Syllabus for Diploma Engineering

Electrical Engineering

Semester – V

Subject Name: Project-I

Subject Code: 09EE2507

Diploma Branches in which this subject is offered: Electrical Engineering

Objective: This subject provide an opportunity to the diploma electrical students for applying the knowledge and technical skills by find real life problem in electrical equipments used in modern industry as a whole and provide its innovative optimum solution with implement it. This solution is most economical and technologically viable. This subject help the students to acquire skills and attitudes, so student very well perform duty as a supervisor and start its own small scale business.

Credits Earned: 3 Credits

Course Outcomes: After completion of this course, student will be able to

1. Understand using various tasks like market survey, industrial visits, creative and innovative techniques, etc to identify project.
2. Identify best solution for given problem with cost effective.
3. Prepare hardware, simulation or solution of proposed problem using latest software and hardware technology.
4. Develop innovative idea with the help of hands on experience.
5. Prepared project report and prepare & deliver presentation.

Pre-requisite of course: Basic knowledge of electrical engineering.

Teaching and Examination Scheme

Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
Theory	Tutorial	Practical		ESE	IA	CSE	Viva	Term work	
0	0	6	3	0	0	0	50	50	100

Contents:

Stage	Topics	Contact Hours
1	**Survey and Review** • Information gathering from website, online and from stream related literature • Review of literature	**6**

	• Understand and exposure to various electrical items/goods/materials, which are available in the open market. • At department level prepare the group for project work. • Allot project guide to each group	
2	**Problem Define** • Define and discuss problem with guide • Submit problem definition along with the possible remedial measures within the stipulated time periods. Topic/problem/work should be approved by head of department and submit its	**12**
3	**Planning and design** • Project group prepare action plan of project activities and submit to guide • Prepare block diagram of project and draw and develop diagram of project with the help of software and various open source tools. • Prepare flowchart of project and prepare design	**30**
4	**Hardware / Software simulation and implementation** • List out materials required for project work • List out other facilities required for project • Layout prepare using software tools • Implements using all required materials • If software based project used available software and implement problem • Test and troubleshoot hardware if applicable	**24**
5	**Project report and presentation** • Giving the instructions for preparing a project report as per university guideline • Prepare project report as per guideline • Finally, prepare presentation and present in front of the faculty members of the department as per schedule, duration of presentation minimum half-hour per group.	**12**

Suggested distribution:

The suggested distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyse	Evaluate	Create
20%	30%	40%	10%	0%	0%

Suggested List of Project:

Sr. No.	Name of Project
1	Design of Illumination Scheme of Shopping Complex/Commercial Complex/Industrial Complex/Educational Institute/Hospital
2	Design of rural electrification scheme for small village, colony
3	Energy conservation and auditing.
4	Case studies of industries – operation/maintenance/fault finding and repair
5	Model of substation/wind power plant/solar power plant/pole mounted substation etc.
6	Rewinding of single/three phase induction motor and transformer
7	Fabrication of inverter, battery charger, small wind energy/solar panel system for battery charging, voltage stabilizer
8	Microprocessor/Microcontroller based project
9	Simulation based project, Arduino based project
10	Design and fabricate control panel/lab panel
11	Model of power plant
12	Electrical and electronics parameter monitoring and control panel
13	Design panel wiring of any industry using software
14	Model of power system (generation, transmission, distribution)
15	Electronics, digital electronics and power electronics based project
16	Prepare model of different protection scheme of machines
17	Carry out testing and maintenance of faulty electrical equipment
18	Fabrication of experimental boards.
19	Design and fabrication of transformer/auto transformer
20	Fabrication and assemble of starters and control unit
21	Fabrication and design automatic speed control of motor
22	Maintenance of battery and battery charger
23	Three phase RLC load with multifunction meter
24	Design and fabrication of all in one wiring scheme
25	Detailed visit report of the sub-station/power station/wind farm/electrical industries etc. including necessary diagram of main circuit, protection circuit, communication circuit, control circuit etc with explanation / specification of each and every major component of the system/circuit.

26	Any latest electrical engineering related topic/model to newly developing technology or latest technical trends

Student Activities:

a. Prepare and submit project definition document in prescribed format.

b. Visit industry or project problem related location.

c. Report regarding stage wise progress to institute guide regularly.

d. Practicing of latest software and tool used for project work.

Learning Resources / References:

1. Electronics for you
2. Electronics project manuals
3. IEEE journals, Electrical India, IEEMA journal, Elecrama, Technorama
4. All technical journal and manual related to electrical engineering project
5. A manual of how to prepare project repot by J.B. Patel

Supplementary Resources:

1. https://www.electronics-project-design.com
2. https://www.electronicsproject.org