Lok Jagruti Kendra University
University with a Difference

Diploma in Automation & Robotics

LJ Polytechnic

Course Code: 025120506

Project- I

Programme / Branch Name			Diploma in Mechanical Engineering			
Course Name	Project- I				**Course Code**	025120506
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				**Evaluation Scheme**			
L	**T**	**P**	**Total Credit**	**CCE**	**SEE (Th)**	**SEE (Pr)**	**TOTAL**
0	0	6	3	50	-	100	150

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

2. Prerequisites

- ✓ Application learned concepts from the previous semester's studied courses.

3. Rationale

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 a particular problem or by undertaking a project. In addition, the project work is intended to place students for project-oriented practical training in actual work situations for the stipulated period.

4. Objectives

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

5. Contents

Unit No.	Unit Name	Topics	Learning Outcome	% Weightage	Hours
1.	**Introduction**	1.1. Introduction 1.2. Need, importance and objectives 1.3. Examples of Projects 1.4. Expected benefits	• Appreciate objectives of learning this course.	-	-
2.	**Basic techniques and project problem identification**	2.1. Need-the mother of invention 2.2. Identification of problem/ project.(Each student will suggest one problems/projects. 2.3. Prepare details and assembly production drawings for manufacturing type projects OR 2.4. Define live problems at industry place.Also prepare necessary drawings for live problem solution at industry place. 2.5. Prepare bill of material. 2.6. Cost estimation of parts and complete project.	• Apply basic techniques to identify and to define problems/projects • Identify the problem/projects. • Prepare details and assembly production drawing for manufacturing type projects. • Define live problems at Industry place.Also prepare necessary drawings for live problem solution at industry place. • Develop generic and managerial skills.	-	-
3.	**Draft project report**	3.1. Prepare draft project report. 3.2. Present the draft project report.	• Eccentric loading: Concept; C-clamp, Bracket, Foundation bolt, Bolts in Flange. • Design of C-Clamp, Bracket, Foundation Bolt and Bolts in flange	-	-
				Total Hours	-

6. List of Practicals / Exercises

The practicals/exercises have been properly designed and implemented in an attempt to develop different types of skills, so that students can acquire the competencies/programme outcomes. Following is the list of practicals/exercises.

Sr. No.	Practical / Exercises	Key Competency	Hours
1.	Preparatory activities: i. Objectives of learning this subject. ii. List attitude dos and don'ts.	• Understand the learning objective of the project work in the field of Mechanical Industry.	4
2.	Basic techniques: i. Identify the topic. Each students identify seperatly. ii. Carry out the market survey for the given topic.(Generate at least ten questions for each of the following basic techniques leading to identify project/problem: Productivity,Quality,Cost/waste reduction,Value analysis. iii. Prepare cause and effect diagram((Teacher will assign the required data) iv. Perfrom SWOT analysis for the self. v. Visit an industry and prepare the report on project which can be undertaken for manufacturing at institute place and/or live problems which can be solved at industry place. vi. Carry out literature survey for basic techniques. OR vii. Define live problems at industry place. Also prepare necessary drawings for live problem solution at industry place. viii. Bill of material & Cost estimation of parts and complete project.	• To develop of inquisitive russ, innovative skill and confidence to work independently. • To participate effectively in group work. • To collect relevant data. • To conduct a survey and investigation. • To develop ability during field project work. • To develop cost consideration. • To assess the financial implication and feasibility of the topic.	40
3.	Draft project report: Prepare draft project report and include following. i. Activities performed at sr.no.2 from b to i. (Questions generated, market survey carried out, fishbone diagram, self SWOT analysis, tutorials, examples, 5-S and 7-S brief techniques, industrial visit outcome, literature survey). ii. Title of project. iii. Details and assembly production drawings prepared with use of software.(AutoCAD/ProE, CREO, etc. OR iv. Description of live problem to be solved at industry place. v. Bill of material & Cost estimation of parts and complete project.	• To relate knowledge various courses in lacking a live problem. • To participate effectively in group work. • To analyse and synthesise the data. • To make appropriate decision. • To prepare a drawings and plans for works. • To prepare the technical reports.	40
		Total Hours	**84**

7. Suggested Specification Table for Evalaution Scheme

Unit No.	Unit Name	Distribution of Topics According to Bloom's Taxonomy					
		R %	U %	Ap %	C %	E %	An %
1.	Introduction	-	-	-	-	-	-
2.	Basic techniques and project problem identification	-	-	-	-	-	-
3.	Draft project report	-	-	-	-	-	-

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

8. Open Sources (Website, Video, Movie)

1) Use of Library
2) Reference books
3) Handbooks
4) Encyclopaedia
5) Magazines
6) Periodicals
7) Journals
8) Visits of industry, and organizations related as per the requirement
9) Internet