

GUIDELINES FOR PROJECT WORK AND LABORATORY EXPERIMENTS

PROJECT WORK

1. Objective

The objective of the project work is to help the student develop ability to apply the engineering and technological concepts, tools and techniques to study and attempt to solve any engineering or system problem. Stress is given on quality of training for development of professional competence.

2. Prerequisite

Students pursuing Section B Examination can take up project work only after securing minimum grade 'C' in 5 (five) subjects in an engineering branch of Section B. Students are required to register for project work by filling the application form, as given at **Appendix I**, along with a demand draft of Rs. 3000.00 (US \$ 200 in case of overseas students) in favour of 'The Institution of Engineers (India)' payable at Kolkata and return it to the headquarters of the Institution within the stipulated date.

3. Project Guide

On receipt of the application for project work with the prescribed fee, a letter giving the name and address of the project guide, nearby to the recorded address of the student as far as practicable, shall be issued to the students by the headquarters of the Institution. After receipt of the letter from the Institution, students are expected to contact the project guide within a week for their project work, carrying with them their Identity Card issued by IEI. **In case designated project guide is not available due to any reason or change of address of the project guide or the student, thus affecting the facility of contact between them, the student is expected to contact the Chairman of the State/ Local Centre to which he is attached for an alternate project guide. The Chairman of State/Local Centre, after being satisfied with the reason stated by the student, would allot him the alternate project guide within the jurisdiction of his State/ Local Centre, under intimation to the Director (EEA) at headquarters.**

A 'Fellow' or a 'Member' of the Institution is only eligible to act as project guide. The project guide shall be responsible for guidance in preparing synopsis of the project, project report and monitoring the progress of work. He will also be responsible for guidance regarding problem formulation and methodology of the project selected by the student. In addition, the project guide shall evaluate the project work of the student.

4. Types of Project Work

The project work may be from any one of the following types:

- a) Comprehensive case study (covering any structure, industry or system);
- b) Field-oriented analysis and/or design problems (such as design of engineering structures, industrial/engineering processes and systems);
- c) Management-oriented study (such as evaluation, estimation, optimization, planning, and management, etc.);
- d) Repair and maintenance of equipment, structures, etc.;
- e) Any other project work a project guide may deem proper to allot to the student.

5. Synopsis of the Project

Synopsis of the project should be prepared in consultation with the project guide as per the format given in **Appendix II**. It should clearly state the objective, methodology of the proposed project to be undertaken. It should have full details of the sampling instrument to be used, limitations, if any, and future direction of further study, etc as asked in the format. The synopsis of the project shall be approved by the Project Guide. Approved copy of the synopsis should be a part of the project report. Students are advised to retain an approval copy of the synopsis with them.

After finalizing the topic and approval of synopsis of the project, the student should start the actual project work under the supervision of the project guide.

6. Project Report

A student is required to prepare 3 (three) neatly typed copies of his final project report as per the format given in **Appendix II**. One copy of the project report should be submitted to the project guide for internal evaluation; one copy of the project report, with signature of the Project Guide, is to be submitted to the Director (EEA), The Institution of Engineers (India), 8 Gokhale Road, Kolkata 700 020 for external evaluation; and one copy should be retained by the student with him/ her for reference. The following points should be noted regarding the final project report:

- a) The project report shall contain the methodology, data/input, analysis, and the results/final outcome and comments of the project guide, if any.
- b) Each project report must adequately explain the methodology adopted and the directions for future study;
- c) The project report must also contain (i) Copy of the approved synopsis; (ii) Certificate of originality of the work by the project guide and (iii) Content page.
- d) The length of the report should not exceed 2500 words in double-spaced typed pages (excluding appendices and exhibits).

7. Time Limit for Project Work

Allotment of project guide for project work shall be done twice a year, i.e., May/June and December/January. For May/June term, the evaluation work shall be carried out in the month of August, whereas for December/January term, it would be in the month of February.

Minimum Time Limit

Students, having secured minimum grade 'C' or above in 5 (five) or more subjects after declaration of result of Winter term, must complete the project work and submit **one copy** of the same to the project guide and **one copy** to the Director (EEA) by **August 10** of that year for internal and external evaluation. The project guide, in turn, shall submit his **confidential assessment report, along with the evaluated project report**, to the Director (EEA) by **August 20**. Similarly, students, having secured minimum grade 'C' or above in 5 (five) or more subjects after declaration of result of Summer term, must complete the project work and submit one copy of the same to the project guide and one copy to the Director (EEA) by **February 10** of the following year for internal and external evaluation and the project guide must send the assessment report by **February 20**. Under no circumstance, the project guide should handover his confidential assessment report, with a copy of the project report, to the student and should dispatch the same at the Headquarters.

Maximum Time Limit

Project work shall required to be completed within the stipulated period of 6 (six) years for a complete pass in Section B Examination. The term/session of declaration of result of Section B of a student shall depend on the date of submission of project report. In case a student fails to obtain the required grade in the project work in one or more attempts, he shall be required to re-register again for the same with the prescribed fee of Rs. 3000.00/US \$ 200.

8. Evaluation of the Project Work

Full marks for the project work will be 100 (one hundred). There will be internal as well as external evaluation of the project work. Minimum aggregate for passing project work will be grade 'B'.

Internal Evaluation

The internal evaluation will be carried out by the project guide, based on the project report submitted by the student to him. The project guide shall submit his assessment report on the prescribed proforma to be sent to him along with the letter of allotment. The assessment report **must** be accompanied with the **evaluated project report (marks given on the content page and duly signed)** as submitted by the candidate to the project guide for internal evaluation. Non-receipt of proforma should be informed to the headquarters on the address mentioned on page 5.

External Evaluation

External evaluation will be carried out by the examiner to be arranged by the Institution only on receipt of the hard copy of the project report from him.

9. Important Notes while Preparing the Synopsis of the Project

The synopsis of the project should include the following:

- Rationale for the study.
- Objectives of the study.
- Methodology to be used for carrying out the study (detailed).
- The expected contribution from the study.
- Limitations, if any and the direction for future study.

10. Important Notes while Preparing the Project Report

- a) The Project Work should be submitted in A-4 size (29 cm x 20 cm), typed in double space, in a bound volume.
- b) Before binding the project report, the student should ensure that it contains the following:
 - Title Page
 - Content Page
 - Approved synopsis of the project work;
 - Certificate of originality of work by the project guide; and
 - Comments of the project guide on the project work, if any.

Students should submit a statement certifying that the work is an original one and has not been submitted earlier to any other Institution for fulfillment of the requirement of a course of study. The above certificate is required to be countersigned by the project guide. If any project report is received in the absence of the above, the same will be returned to the student for compliance.

- c) The student should prepare 3 (three) typed copies of the final project report. One copy of the project work should be submitted to the project guide for internal evaluation; one copy to the Director (EEA) of the Institution at Kolkata by registered post/courier for external evaluation mentioning on top of the envelope "**Project Report-ET**" (name of the engineering discipline); and one copy should be retained with him. The project report submitted to the project guide or to the Director (EEA) of the Institution will not be returned to the student.

LABORATORY EXPERIMENTS

1. Objective

In order to equip students in pursuit of their cherished goal, a course on 'Laboratory Experiments' has been made compulsory in the syllabi of Section B examination. This programme can produce best results if it is able to arouse the basic inquisitiveness, originality and intelligence in the minds of students.

2. Prerequisite

Students pursuing Section B examination can take up Laboratory Experiments only after securing minimum grade 'C' in 5 (five) subjects in an engineering branch of Section B.

Students are required to register for laboratory experiments by filling the application form, as given at **Appendix IV**, along with a demand draft of Rs. 7000.00 (US \$ 400 in case of overseas students) in favour of 'The Institution of Engineers (India)' payable at Kolkata. On receipt of the application with choice of engineering college/institute and fee, a student shall be intimated the name of the engineering college/institute where he shall be required to perform the laboratory experiments. The decision of the Institution regarding allotment of college/institute shall be final and binding upon the students.

3. College/Institute for Laboratory Experiments

On receipt of name of the college/institute from the Institution, the student is expected to contact the authorities of the concerned college/institute for performing the laboratory experiments on production of a copy of the letter issued by the Institution. Thereafter, authorities of the college/institute shall permit the student to use the facility of the concerned department for laboratory experiments.

The facility for performing laboratory experiments in a college/institute will be available twice a year, i.e., May/June and December/January. Students eligible for laboratory experiments after declaration of results of Summer examination can complete the laboratory experiments in December/January, whereas candidates for Winter examination can complete in June/July each year.

4. Number of Experiments

A student shall be required to perform 10 (ten) laboratory experiments, out of a list of 20 (twenty) experiments, prescribed for the branch of engineering in which he is pursuing Section B examination. Selection of 10 (ten) experiments shall be at the sole discretion of the concerned authority of the college/institute.

5. Certificate for Completion of Experiments

After completion of the required number of laboratory experiments, the college will issue a completion certificate to the student. The student, in turn, shall inform the Director (EEA) about the same, enclosing an original copy of the completion certificate, retaining a copy with him.

6. Evaluation of Laboratory Experiments

Full marks for the laboratory experiments will be 100 (one hundred). The evaluation shall be carried out by the concerned college/institute where the student shall perform the laboratory experiments. The prescribed proforma for an evaluation report shall be sent directly to the concerned college/institute by the Institution. In case of non-receipt, the college may inform the headquarters (address and phone number given on page 5). The filled in proforma shall be sent

to the Director (EEA), under confidential cover, directly by the college/institute. Minimum grade for passing laboratory experiments will be 'B'.

The evaluation work shall be carried out in the month of August for May/June term, whereas for December/January term, it would be in the month of February.

7. Hostel Accommodation Charges

The Institution is not liable to provide any hostel accommodation in the college/ institute during the period of performing laboratory experiments. However, some colleges/institutes may extend the facility of hostel accommodation on request of the students. Charges for lodging/boardng arrangements in the hostel shall be borne by the student separately. The student is not required to pay any other fee directly to the college/institute.

8. Time Limit for Laboratory Experiments

Minimum Time Limit

Students, having secured minimum grade 'C' or above in 5 (five) or more subjects after declaration of result of Winter term, must complete all 10 (ten) laboratory experiments by **August 10** of that year for evaluation. The authority of the concerned college shall submit the assessment report to the Director (EEA) by **August 20**. Similarly, for summer term, laboratory experiments are required to be completed by **February 10** of the following year and the concerned authority of the college shall submit the assessment report by **February 20**.

Maximum Time Limit

Laboratory experiments are required to be completed within the stipulated period of 6 (six) years for a complete pass in Section B Examination. The term/session of declaration of result of Section B of a student shall depend on the date of completion of laboratory experiments. In case a student is not able to complete required number of laboratory experiments and obtain grade 'B' in one or more attempts, he shall be required to re-register again for the same with prescribed fee (Rs. 7000.00/US \$ 400).

GENERAL

1. Completion of Section B

Passing of Section 'B' includes successful completion of project work, laboratory experiments and pass in required theoretical subjects within the stipulated examination registration period of six years. Project work and laboratory experiments can be pursued simultaneously after obtaining grade 'C' in minimum 5 (five) theoretical subjects of Section B.

2. Enquiries

All correspondence regarding the project work/laboratory experiments should be made at the following address quoting the membership number, session and year of passing minimum 5 (five) subjects of Section B and the name and address of the project guide/college for laboratory experiments, if already assigned:

Director (EEA)
The Institution of Engineers (India)
8 Gokhale Road, Kolkata 700 020

Phone:(033) 40155400 (IVRS)
Fax: (033) 2223 8345

E-mail:paramita.mukherjee@ieindia.org



The Institution of Engineers (India)
8 Gokhale Road, Kolkata 700 020

The Director (EEA)
The Institution of Engineers (India)
8 Gokhale Road
Kolkata 700 020

APPLICATION FORM FOR PROJECT WORK

Dear Sir,

I have carefully read the 'Guidelines for Project Work/Laboratory Experiments' and hereby submit my application for allotment of project guide for completion of the project work. The decision of The Institution of Engineers (India) regarding allotment of project guide will be acceptable to me.

1. Name:

2. Phone/Mobile: e-mail :

3. Membership No: -

4. Secured exemption in five or more subjects (✓ mark): Summer 201 Winter 201

5. Details of fee by demand draft (Rs. 3000.00 or US \$ 200 in case of overseas candidates):

Demand Draft No. :

Issuing Bank:

Date of Issue:
D D M M Y Y

6. Interested to complete project work in the term (✓ mark):

May/June 2 0 1 November/December 2 0 1

I shall abide by the Rules of the Institution Examinations (effective from summer 2005 Examination as per Revised Syllabi) as given in Vol.I: Rules.

Enco: Demand Draft of Rs. 3000.00/US\$ 200

Full Signature of Candidate with Date

Note: Filled-in proforma should be sent by the student only when he desires to start the project work as per the Guidelines in the term mentioned under serial no.6 above.



Format of Synopsis

1. Title of the Project
2. Objectives of the study
3. Rationale for the study
4. Detailed Methodology to be used for carrying out the study
5. The expected contribution from the study
6. List of activities to be carried out to complete the project (with the help of a bar chart showing the time schedule)
7. Places/labs/equipment and tools required and planning of arrangements
8. Problems envisaged in carrying out the project, if any.

Format of Final Project Report

1. Title of the Project with name of the student, Membership No, Name of the Project Guide and his Membership Number.
2. Content Page (with headings and sub - headings indicating the respective page number)
3. Acknowledgement, if any.
4. Objectives of the Study
5. Methodology of the Study
6. Statement of the Problem
7. Input Data/Structure/Questionnaire
8. Analysis/Solution/Description
9. Final Results
10. Conclusion
11. Scope of Future Study
12. References

FORMAT OF THE COVER PAGE OF THE PROJECT REPORT

A Project Report on
Title of the project report

Submitted by

Name of the candidate (Membership No)

Under the Guidance of

Name of the Project Guide (Membership No)

In partial fulfillment for the requirement of passing Section B Examination

in ----- Engineering Branch.



The Institution of Engineers (India)
AN ISO 9001: 2008 CERTIFIED ORGANISATION
(ESTABLISHED 1920, INCORPORATED BY ROYAL CHARTER 1935)
8 Gokhale Road, Kolkata 700020



The Institution of Engineers (India)
8 Gokhale Road, Kolkata 700 020

The Director (EEA)
The Institution of Engineers (India)
8 Gokhale Road
Kolkata 700 020

APPLICATION FORM FOR LABORATORY EXPERIMENTS

Dear Sir,

I have carefully read the 'Guidelines for Project Work/Laboratory Experiments' and hereby submit my application for allotment of Laboratory Experiments. The decision of The Institution of Engineers (India) regarding allotment of college for Laboratory Experiments will be acceptable to me.

1. Name:

2. Phone/Mobile: e-mail:

3. Membership No: -

4. Secured exemption in five or more subjects (✓ mark): Summer 201 Winter 201

5. Name of the college/institute in which interested to perform laboratory experiments: -----

6. Details of fee by demand draft (Rs. 7000.00 or US \$ 400 in case of overseas candidates):

Demand Draft No:

Issuing Bank:

Date of Issue:
D D M M Y Y

7. Interested to complete laboratory experiments in the term (✓ mark):

May/June 2 0 1 November/December 2 0 1

I shall abide by the Rules of the Institution Examinations (effective from summer 2005 Examination as per Revised Syllabi) as given in Vol.I: Rules.

Enclo: Demand Draft of Rs. 7000.00/US \$ 400

Full Signature of Candidate with Date

Note: Filled-in proforma should be sent by the student only when he desires to start the laboratory experiments as per the Guidelines in the term mentioned under serial no.6 above.