Lok Jagruti Kendra University
University with a Difference

Diploma in Electronics & Communication Engineering

LJ Polytechnic

Course Code: 025030506

Project-I

Programme / Branch Name			Diploma in Electronics & Communication Engineering			
Course Name	Project-I				**Course Code**	025030506
Course Type	HSSC	BSC	ESC	PCC	OEC	PEC

Legends: HSSC: Humanities and Social Sciences Courses BSC: Basic Science Courses
ESC: Engineering Science Courses PCC: Program Core Courses
OEC: Open Elective Courses PEC: Program Elective Courses

1. Teaching and Evaluation Scheme

Teaching Hours / Week / Credits				Evaluation Scheme			
L	**T**	**P**	**Total Credit**	**CCE**	**SEE (Th)**	**SEE (Pr)**	**Total**
0	0	6	3	50	-	50	100

Legends: L: Lectures T: Tutorial P: Practical
CCE: Continuous & Comprehensive Evaluation
SEE (Th): Semester End Evaluation (Theory)
SEE (Pr): Semester End Evaluation (Practical)

2. Prerequisite

- ✓ Basics of Electrical Components
- ✓ Basics of Electronic Components
- ✓ Regulated Power Supply
- ✓ Basics of Transistors
- ✓ PCB Design

3. Rationale

Major Project Work aims at developing innovative skills in the students whereby they apply in totality the knowledge and skills gained through the course work in the solution of particular problem or by undertaking a project. It provides an opportunity to the students for applying the knowledge and technical skills acquired by identifying real life problem of the industries /research organization / society as a whole and providing its innovative solution with partial implementation , which is economically and technologically viable.

4. Objectives

- ✓ Developing PCB design/soldering skills
- ✓ Modeling and analysis of the proposed solution.
- ✓ Simulate, Design and debugging of the circuit
- ✓ Partial Implementation of the proposed solution
- ✓ Develop program logic of the proposed solution
- ✓ To design and analyze analog and digital circuits and systems for given specification and function.
- ✓ To design and implement VLSI circuits and embedded systems for applications with real time constraints.
- ✓ To develop IOT based system to contribute to the society at large.

5. Contents

Unit No.	Unit Name	Topics	Learning Outcome	% Weightage	Hours
1	**Stage-I Hypothesis**	1.1.Information gathering through websites and media. 1.2.Identification of Industry/research organization 1.3.Visiting Industry /research organization 1.4.Creating awareness about the industrial premises, personnel, processes and products 1.5.Review of literature	• Interact with the industry/research organization personnel • Gather information and organize	20	8
2	**Stage-II Problem Definition & Submission**	2.1 Defining problem in consultation with institute guide & industry mentor 2.2 Preparing problem definition statement in the prescribed format and submit in soft and hard copy.	• Define & explain Problem definition • Prepare & submit problem definition	20	8
3	**Stage-III Design Solution**	3.1 Block Diagram of project 3.2 Draw & Develop circuit diagram using circuit design software's/tools 3.3 Development of algorithm and flowchart if applicable.	• Conceive and draw General block diagram of solution. • Develop circuit diagram in detail. • Write algorithm and draw • flowchart	20	8
4	**Stage-IV Hardware/ software simulation and partial implementation**	4.1 PCB Layout preparation using software tools 4.2 Circuit simulation 4.3 Partial implementation using Breadboard or General purpose PCB 4.4 Test and troubleshoot hardware if applicable.	• Design PCB Layout • Simulate circuit • Assemble circuit • Test the Hardware circuit • Troubleshoot the hardware circuit.	20	8

5	**Stage-V Documentation & Presentation**	5.1 Prepare project report as per University guideline. 5.2 Prepare PPT and present as per schedule.	• Prepare project report • Prepare PPT presentation • Present project work	20	10
				Total Hours	**42**

6. Suggested Specification for Evaluation Scheme

Unit No.	Unit Name	Distribution of Topics According to Bloom's Taxonomy					
		R %	U %	App %	C %	E %	An %
1	Hypothesis	10	20	40	20		10
2	Problem Definition & Submission			30	40	10	10
3	Design Solution			30	30		40
4	Hardware/ software simulation and partial implementation			20	40	10	20
5	Documentation & Presentation	10	10	20	20	20	20

Legends: R-Remembering C- Creating
U- Understanding E- Evaluating
App- Applying An- Analyzing

7. Open Sources (Website, Video, Movie)

1) http://www.electronicshub.org
2) http://www.engineersgarrage.org
3) http://www.electronics-project-design.com
4) http://www.eleccircuit.com
5) http://www.circuit-projects.com
6) http://www.electronicsproject.org