



Lok Jagruti Kendra University
University with a Difference

Diploma in Electronics & Communication Engineering



**Course Code: 025030606
Project-II**

Programme / Branch Name		Diploma in Electronics & Communication Engineering				
Course Name	Project-II				Course Code	025030606
Course Type	HSSC	BSC	ESC	PCC	OEC	PEC

Legends: HSSC: Humanities and Social Sciences Courses
ESC: Engineering Science Courses
OEC: Open Elective Courses

BSC: Basic Science Courses
PCC: Program Core 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

The Project-II is to be selected by the students and the problem is to be identified for providing solution under the mentoring of the institute Guide/Industry mentor to develop following competencies.

- ✓ Co-creation & Interpersonal abilities
- ✓ Analysis Test and Troubleshooting skills
- ✓ Programming/simulation/ debugging skills
- ✓ PCB fabrication/soldering skills
- ✓ Modeling skill
- ✓ Documentation & Presentation skill

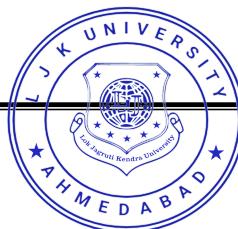
3. Rationale

To Provide 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 implementation , which is economically and technologically viable.

4. Objectives

- ✓ Develop ability to create PCB, develop soldering skills and mounting components on PCB
- ✓ Identify component and check their ratings, Test Continuity of the wires/tracks and leads
- ✓ Develop software development skill, Simulate, Design and debugging of the circuit
- ✓ Implementation of the proposed solution, Troubleshooting hardware in final implementation
- ✓ Observe responses using CRO
- ✓ Work in team cohesively & effectively, Design and fabricate model
- ✓ Prepare project report having organized documentation.
- ✓ Prepare & deliver presentation.
- ✓ Visualize the roadmap of the further expansion

5. Contents



Stage No.	Stage Name	Topics	Learning Outcomes	% Weightage	Hours
1	Create PCB/Write Program Codes	1.1. Physical creation of Printed Circuit Board 1.2. Verification of Component ratings and specifications 1.3. Program development in Assembly/high level language	<ul style="list-style-type: none"> • Build actual PCB from the PCB layout design. • Identify components and assure their ratings • Write actual code from Algorithm 	10%	8
2	Component Mounting and soldering	2.1. Continuity test for PCB tracks 2.2. Mounting and Soldering component on PCB 2.3. Execute program modules and debugging for syntax errors	<ul style="list-style-type: none"> • Check all tracks for continuity • Mount and solder components on PCB • Run program modules and check for syntax errors 	20%	8
3	Software Testing and Loading	3.1. Debug system modules for logical errors 3.2. Test program as a whole after linking modules to main program 3.3. Test program and load on chip/on system 3.4. Test Hardware circuit if software is not there in scope of project	<ul style="list-style-type: none"> • Block Testing of software • Program testing • Loading program on chip/ on system 	20%	8
4	Final Implementation	4.1. Execute loaded program on actual hardware and observe response. 4.2. Test hardware behavior for all possible inputs to the circuit. 4.3. Troubleshoot hardware/software for unexpected/faulty behavior 4.4. Correct hardware/software and execute the program until getting desired/expected response.	<ul style="list-style-type: none"> • Execute program • Test for various inputs • Troubleshoot final hardware/software 	20%	8



5	Model design	5.1. Design of model	<ul style="list-style-type: none"> • Prepare model design • Create model 	20%	8
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		<p>5.2.Create list of requirements for Implementation of model</p> <p>5.3.Fabricate and construct model</p> <p>5.4.Connect circuit responses to model and test model for its working</p>	<ul style="list-style-type: none"> • Test model 		
6	Documentation & Final Presentation	<p>6.1.Prepare project report as per LJKU guideline.</p> <p>6.2.Prepare PPT and present as per schedule.</p> <p>6.3.Demonstrate with model</p>	<ul style="list-style-type: none"> • Prepare project report • Prepare PPT presentation • Present final project work 	10%	2
		Total Hours			42

6. Suggested Specification Table for Evaluation Scheme

Stage No.	Stage Name	Distribution of Topics According to Bloom's Taxonomy					
		R %	U %	App %	C %	E %	An %
1	Create PCB/Write Program Codes	10	20	40	20	-	10
2	Component Mounting and soldering	-	-	30	40	10	10
3	Software Testing and Loading	-	-	30	30	-	40
4	Final Implementation	-	-	20	40	10	20
5	Model design	-	10	20	50	10	10
6	Documentation & Final 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.engineersgarage.org>
- 3) <http://www.electronics-project-design.com>
- 4) <http://www.eleccircuit.com>
- 5) <http://www.circuit-projects.com>
- 6) <http://www.electronicsproject.org>

