.C.
- (ii) 3 Bengal Signal Section N.C.C.
- (iii) West Bengal Naval Unit N.C.C.
- (iv) 12 Bengal Air Squadron N.C.C.

providing for training 250 cadets at present.

Students applying for admission in N.C.C. are selected every year after proper test, and they are given three years' training leading to 'B' and 'C' certificates which help the cadets to enter as an officer in the Armed Forces.

Cadets are required to attend 80 per cent of the parades and Technical Classes and join the camps which are held generally during the College vacations.

Privileges :

1. Cadets attending parades regularly are given benefit in the College percentage upto 10 per cent if they are short in class percentage.

2. A certain percentage of marks scored by the cadets in the B & C certificate Examination of the N.C.C. are added in the result of the Final Degree Examination to upgrade the cadets.

(d) 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 become members 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, and have obtained at least 50% of the marks in the periodical examinations and also in the practical and tutorial class work, 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 Jadavpur University, in papers as stated in the Prospectus.

3. In addition to the above examinations, 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 50% of the marks at the Annual or Supplementary Examination.

Provided that if a candidate fails to obtain pass marks he may be credited with not more than 5 marks, transferred from the Periodical Examinations in excess of the pass marks in the paper in order to enable him to pass.

Only those students who have satisfactorily completed their practical work, and have obtained at least 50% of the marks in the periodical examinations and also in the practical class work, will be eligible to sit for the Examination.

6. (i) Students, detained in either Third Year or Fourth Year Class will not be eligible to get Honours.

(ii) Students, who have passed the Final Engineering Examination in all subjects at the first instance will be declared to have graduated in First Class with Honours provided they have passed in the Periodical Examinations securing at least 50% marks of the aggregate and have obtained at least 75 per cent of the aggregate marks of the class works and examination subjects of the Third and Fourth Year Classes.

(iii) Students, who have passed the Final Engineering Examination in all subjects will be declared to have graduated in First Class provided they have passed in the Periodical Examinations securing at least 50% marks of the aggregate and have obtained at least 65% of the aggregate marks of the class works and examination subjects of the Third and Fourth Year Classes.

(iv) Students, who have passed the Final Engineering Examination in all subjects will be declared to have graduated in Second Class provided they have passed in Periodical Examinations securing at least 50% marks of the aggregate and have obtained at least 50% of the aggregate marks of the class works and examination subjects of the Third and Fourth Year Classes.

7. 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. Students eligible for readmission must apply to the Principal for his readmission by the 31st of July, after which no further application will be entertained.

8. (i) Students of the 1st and 2nd Year Classes who fail to get promotion to the next higher class on the result of the Annual Examinations will be allowed to study again in the 1st and 2nd Year Classes respectively for another session only and the students detained for two years in the same Class will not be allowed to continue their studies in the College any further.

Students of the 1st and 2nd year classes, who have got plucked in one paper only, will be promoted to the 2nd and 3rd year classes respectively.

Further promotion will depend on their passing in that paper at the next Supplementary to Semester Examinations.

(ii) Students of the 3rd year classes, who have been detained in the same class for two years, will be allowed to appear at another Annual Examination as non-collegiate students by paying only the examination fees, as current for the Supplementary Examination and such students need not be admitted into the College in that session and need not, therefore, pay tuition and other regular fees. Such students as have failed to pass, after availing of all the chances mentioned above, will not be allowed to continue their studies in the College any further.

Students detained in the 3rd year classes will be allowed to sit for Supplementary Examination to enable them to pass in the papers in which they failed to pass in the regular examination.

(iii) Students of the 4th year classes, who have been detained in the same class for two years will be allowed to appear at subsequent Annual Examinations, as non-collegiate candidates, by paying only the examination fees as current for the Supplementary Examination and such students need not be admitted into the College and need not, therefore, pay tuition and other regular fees.

9. 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 papers in which they had failed to pass.

10. Only those students of Final Year Classes, who fail to pass in not more than three papers of the Final Engineering Examination 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 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.

11. Students of the Final Year Classes, who fail to pass in more than three papers of the Final Engineering 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.

12. 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 University 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.

13. A Supplementary Examination will be held each year between two Annual Examination 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 at the Supplementary Examinations only in those papers in which they had failed to pass.

14. Students shall pay examination fees as follows:

- I. For Annual examinations and examinations at the end of each semester :

Degree Courses :

- (a) Final Engineering Examinations :

Rs. 4/- per paper subject to a minimum of Rs. 15/-.

- (b) All other examinations :

Rs. 3/- per paper subject to a minimum of Rs. 12/-.

- II. For Supplementary examination :

Degree Courses :

Rs. 4/- per paper of Final Engineering and

Rs. 3/- per paper for other examinations both subject to a minimum of Rs. 20/-.

- III. For Post Graduate Examinations :

Electrical, Mechanical & Chemical Engineering :

Rs. 15/- per paper and Rs. 60/- for the thesis.

15. Examination fees once paid shall in no case be refunded, except when a candidate is declared ineligible to sit for the examination.

16. There will be no re-examination of answer papers which, however, will be scrutinized on payment of a fee of Rs. 5/- for each paper. The said fee will be refunded if bonafide errors are noted in the answer papers. Applications for scrutiny will not be entertained if not submitted within one week of the publication of results.

17. No certificate will be issued by the University on the results of any examinations except the Final. Degrees will be granted to students who pass the Final Examinations.

18. Annual and Final Examinations will commence on the first Monday of the month of May, every year.

Fees for Annual and Final Examination must be paid by the 15th of March, every year.

Fees for other examinations must be paid within dates to be fixed for the purpose.

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

19. Examination rules for Engineering First and Second Year Classes are given under "Subjects of examination" of the respective classes.

PROGRAMME OF STUDY

POST GRADUATE COURSES

Chemical Engineering

		FULL MARKS
1. Chemical Engineering Thermodynamics	One Paper	100
2. & 3. Any two from the following :		
(i) Evaporation ; (ii) Distillation ;		
(iii) Refrigeration ; (iv) Absorption and Adsorption ; (v) Any other unit operation that may be arranged for ; (vi) Heat transmission ; (vii) Higher Mathematics as in M.E.E. & M.M.E. Syllabus ; (viii) Food Technology or Oil Technology	Two Papers	200
4. One Foreign Language: German, French or Russian ...	One Paper	100
5. Research Work and a Thesis on it ...		300
6. Oral Examination on the Thesis ...		100
TOTAL ...		800

Electrical Engineering

1. Higher Mathematics ...	One Paper	100
2. Advanced Physics ...	One Paper	100
3. Any one from the following :		
(i) Electrical Machines ; (ii) Electric Power ; (iii) Electrical Communications ; (iv) (a) Symmetrical components ; (b) Power system Measurements & Relaying ...	One Paper	100
4. One Foreign Language: German, French or Russian ...	One Paper	100
5. Research Work and a Thesis on it ...		300
6. Oral Examination on the Thesis ...		100
TOTAL ...		800

Mechanical Engineering

			FULL MARKS
1. Higher Mathematics	...	One Paper	100
2. Advanced Technical Mechanics	...	One Paper	100
3. Any one from the following :			
(i) Advanced Thermodynamics ; (ii) Advanced Hydraulics ; (iii) Advanced Machine Tools ; (iv) Production Engineering ; (v) Power Plant Engineering ; (vi) Internal Combustion Engine ; (vii) Refrigeration & Air-conditioning ; (viii) Heat Transmission ; and (ix) Measuring Instruments	...	One Paper	100
4. One Foreign Language : German, French or Russian	...	One Paper	100
5. Research Work and a Thesis on it	...		300
6. Oral Examination on the Thesis	...		100
TOTAL	...		800

The examination will be on the compartmental system and will be held once a year along with the Annual Examinations. The thesis on the research work may not be finished in one year in all cases but that will not debar the students from sitting for examination in the theoretical papers. They may continue their research work and prepare the thesis after the written examination in such cases. The students will be entitled to the Master's Degree on fulfilment of all the conditions (*i.e.* passing in the four written papers, the Thesis and the oral Examination). As long as they do not fulfil these conditions they will have to remain as students and pay the usual tuition fees.

There will be no observance of percentage in attendance, and the minimum pass marks shall be 50%.

PROGRAMME OF STUDY

Degree Courses

1. FIRST YEAR CLASS

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

(1) *Electrical, Mechanical & Civil Engineering*

First Semester (11th July to 30th November)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		TUTORIAL Guided Study
		Theore- tical	Prac- tical	
M. 1	Mathematics I	4	—	1
M. 2	Mathematics II	4	—	1
P. 1	Physics (Heat, Light & Sound)	4	—	1
G. 1	English language	2	—	—
S. 1	Surveying I	1	—	—
E.M. 1	Engineering Mechanics I	3	—	1
D. 1	Drawing	—	6	—
D. 2	Descriptive Geometry	—	3	—
W. 1	Carpentry and Moulding	—	3	—
P. 1A	Physics Laboratory	—	4	—

Total ... 18 16 4

Second Semester (1st January to 15th April)

M. 3	Mathematics III	4	—	1
P. 2	Physics (Electricity & Magnetism)	4	—	1
E.M. 1	Engineering Mechanics I	3	—	1
S. 1	Surveying I	2	—	—
G. 2	Humanities	2	—	—
D. 1	Drawing	—	6	—
D. 2	Descriptive Geometry	—	3	—
W. 1	Carpentry and Moulding	—	3	—
P. 1A	Physics Laboratory	—	4	—
	Practical Survey	—	3	—

Total ... 15 19 3

(2) Telecommunication Engineering

First Semester (11th July to 30th November)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		Tutorial Guided Study
		Theore-tical	Prac-tical	
M. 1	Mathematics I ...	4	—	1
M. 2	Mathematics II ...	4	—	1
P. 1	Physics (Heat, Light & Sound)	4	—	1
G. 1	English language ...	2	—	—
S. 1	Surveying I ...	1	—	—
E.M. 1	Engineering Mechanics I ...	3	—	1
Ch. 1	Chemistry of Engineering Materials ...	2	—	—
D. 1	Drawing ...	—	6	—
W. 1	Carpentry and Moulding ...	—	3	—
P. 1A	Physics Laboratory ...	—	4	—
		20	13	4

Second Semester (1st January to 15th April)

M. 3	Mathematics III ...	4	—	1
P. 2	Physics (Electricity & Magnetism)	4	—	1 ^o
E.M. 1	Engineering Mechanics I ...	3	—	1
S. 1	Surveying 1 ...	2	—	—
G. 2	Humanities ...	2	—	—
Ch. 1	Chemistry of Engineering Materials ...	2	—	—
D. 1	Drawing ...	—	6	—
W. 1	Carpentry and Moulding ...	—	3	—
P. 1A	Physics Laboratory ...	—	4	—
	Practical Survey ...	—	3	—
Ch. 1A	Chemical Laboratory ...	—	3	—
		17	19	3

(3) Chemical Engineering

First Semester (11th July to 30th November)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		Tutorial Guided Study
		Theore-tical	Prac-tical	
M. 1	Mathematics I ...	4	—	1
M. 2	Mathematics II ...	4	—	1
P. 1	Physics (Heat, Light & Sound)	4	—	1
G. 1	English Language ...	2	—	—
E.M. 1	Engineering Mechanics I ...	3	—	1
Ch. 2	Inorganic Chemistry I ...	3	—	—
D. 1	Drawing ...	—	6	—
P. 1A	Physics Laboratory ...	—	4	—
Ch. 2A	Qualitative Analysis ...	—	6	—
W. 1	Carpentry ...	—	2	—
(Part)		—	—	—
Total ...		20	18	4

Second Semester (1st January to 15th April)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		Tutorial Guided Study
		Theore-tical	Prac-tical	
M. 3	Mathematics III ...	4	—	1
P. 2	Physics (Electricity & Magnetism)	4	—	1
E.M. 1	Engineering Mechanics I ...	3	—	1
Ch. 2	Inorganic Chemistry I ...	3	—	—
Ch. 3	Organic Chemistry I ...	5	—	—
G. 2	Humanities ...	2	—	—
D. 1	Drawing ...	—	6	—
P. 1A	Physics Laboratory ...	—	4	—
Ch. 2A	Qualitative Analysis ...	—	6	—
W. 1	Moulding ...	—	2	—
Total ...		21	18	3

SUBJECTS OF EXAMINATION

I. FIRST YEAR CLASS

Students of the First Year Classes, who have completed the programme of study offered in the first semester and have obtained at least 50 per cent marks in each of the practical subjects of instruction (which includes also any tutorial work) offered during the Semester and have satisfied the attendance rule, will be allowed to appear in the following papers of the First Engineering Examinations of the Jadavpur University held annually at the end of the first semester, in the month of December.

First-Semester Examination

*Electrical, Telecommunication, Mechanical, Civil
& Chemical Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Mathematics I ...	1	100
2. Mathematics II ...	1	100
3. Physics (Heat, Light and Sound) ...	1	100
4. English Language ...	1	100
	4	400

Students of the First Year Classes who have completed the programme of study offered in the second semester and have obtained at least 50 per cent marks in each of the practical subjects of instruction (which includes also any tutorial work) offered during the academic year and have satisfied the attendance rule will be allowed to appear in the following papers of the First Engineering Examination of the Jadavpur University held annually at the end of Second semester in the month of April and May.

Students who fail to complete their class works satisfactorily will not be allowed to sit for the examination.

Second Semester Examination

(1) *Electrical, Mechanical & Civil Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Humanities ...	1	100
2. Mathematics III ...	1	100
3. Physics (Electricity and Magnetism) ...	1	100
4. Engineering Mechanics I ...	1	100
5. Surveying I ...	1	100
6. Drawing (6 hours) ...	1 (Practical)	100
7. Descriptive Geometry (3 hours)	1 ,,	100
8. Physics Laboratory ...	1 ,,	100
	8	800

(2) *Telecommunication Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Humanities ...	1	100
2. Mathematics III ...	1	100
3. Physics (Electricity and Magnetism) ...	1	100
4. Engineering Mechanics I ...	1	100
5. Surveying I ...	1	100
6. Chemistry of Engineering Materials ...	1	100
7. Drawing (6 hours) ...	1 (Practical)	100
8. Physics Laboratory ...	1 ,,	100
	8	800

(3) Chemical Engineering

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Humanities ...	1	100
2. Inorganic Chemistry I ...	1	100
3. Organic Chemistry I ...	1	100
4. Mathematics III ...	1	100
5. Physics (Electricity and Magnetism) ...	1	100
6. Engineering Mechanics I ...	1	100
7. Drawing (6 hours) ...	1 (Practical)	100
8. Physics Laboratory ...	1 „	100
	8	800

Students who have passed in all papers of the First Engineering Examinations subject to rules 3 and 5 of Examination Rules are promoted to the Engineering Second Year Class.

For the benefit of the students who have failed to get promotion to the Second Year Class due to their being absent or being unable to secure pass mark in one or more papers of the examination held at the end of First and/or Second Semesters, a Supplementary Examination will be held in the last week of June. Students passing in this examination will also be promoted to the Second Year Class. Those students who cannot secure promotion will be allowed to study again in the same class as regular students for another session only, or will be given one more chance to clear the paper or papers in the supplementary examination held at the end of the next session as non-collegiate students who will have to pay only examination fees but no tuition fees.

PROGRAMME OF STUDY

II. SECOND YEAR CLASSES

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

(1) Electrical and Mechanical Engineering

First Semester (11th July to 30th November)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		
		Theoretical	Practical	Tutorial Guided Study
M. 4	Mathematics IV ...	4	—	1
E.E. 1	Principles of Electrical Engineering I ...	2	—	1
E.E. 1A	Electrical Measuring Instruments and Measurements I ...	2	—	—
E.E. 2	Electrical Wiring and Installations ...	2	—	—
E.E. 3	Direct Current Machines ...	2	—	1
E.M. 2	Engineering Mechanics II ...	3	—	1
M.E. 1	Engineering Thermodynamics ...	2	—	1
G. 3	Modern World ...	2	—	—
M.E. 19	Machine Drawing ...	—	6	—
E.M. 9	Engineering Computations ...	—	3	—
E.E. 22	Electrical Engineering Laboratory I ...	—	3	—
W. 2	Patterns and Forging ...	—	3	—
W. 3	Fitters' shop ...	—	3	—
Total ...		19	18	5

Second Semester (1st January to 15th April)

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		WEEK Tutorial Guided Study
	Theore- tical	Prac- tical	
E.M. 8 Engineering Materials & Processes ...	4	—	—
M.E. 1 Engineering Thermodynamics ...	2	—	1
M.E. 2 Mechanism ...	4	—	—
E.M. 2 Engineering Mechanics II ...	3	—	1
E.E. 1 Principles of Electrical Engineering I ...	2	—	1
E.E. 3 Direct Current Machines ...	2	—	1
M. 5 Mathematics V ...	2	—	1
M.E. 19 Machine Drawing ...	—	6	—
E.E. 22 Electrical Engineering Laboratory I ...	—	3	—
W. 2 Patterns and Forging ...	—	3	—
W. 3 Fitters' Shop ...	—	3	—
M.E. 2A Mechanism Drawing ...	—	3	—
Total ..	19	18	5

(2) Telecommunication Engineering

First Semester (11th July to 30th November)

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		WEEK Tutorial Guided Study
	Theore- tical	Prac- tical	
M. 4 Mathematics IV ...	4	—	1
Comm. 1 Circuit Theory I ...	3	—	1
E.E. 1A Electrical Measuring Instruments & Measurements I ...	2	—	—
E.E. 3 Direct Current Machines ...	2	—	1
E.M. 2 Engineering Mechanics II ...	3	—	1
M.E. 1 Engineering Thermodynamics ...	2	—	1
P. 3 Physics ...	2	—	—
G. 3 Modern World ...	2	—	—
M.E. 19 Machine Drawing ...	—	6	—
E.E. 22 Electrical Engineering Laboratory I ...	—	3	—
E.M. 9 Engineering Computation ...	—	3	—
W. 2 Patterns and Forging ...	—	3	—
W. 3 Fitters' Shop ...	—	3	—
Total ...	20	18	5

Second Semester (1st January to 15th April)

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		WEEK Tutorial Guided Study
	Theore- tical	Prac- tical	
E.M. 8 Engineering Materials & Processes ...	4	—	—
M.E. 1 Engineering Thermodynamics ...	2	—	1
M.E. 2 Mechanism ...	4	—	—
E.M. 2 Engineering Mechanics II ...	3	—	1
Comm. 1 Circuit Theory I ...	3	—	—
E.E. 3 Direct Current Machines ...	2	—	1
M. 5 Mathematics V ...	2	—	1
P. 3 Physics ...	2	—	—
M.E. 19 Machine Drawing ...	—	6	—
E.E. 22 Electrical Engineering Laboratory I ...	—	3	—
W. 3 Fitters' Shop ...	—	3	—
M.E. 2A Mechanism Drawing ...	—	3	—
Total ...	22	15	4

(3) Civil Engineering

(First Semester—11th July to 30th November)

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		WEEK Tutorial Guided Study
	Theore- tical	Prac- tical	
M. 4 Mathematics IV ...	4	—	1
M.E. 3 Heat Engines ...	4	—	1
E.M. 3 Engineering Mechanics ...	3	—	1
E.M. 7 Applied Mechanics I ...	2	—	—
C.E. 1 Materials Estimating & Specification ...	2	—	—
C.E. 2 Building Materials ...	2	—	—
Ch. 19 Engineering Chemistry ...	2	—	—
C.E. 3A Civil Engineering Drawing ...	—	9	—
Ch. 19A Chemical Laboratory ...	—	3	—
Mechanical Engg. Laboratory ...	—	3	—
Estimating ...	—	3	—
Total ...	19	18	3

Second Semester (1st January to 15th April)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		TUTORIAL Guided Study
		Theore- tical	Prac- tical	
G. 3	Modern World ...	...	2	—
M. 5	Mathematics V ...	...	2	1
E.M. 3	Engineering Mechanics ...	...	3	1
E.M. 7	Applied Mechanics I ...	...	2	—
E.E. 14	Electrical Technology ...	...	3	—
C.E. 3	Building Construction ...	...	3	—
S. 2	Surveying II ...	...	2	—
C.E. 3A	Civil Engineering Drawing ...	—	9	—
E.E. 14A	Electrical Engineering Laboratory ...	—	3	—
	Civil Engineering Laboratory ...	—	3	—
	Survey Practical ...	—	6	—
Total ...		17	21	2

(4) Chemical Engineering

First Semester (11th July to 30th November)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		TUTORIAL Guided Study
		Theore- tical	Prac- tical	
Ch. 5	Organic Chemistry II ...	...	6	—
Ch. 6	Physical Chemistry I ...	...	3	—
M. 4	Mathematics IV ...	...	4	1
M.E. 3	Heat Engines ...	...	4	1
E.E. 17	Electrical Engineering ...	...	3	—
G. 3	Modern World ...	...	2	—
M.E. 19A	Machine Drawing ...	—	6	—
Ch. 4A,	Inorganic Chemistry Laboratory ...	—	12	—
Ch. 5A & Ch. 5B		—	—	—
Total ...		22	18	2

Second Semester (1st January to 15th April)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK		TUTORIAL Guided Study
		Theore- tical	Prac- tical	
E.M. 3	Engineering Mechanics ...	...	6	1
Ch. 6	Physical Chemistry I ...	...	3	—
Ch. 4	Inorganic Chemistry II ...	...	4	—
E.E. 17	Electrical Engineering ...	...	3	—
M. 5	Mathematics V ...	...	2	1
M.E. 19A	Machine Drawing ...	...	6	—
E.E. 17A	Electrical Engineering Laboratory ...	...	3	—
Ch. 4A,	Chemistry Laboratory ...	...	12*	—
Ch. 5A & Ch. 5B		—	—	—
Total ...		18	21	2

SUBJECTS OF EXAMINATION

II. SECOND YEAR CLASS

Students of the Second Year Classes, who have completed the programme of study offered in the first semester and have obtained at least 50 per cent marks in each of the practical subjects of instruction (which includes also any tutorial work) offered during the semester and have satisfied the attendance rule will be allowed to appear in the following papers of the Intermediate Engineering Examinations of the Jadavpur University, held annually at the end of first semester, in the month of December.

First Semester Examination

(1) Electrical and Mechanical Engineering

SUBJECTS		NO. OF PAPERS	FULL MARKS
1.	Mathematics IV ...	1	100
2.	Modern World ...	1	100
3.	Measuring Instruments and Measure- ments I ...	1	100
4.	Electric Wiring and Installations ...	1	100
		4	400

* 9 Inorganic. 3 Organic.

(2) *Telecommunication Engineering*

SUBJECTS		NO. OF PAPERS	FULL MARKS
1. Mathematics IV	...	1	100
2. Modern World	...	1	100
3. Electrical Measuring Instrument & Measurement I	...	1	100
		3	300

(3) *Civil Engineering*

SUBJECTS		NO. OF PAPERS	FULL MARKS
1. Mathematics IV	...	1	100
2. Heat Engines ...	...	1	100
3. Building Materials	...	1	100
4. Materials Estimating & Specification	...	1	100
5. Engineering Chemistry	...	$\frac{1}{2}$	50
		4 $\frac{1}{2}$	450

(4) *Chemical Engineering*

SUBJECTS		NO. OF PAPERS	FULL MARKS
1. Mathematics IV	...	1	100
2. Modern World	...	1	100
3. Heat Engines	...	1	100
4. Organic Chemistry II	...	1	100
		4	400

Students of the Engineering Second Year Classes who have completed the programme of study offered in the Second Semester and have obtained at least 50 per cent marks in each of the practical subjects of instruction (which includes also any tutorial work) offered during the academic year, and have satisfied the attendance rule will be allowed to appear in the follow-

ing papers of the Intermediate Engineering Examination of the Jadavpur University, held annually at the end of the Second Semester in the month of April and May.

Students, who fail to complete their class works satisfactorily, will not be allowed to sit for this examination.

Second Semester Examination

(1) *Electrical and Mechanical Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Engineering Materials & Processes	1	100
2. Engineering Thermodynamics	1	100
3. Mechanism	1	100
4. Engineering Mechanics II	1	100
5. Principles of Electrical Engineering I	1	100
6. Direct Current Machines	1	100
7. Mathematics V	1	100
8. Machine Drawing (6 hours)	1 (Practical)	100
	8	800

(2) *Telecommunication Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Engineering Materials & Processes	1	100
2. Engineering Thermodynamics	1	100
3. Mechanism	1	100
4. Engineering Mechanics II	1	100
5. Circuit Theory I	1	100
6. Physics	1	100
7. Direct Current Machines	1	100
8. Mathematics V	1	100
9. Machine Drawing (6 hours)	1 (Practical)	100
	9	900

(3) *Civil Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Modern World ...	1	100
2. Mathematics V ...	1	100
3. Applied Mechanics I ...	1	100
4. Electrical Technology ...	1	100
5. Building Construction ...	1	100
6. Engineering Mechanics ...	1	100
7. Surveying II ...	1	100
8. Civil Engineering Drawing (6 hours)	1 (Practical)	100
	8	800

(4) *Chemical Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Engineering Mechanics ...	1	100
2. Inorganic Chemistry II ...	1	100
3. Physical Chemistry I ...	1	100
4. Electrical Engineering ...	1	100
5. Mathematics V ...	1	100
6. Machine Drawing (6 hours)	1 (Practical)	100
	6	600

Students, who passed in all papers of the Intermediate Engineering Examinations subject to rules 3 and 5 of Examination Rules are promoted to the Engineering Third Year Class.

For the benefit of the students who have failed to get promotion to the Third Year Class due to their being absent or being unable to secure pass mark in one or more papers of the examination held at the end of First and, or, Second Semester, a supplementary examination will be held in the last week of June. Students passing in this examination will also be promoted to the Third Year Class. Those students, who cannot secure promotion due to failure to get pass mark or being absent in one or more papers, will be allowed to study again in the same class as regular students for another session only, or will be given one more chance to clear the paper or papers in the supplementary examination held at the end of the next session as non-collegiate students who will have to pay only examination fees but no tuition fees.

No student will be allowed to sit for any paper in the supplementary examination if he has not completed all class works satisfactorily. If a student is debarred from appearing in the Supplementary Examination held at the end of the Second Semester, due to incomplete class works, he will be given one more chance to attend the classes and will have to take admission in the College by paying readmission fee and attend regularly for the whole session those practical classes in which his progress was not satisfactory. He shall have to pay the full tuition and other fees. On satisfactory completion of class works (which means securing at least 50 per cent marks) he will be allowed to sit for the Annual Examination held at the end of the Second Semester as well as in the Supplementary Examination if need be. If he fails to clear all papers in these two successive examinations he will not be allowed to study in the College any further. It should be noted that class work includes tutorial works in any subject when such are held.

This rule apply to both First and Second Year Engineering Classes.

PROGRAMME OF STUDY

III. THIRD YEAR CLASS

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

(1) Chemical Engineering

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		
	Theore- tical	Prac- tical	Tutorial
E.M. 5A Strength of Materials ...	3	—	—
Ch. 7 Physical Chemistry II ...	3	—	—
Ch. 11 Industrial Chemistry I ...	2	—	—
Ch. 11A Chemical Process Principles	2	—	—
Ch. 12 Metallurgy & Engineering Materials ...	3	—	—
Ch. 10 United Operations I ...	3	—	1
Ch. 10A Chemical Engineering Ther- modynamics ...	3	—	1
Ch. 9 Physico-chemical Measure- ments ...	—	12*	—
Ch. 5A, Ch. 5B Technical Analysis (Organic)	—	12*	—
M.E. 9C Machine Drawing & Design	—	3	—
W. 4A Machine Shop ...	—	3	—
	19	18	2

* For half year.

(2) Electrical Engineering

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK	
		Theoretical	Practical
E.M. 5 Applied Mechanics ...	...	4	—
M.E. 8 Hydraulics ...	...	2	—
M.E. 7 Prime Movers ...	...	4	—
M. 6 Mathematics VI ...	...	2	—
E.E. 6 Alternating Current Machines I		4	—
E.E. 4 Principles of Electrical Engineering II ...	...	2	—
E.E. 4A Electron Tubes and Circuits ...		2	—
E.E. 8 Electrical Measuring Instru- ments & Measurements II ...		3	—
E.E. 21 Electrical Engineering Calcu- lations ...	...	—	2
E.E. 19 Electrical Drawing & Design ...		—	3
E.E. 23 Electrical Engineering Labora- tory II ...	...	—	3
M.E. 9B Machine Drawing & Design ...		—	5
M.E. 21B Mechanical Engineering Laboratory ...	...	—	3
W. 4A Machine Shop ...	...	—	3
Total ...		23	19

(3) Telecommunication Engineering

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		Tutorial Guided Study
	Theore- tical	Prac- tical	
E.M. 5 Applied Mechanics ...	4	—	—
M.E. 7 Prime Movers ...	4	—	—
M. 6 Mathematics VI ...	2	—	—
E.E. 6A Alternating Current Machines	2	—	—
E.E. 8 Electrical Measuring Instru- ments & Measurements II ...	3	—	—
Comm. 2 Electron Tubes & Transistors	2	—	—
Comm. 3 Circuit Theory II (Networks)	3	—	—
Comm. 4 Radio Engineering I ...	2	—	—
E.E. 21 Electrical Engineering Calcula- tions ...	—	—	2
Comm. 5 Computation ...	—	—	3
E.E. 23 Electrical Engineering Labora- tory II ...	—	3	—
M.E. 21B Mechanical Engineering Labo- ratory ...	—	3	—
W. 4A Machine Shop ...	—	3	—
Comm. L. 1 Communication Laboratory I ...	—	3	—
	22	12	5

(4) Mechanical Engineering

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 Turbines ...	2	—
M.E. 6 Internal Combustion Engines	2	—
E.E. 16 A. C. Machines & Power Distri- bution ...	3	—
M.E. 9A Machine Drawing & Design ...	—	9
M.E. 21A Mechanical Engineering Labo- ratory ...	—	6
E.E. 23A Electrical Engineering Labora- tory ...	—	3*
W. 4 Workshop Practice—Machine- shop ...	—	6
Total ...	19	21

(5) Civil Engineering

G. 4 Engineering Economics ...	2	—
G. 7 Geology ...	2	—
E.M. 10 Applied Mechanics II ...	2	—
C.E. 4 Fluid Mechanics ...	2	—
C.E. 5 Theory of Structures I ...	2	—
C.E. 7 Design of Structures I ...	2	—
C.E. 9 Irrigation, Sanitary Engineer- ing & Water Works ...	2	—
C.E. 11 Roads & Railways ...	2	—
C.E. 20 Geodesy ...	2	—
C.E. 13 Quantity Surveying & Valuation	—	3
Geodesy Laboratory ...	—	3
Civil Engineering Laboratory	—	6
Structure & Design ...	—	—
Geodetic Survey ...	2 months in camp	—
	18	15

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

SUBJECTS OF EXAMINATION

III. 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, and have satisfied attendance rule are allowed to appear in the following subjects of the Final Engineering Examination of the Jadavpur University, held annually at the end of the Academic Session :

(1) Chemical Engineering

SUBJECTS	NO. OF PAPERS	FULL MARKS
Strength of Materials ...	1	100
Physical Chemistry II ...	1	100
Industrial Chemistry I ...	1	100
Chemical Process Principles I ...	1	100
Metallurgy & Engineering Materials ...	1	100
Unit Operations I ...	1	100
Chemical Engineering Thermodynamics ...	1	100
Machine Drawing & Design (6 hours) ...	1 (Practical)	100
Technical Analysis ...	1 (")	100
Total ...	9	900

(2) Electrical Engineering

SUBJECTS	NO. OF PAPERS	FULL MARKS
Applied Mechanics ...	1	100
Hydraulics ...	1	100
Prime Movers ...	1	100
Mathematics VI ...	1	100
Alternating Current Machines I ...	1	100
Principles of Electrical Engineering II ...	1	100
Electrical Measuring Instruments and Measurements II ...	1	100
Electron Tubes & Circuits ...	1	100
Machine Drawing & Design (6 hours) ...	1 (Practical)	100
Total ...	9	900

(3) Telecommunication Engineering

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Applied Mechanics ...	1	100
2. Prime Movers ...	1	100
3. Mathematics I ...	1	100
4. Alternating Current Machines ...	1	100
5. Electrical Measuring Instruments and Measurements II ...	1	100
6. Electron Tubes and Transistors ...	1	100
7. Circuit Theory II (Net Works) ...	1	100
8. Radio Engineering I ...	1	100
	8	800

(4) Mechanical Engineering

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Strength of Materials and Theory of Structures ...	1	100
2. Hydraulics ...	1	100
3. Theory of Machine Design ...	1	100
4. Steam Engines & Boilers ...	1	100
5. Steam Turbines ...	1	100
6. Internal Combustion Engines ...	1	100
7. A.C. Machines & Power Distribution ...	1	100
8. Machine Drawing & Design (6 hours) ...	1 (Practical)	100
	8	800

(5) *Civil Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Engineering Economics ...	1	100
2. Geology ...	1	100
3. Applied Mechanics II ...	1	100
4. Fluid Mechanics ...	1	100
5. Theory of Structures I ...	1	100
6. Design of Structures I ...	1	100
7. Irrigation, Sanitary Engineering and Water Works ...	1	100
8. Roads and Railways ...	1	100
9. Geodesy ...	1	100
10. Structure & Design (6 hours) ...	1 (Practical)	100
	—	—
	10	1000

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.

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. 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.

PROGRAMME OF STUDY

IV. ENGINEERING FOURTH YEAR CLASS

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

(1) *Chemical Engineering*

SUBJECTS OF INSTRUCTION	PERIODS PER WEEK		
	Theoretical	Practical	Tutorial
Ch. 8 Applied Electrochemistry ...	2	—	—
Ch. 13 Fuels and their Combustion ...	2	—	—
Ch. 14A. Unit Operations III ...	3	—	—
Ch. 14A Unit Operations II ...	3	—	—
Ch. 15 Industrial Chemistry II ...	3	—	—
G. 4 Engineering Economics ...	2	—	—
Ch. 16 Chemical Engineering Lab. ...	—	12*	—

Electives :

Any one of the following two :

Ch. 17, 17A Chemical Technology of				
Oils and Fats ...	3	} 3	9	—
Ch. 18, 18A Food Technology ...	3			
	—	—	—	—
Total ...	18	21	1	

* Students are required to work in the Mechanical Engineering Laboratory M.E. 21C for eight weeks as part of work in Ch. 16.

(2) *Electrical Engineering*

	SUBJECTS OF INSTRUCTION	PERIODS PER WEEK	
		Theoretical	Practical
M.E. 24	Power Plant and Boiler ...	2	—
E.E. 7	Alternating Current Machines II	2	—
E.E. 10	Electric Power Transmission ...	2	—
E.E. 11	Electric Power Generation ...	3	—
E.E. 9	Electric Power Distribution ...	2	—
E.E. 12	Electric Power Utilization and Traction ...	2	—
G. 4	Engineering Economics ...	2	—
M.E. 16	Industrial Administration ...	2	—

*Electives :**Any one of the following three :*

E.E. 13.1	Electrical Measuring Instruments and Measurement III	2	—
E.E. 13.2	Switch gear and Protective Devices ...		
E.E. 13.3	Industrial Electronics and Servomechanism ...		
E.E. 13.4	Electrical Machine Design ...		
E.E. 13.5	High Voltage Technique ...		
E.E. 18	Electrical Drawing ...	—	3
E.E. 20	Electrical Project Design ...	—	6
E.E. 24	Electrical Engineering Laboratory III ...	—	6
E.E. 25	Computation and Design for Elective Course ...	—	3
E.E. 26	Abstract ...	—	2
		19	20

(3) *Telecommunication Engineering*

(First Semester—11th July to 30th November)

	SUBJECTS OF INSTRUCTION	PERIODS PER WEEK	
		Theoretical	Practical
G. 4	Engineering Economics ...	2	—
Comm. 6	Electromagnetic Theory, Antenna, Wave guide ...	5	—
Comm. 7	Industrial Electronics and Servomechanism ...	2	—
Comm. 8	Line Communication Engineering ...	3	—
Comm. 9	Radio Engineering II ...	3	—
Comm. 10	Special Circuits, Television and Facsimile ...	4	—
Comm. L. 2	Communication Laboratory II	—	6
Comm. L. 3	Measurements Laboratory I	—	3
Comm. L. 4	Communication Laboratory III ...	—	3
Comm. L. 5	Design I ...	—	6
		19	18

Second Semester (1st January to 15th April)

SUBJECTS OF INSTRUCTION		PERIODS PER WEEK	
		Theoretical	Practical
G. 4	Engineering Economics ...	2	—
Comm. 7	Industrial Electronics and Servomechanism ...	2	—
Comm. 8	Line Communication Engineering ...	3	—
Comm. 11	Microwave Technique and Radar ...	4	—
Comm. 12	Measurements in Communication ...	4	—
Comm. 13	Propagation ...	4	—
Comm. L. 6	Communication Laboratory IV ...	—	6
Comm. L. 7	Communication Laboratory V ...	—	3
Comm. L. 8	Measurements Laboratory II ...	—	3
Comm. L. 9	Design II ...	—	6
		19	18

(4) 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	Industrial Administration ...	2	—
M.E. 15	Mechanical Handling of Materials ...	2	—
M.E. 14	Materials of Construction ...	2	—
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	4	—
M.E. 17	Refrigeration	...	2		
M.E. 18	Air Conditioning	...	2		
M.E. 12	Motor Car Engineering	...	2		
M.E. 10	Hydraulic Machines and Water Power		2		
M.E. 23	R a i l w a y Engineering, Mechanical		2		
<i>Or</i>					
<i>the following two :</i>					
M.E. 25	Production Engineering I (Q u a n t i t y Production Methods)		2	—	6
M.E. 26	Production Engineering II (Production Planning)	...	2		
W. 4	Advanced Workshop Practice				
M.E. 21A	Mechanical Engineering Labo- ratory		—		3
M.E. 20	Machine Design		—		9
M.E. 22	Abstract		—		2

Total ... 20 20

(5) Civil Engineering

	SUBJECTS OF INSTRUCTION	PERIODS PER WEEK	
		Theoretical	Practical
C.E. 6	Theory of Structures II ...	2	—
C.E. 8	Design of Structures II ...	2	—
C.E. 14	Soil Mechanics & Foundation Engineering ...	1	—
C.E. 12	Highways, Railways & Bridges	2	—
C.E. 10	Irrigation & Flood Control ...	2	—
C.E. 15	Docks & Harbour ...	1	—
C.E. 16	Hydraulic Machines ...	2	—
C.E. 17	Professional Practice & Construction Technique ...	2	—
C.E. 18	Architecture & Town Planning	2	—
C.E. 19	Public Health & Municipal Engineering ...	2	—
	Hydraulics Laboratory ...	—	3
	Civil Engineering Laboratory ...	—	3
	Project & Thesis ...	—	12
	Architecture & Town Planning	—	3*
		18	18

* For $\frac{1}{2}$ year out of the above period.

SUBJECTS OF EXAMINATION

IV. 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 and have satisfied the attendance rule are allowed to appear in the Final Engineering Examination of the Jadavpur Univer-

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

(1) Chemical Engineering

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Applied Electrochemistry ...	1	100
2. Fuels and their Combustion ...	1	100
3. Unit Operations II ...	1	100
4. Unit Operations III ...	1	100
5. Industrial Chemistry II ...	1	100
6. Engineering Economics ...	1	100
7. Chemical Engineering Design ...	1	100
8. General Knowledge in Chemistry and Chemical Engineering, etc.	1 (oral)	100
9. Electives: any one of the following two:		
Chemical Technology of Oils & Fats	1 (theoretical)	100
or		
Food Technology ...		
10. Practical on elective subject ...	1 (practical)	100
11. Chemical Engineering Laboratory	1 (practical)	100
	—	—
	11	1100

(2) *Electrical Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Power Plant and Boiler ...	1	100
2. Alternating Current Machines II ...	1	100
3. Electric Power Transmission ...	1	100
4. Electric Power Generation ...	1	100
5. Electric Power Distribution ...	1	100
6. Electric Power Utilization and Traction ...	1	100
7. Engineering Economics ...	1	100
8. Industrial Administration ...	1	100
9. <i>Electives: any one of the following:</i>		
Electrical Measuring Instruments and Measurements III ...	1	100
Switchgear and Protective Devices ...		
Industrial Electronic & Servomechanism ...		
Electrical Machine Design ...		
High Voltage Technique ...		
10. Electrical Engineering Laboratory (Oral)	1	100
	10	1000

(3) *Telecommunication Engineering*
First Semester Examination

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Electromagnetic Theory, Antenna, Wave guide ...	1	100
2. Radio Engineering II ...	1	100
3. Special Circuits, Television and Fascimile ...	1	100
	3	300

Second Semester Examination

1. Engineering Economics ...	1	100
2. Industrial Electronics & Servomechanism ...	1	100
3. Line Communication Engineering ...	1	100
4. Microwave Technique & Radar ...	1	100
5. Measurements in Communication ...	1	100
6. Propagation ...	1	100
7. Viva-Voce ...	1	100
	7	700

(4) *Mechanical Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Power Plant Engineering ...	1	100
2. Industrial Administration ...	1	100
3. Mechanical Handling of Materials ...	1	100
4. Materials of Construction ...	1	100
5. Machine Tools ...	1	100
6. Technical Dynamics ...	1	100
7. General Study (General Geology) ...	1	100
8. Engineering Economics ...	1	100
9. Advanced Workshop Practice (oral) ...	1	100
10. Mechanical Engineering Laboratory (oral)	1	100

11. & 12. *Electives: Any two of the following:*

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

The following two:

Production Engineering I (Quantity Production Methods) ...	1	100
Production Engineering II (Production Planning) ...	1	100

12 1200

(5) *Civil Engineering*

SUBJECTS	NO. OF PAPERS	FULL MARKS
1. Theory of Structures II ...	1	100
2. Design Structures II ...	1	100
3. Soil Mechanics & Foundation Engineering ...	$\frac{1}{2}$	50
4. High ways, Railways & Bridges ...	1	100
5. Irrigation & Flood Control ...	1	100
6. Docks & Harbour ...	$\frac{1}{2}$	50
7. Hydraulic Machines ...	1	100
8. Professional Practice & Construction Technique ...	1	100
9. Architecture & Town Planning ...	1	100
10. Public Health & Municipal Engineering ...	1	100
11. Viva-voce ...	1	100
	10	1000

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 Degrees in Chemical, Electrical, Telecommunication, Mechanical or Civil Engineering, as the case may be, by the Jadavpur University.

After the publication of the Final Engineering examination results the graduates will have to undergo practical training in recognised firms for at least one year. The College Administration will make all efforts to help the graduates in securing such practical training.

The students, who have obtained the B.M.E. Degree and want to obtain B.E.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. Mathematics VI
2. Alternating Current Mechanics—I.
3. Principles of Electrical Engineering—II.

4. Electrical Engineering Calculations.
5. Electrical Drawing & Design.
6. Electrical Engineering Laboratory II.
7. Electrical Measuring Instruments & Measurements II.
8. Electron Tubes & Circuits.

Subjects for Electrical Engineering Fourth Year Class :

1. Electrical Power Transmission.
2. Electrical Power Utilization & Traction.
3. Electrical Power Generation.
4. A. C. Machines—II.
5. Electrical Power Distribution.
6. Electrical Engineering Laboratory—III.
7. Electrical Projects & Design.
8. Abstract.
9. Electrical Drawing.
10. Any one of the following five elective subjects :
 - (i) Electrical Measuring Instruments and Measurements III.
 - (ii) Switchgear and Protective Devices.
 - (iii) Industrial Electronics & Servomechanism.
 - (iv) Electrical Machine Design.
 - (v) High Voltage Technique.
11. Computation and Design for Elective Course.

The students, who have obtained the degree of B.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 Practice—Machine shop.

Subjects for Mechanical Engineering Fourth Year Class :

1. Technical Dynamics.
2. Power Plant Engineering.
3. Industrial Administration.
4. Mechanical Handling of Materials.
5. Materials of Construction.
6. Machine Tools ; and
7. & 8. Any two of the following six subjects :—
 1. Engineering Geology.
 2. Refrigeration.
 3. Air Conditioning.
 4. Motor Car Engineering.
 5. Hydraulic Machines and Water Power Engineering.
 6. Railway Engineering, Mechanical.

or

the following two :

1. Production Engineering I.
(Quantity Production Methods).
 2. Production Engineering II
(Production Planning).
 9. Advanced Workshop Practice.
 10. Mechanical Engineering Laboratory.
 11. Machine Design.
 12. Abstract.
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