

Department of Technical Education
Board of Technical Examinations, Bengaluru

Course Title : PROJECT WORK-I	Course Code : 15EE58P
Semester : V	Course Group : Core
Teaching Scheme (L:T:P) : 0:1:2 (in Hours)	Credits : -
Type of course : Practical	Total Contact Hours : 39 hrs
CIE : 25 Marks	SEE
Programme: ELECTRICAL AND ELECTRONICS Engg.	

Course Objectives:

1. Learn the objective of this project is to provide opportunity for the students to implement their skills acquired in the previous semesters to practical problems/problems faced by industry/development of new facilities
2. Make the students come up with innovative/ new ideas in his area of interest.
3. Identify, analyze and develop opportunities as well as to solve broadly defined Electrical and Electronics Engineering problems
4. Enhance students' appreciation of the values of social responsibility, legal and ethical principles, through the analysis and discussion of relevant articles and real time projects

Course outcomes:

On successful completion of the course, the students will be able to:

Course Outcome		CL	Linked PO	Allotted hours
CO1	Understand the identification of topic for project	R/U	2 TO 10	3hrs/Week
CO2	Demonstrate collection of data related to project	U/A/C	2 to 10	
CO3	Develop the ideas while executing the project.	U/A/C	2 to 10	
CO4	Exposure to latest trends required to execute the project	E	2 to 10	
CO5	Preparation of synopses and log sheet	A/C/E	2 to 10	
CO6	Present power point presentation for the synopsis chosen	A/C	2 to 10	
		TOTAL		39 Hours

MAPPING COURSE OUTCOMES WITH PROGRAM OUTCOMES

Course	Programme Outcome									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
	Basic knowledge	Discipline knowledge	Experiments a practice	Engineering Tools	Engineer and society	Environment & Sustainability	Ethics	Individual and Team work	Communication	Life long learning
PROJECT WORK		3	3	3	3	3	3	3	3	3

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

Sl. No.	Educational Component	Weightage (%)
1	Remembering	10
2	Understanding	15
3	Application/ Analysis	25
4	Create	30
5	Evaluate	20
Total		100

A. INTRODUCTION

The objective of the project work is to enable the students in convenient groups of maximum of 5 members on a project involving theoretical and experimental studies related to the branch of study. Every project work shall have a guide who is the member of the faculty of the institution. Three periods per week shall be allotted in the time table and this time shall be utilized by the students to receive the directions from the guide, on library reading, laboratory work, computer analysis or field work as assigned by the guide and also to present in periodical seminars on the progress made in the project.

B. TIME FRAME FOR THE PROJECT

- Formation of team
- Identification of project
- Collection of data /material/etc
- If needed a visit may be given to any relevant industry/institution/site/substation.
- Preparation of synopsis Maintenance of log sheet
- power point presentation for the synopsis chosen

C.Format of log sheet for project work

Sl.No.	Date	Project activity	Initials of Guide

Course Assessment and Evaluation Scheme for Project work

	What		To whom	When/Where (Frequency in the course)	Max Marks	Evidence collected	Course outcomes
Direct Assessment met	CIE	IA	Students	At the end of semester)	25	1. Project Synopsis. 2. Log sheet	CO1, CO2, CO3, CO4, CO5, CO6
				End of the course			
Indirect Assessment	Student Feedback on course		Students	Middle of the course	Feedback forms		CO1 Delivery of course
	End of Course Survey			End of the course	Seminar		CO1 to CO6 Effectiveness of Delivery of instructions & Assessment Methods

*CIE – Continuous Internal Evaluation

MODEL OF RUBRICS FOR ASSESSING REVIEWS OF PROJECT FOR CIE

Student name	Reg no	Dimension	Scale					Students Score				
			Unsatisfactory	Developing	satisfactory	Good	Exemplary	1	2	3	4	5
		Collection of data	Does not collect any information relating to the topic	Collects very limited information; some relate to the topic	Collect much information; but very limited relate to the topic	Collects some basic information; most refer to the topic	Collects a great deal of information; all refer to the topic					
		Fulfill team's roles & duties	Does not perform any duties assigned to the team role	Performs very little duties but unreliable.	Performs very little duties	Performs nearly all duties	Performs all duties of assigned team roles					
		Shares work equally	Always relies on others to do the work	Rarely does the assigned work; often needs reminding	Usually does the assigned work; rarely needs reminding	Normally does the assigned work	Always does the assigned work without having to be reminded					
		Listen to other Team mates	Is always talking; never allows anyone else to speak	Usually does most of the talking; rarely allows others to speak	Talks good; but never show interest in listening others	Listens, but sometimes talk too much	Listens and speaks a fair amount					

D. SCHEME OF EVALUATION (CIE only)

Student will be awarded a maximum of 25 marks CIE considering his activities based on log sheet and synopsis produced by the student.

Scheme of Evaluation

1	Log record	05
2	Synopsis	10
3	Presentation	10
	Total	25

Fields identified for Project work

Each student may be assigned any one of the following types of project work:

According to the local needs, the following major projects are suggested:

The following areas may be chosen while selecting a project work:-

1. PLC based
2. Microcontroller based
3. Application software based
4. Load survey study in order to select suitable meter /motor/ capacitor/energy conservation /to improve the overall system in following places:-
 - a. Institution
 - b. Hostel
 - c. Apartment
 - d. Industry
 - e. KEB/BSNL
 - f. Substation
 - g. Any feeder line
- 7 Power electronics based
- 8 Electric drive based
- 9 Energy Conservation related project
- 10 Modernization of existing laboratory
- 11 Automation based
- 12 Non Conventional generation of electric energy
- 13 Electric Motor Control
- 14 Switchgear and Protection based
- 15 Any other innovative ideas in the field of electrical and electronics field.

TIME FRAME FOR THE PROJECT

1. Carry out a session or a seminar from the ISTE Student Chapter coordinator / Programme coordinator with the help of Innovation club / I II cell for directing the students to identify project areas in the field of their interested including interdisciplinary areas.
2. Power point presentation in seminar should include detail description of project areas related to program,, Project report formats, developing personnel writing skills.
3. The Students/Departments may at liberty to form the batch not less than 5 and maximum 8 at the end of V semester.
4. Students should take the approval from the Project committee/ Head of department for doing project.
5. After approval the batch of students will be published in department notice board along with guide in the end of 5th semester.
6. All students should finalize their Project immediately before commencement of SEE of 5th semester.
7. The types of project may include:
 - Industrial case study
 - Preparation of a feasibility report
 - Design and development of equipment.
 - The overhauling of existing equipment
 - Creation of New facilities
8. The project should be challenging but manageable within the resources and time available.
9. Students should undergo reviews for three times in 6th semester during the internal assessment. Time table for IA should include project review. The guide should monitor the progress of Project work periodically and it should be finally evaluated for 25 marks at the end of 6th semester.
10. The IA marks will be evaluated based on oral presentation and assessment by the internal guide by adopting Rubrics being developed by Project committee.
11. Real time problems, Industry related problems, should be chosen and it is a Responsibilities of the project committee / Programme coordinator/ Innovation club / I.I.T. cell to choose the appropriate project and to accept the Project Proposal
12. **Identification of Topic:** The selection of topic is of crucial importance. It should be field of interest. It is advisable to choose the project can be completed on time and within the budget and resources. The topic should be clear, directional, focussed and feasible.
13. An outline of project proposal submitted & synopsis from student will initiate a dialogue between Student and Project coordinator who will then help you to work on the chosen topic and report.

MODEL PROJECT SCHEDULING (PROJECT TIME LINE)

SL.No	TASK	Responsibility	END OF V SEMESTER				VI SEMESTER													
			12	13	14	15	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	WEEK	Project																		
1	Seminar regarding Project work	Project Com/HOD	█																	
2	Batch formation & Guide allocation	HOD		█																
3	Identification of project	Students/Guide			█															
4	Project synopsis Submission	Students				█														
5	Finalisation of Project	Students/Guide					█													
6	Literature survey	Students/Guide						█												
7	Identification of facility to do PW	Guide							█	█										
8	Using the knowledge of latest trends in design/simulation and fabrication of the project	Students/Guide									█	█	█	█	█	█	█	█		
9	Conduct test to examine the performance of the project .Results discussion	Students																	█	
10	Review of Project report by guide	Students																		█
11	Project report submission & Seminar using power point presentation	Students/Guide																		█