Lok Jagruti Kendra University
University with a Difference

Diploma
in
Automobile Engineering

LJ Polytechnic

Course Code:025010106

Automobile Engineering Workshop

Programme / Branch Name	Diploma in Automobile Engineering					
Course Name	Automobile Engineering Workshop				**Course Code**	025010106
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 Teaching Hours**	**Total Credit**	**CA**	**CCE**	**SEE (TH)**	**SEE (PR)**	**Total**
0	0	4	4	2	50	-	-	50	100

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

2. Prerequisite

- ✓ Measure basic quantities/parameters.

3. Rationale

This subject provides a piece of excellent practical knowledge to the entire extent of topics like workshop safety management, carpentry shop, fitting shop, sheet-metal, hand-tools, power tools and other measuring instruments. With the help of this subject, the students will learn the basic automobile workshop practices. Also, they will go to experience the practical usage of different tools along with the best safety practices generally used in workshops and service industries.

4. Objectives

- ✓ Gain skills in basic engineering practice.
- ✓ Classify the hand tools and instruments.
- ✓ Increase measuring, fitting and carpentry skills.
- ✓ Make a modern garage layout by following primary safety rules.
- ✓ Select a suitable hand tool or power tool for essential application.
- ✓ Use suitable testing and servicing tools or instruments for the specified condition.

5. 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.	Demonstration of best safety practices for the workshop.	Safety practice	2
2.	The necessity of the 5S system in workshop practices.	5S system	2
3.	Demonstrate use of different fitting tools –like work holding, marking, measuring, cutting, finishing and miscellaneous.	Fitting shop	2
4.	Prepare one simple and another male-female type fitting jobs as per given drawings- 2 jobs.	Working in the fitting shop	10
5.	Demonstrate the use of different tin smithy tools.	Tin smithy	2
6.	Prepare one tin smithy job as per drawing having shearing, bending, joining and riveting.	Sheet metal work	6
7.	Demonstrate the use of different carpentry tools.	Carpentry shop	2
8.	Prepare two wooden joints as per the given drawings.	Working in the carpentry shop	8
9.	Prepare a layout of a modern Garage of Automobiles.	Garage layout	4
10.	Demonstrate the use of safety equipment and procedures in the garage.	Safety equipment	2
11.	Demonstrate and selection of hand tools.	Hand tools	4
12.	Demonstrate use of instruments, power tools, special-purpose tools.	Power tools	2
13.	Demonstrate the use of various types of measuring instruments.	Measuring instruments	2
14.	Effective management of workshop equipment.	Workshop management	2
15.	Demonstrate maintenance procedure of 2-wheeler vehicle.	Servicing of 2-wheel vehicle	6
		Total Hours	**56**

6. Reference Books

1) The Elements of Workshop Technology by - Vol I & II, S.K. Hajra Choudhury, A.K. Hajra Choudhury, Nirjhar Roy, Media Promoters and Publishers, Mumbai.
2) Automobile Engineering Workshop Manual prepared by Department of Automobile Engineering, LJ Polytechnic, LJ University.
3) Workshop Practice Manual by K.Venkata Reddy, B.S.Publications.