**LESSON PLAN DOCUMENT & LESSON PLAN EXECUTION**

Course : **BE- MECHANICAL ENGINEERING** Academic Year : 2019-2020

Subject Name : MECHATRONICS LABORATORY Semester : V

Subject Code : UDMC5PB Group : -

LP Prepared by : Mr.S.K.Krishnakumar LP Approved by : **DR.R.RAJAVEL**

Designation : Assistant Professor Designation : Professor &Head

Date :24.07.2019 Date : 24.07.2019

**Learning Objective :** **To understand about the method of programming the microprocessor which enable the students to understand the concept of mechatronics.**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| LESSON PLAN DOCUMENT | | | | | LESSON PLAN EXECUTION | | |
| S. No | Topics to be covered | Time (Hr) | Teaching Method | Flipped Class Activity (FCA) | Start Date  ( \_\_ hrs) | End Date  ( \_\_ hrs) | Signature |
| 1 | Introduction &precautions | 2 | WB |  |  |  |  |
| 2 | Study of hydraulic symbols & components | 2 | Practical |  |  |  |  |
| 3 | Reading the Hydraulics circuits | 2 | Practical |  |  |  |  |
| 4 | Setting pressure of the hydraulic power pack | 2 | Practical |  |  |  |  |
| 5 | Operation of a single acting cylinder using 3/2 spring return DCV | 2 | Practical |  |  |  |  |
| 6 | Operation of a double acting cylinder using 3/2 hand lever operated DCV | 2 | Practical |  |  |  |  |
| 7 | Operation of a double acting cylinder using memory valve | 2 | Practical |  |  |  |  |
| 8 | Automatic Operation of a double acting cylinder using limit switches | 2 | Practical |  |  |  |  |
| 9 | Operation of a double acting cylinder using pilot operated spring returned 4/2 DCV | 2 | Practical |  |  |  |  |
| 10 | Speed control of double acting cylinder using flow control valve (Meter in &out circuit | 2 | Practical |  |  |  |  |
| 11 | Multiple cylinders operation normal sequencing (Two cylinders –A+ B+ A- B- | 2 | Practical |  |  |  |  |
| 12 | Operation of a single& double acting cylinder using single solenoid valve | 2 | Practical |  |  |  |  |
| 13 | Operation of a double acting cylinder using double solenoid valve 2 | 2 | Practical |  |  |  |  |
| 14 | Multiple cylinders normal sequencing operation (Two cylinders –A+ B+ A- B-) using electro pneumatic circui | 2 | Practical |  |  |  |  |
| 15 | Architecture of language programming of 8086, Architecture of 8051 Microcontroller | 2 | Practical |  |  |  |  |
| 16 | Stepper motor interface, Multi Process Station-Flow, Speed control of DC motor | 2 | Practical |  |  |  |  |

\*Teaching Method – WB- White Board, Computer Assisted Teaching (CAT), Field Study

# Flipped Class Activity – Product/Process demo,Group Discussion, Quiz, MCQ, Animation/Simulation Video, NPTEL Video,

Video Conf /Virtual Class, Field study, Group Assignment with Web Exploration, Mini-Project,etc.,

**Textbooks and Reference books are as given in syllabus.**

Note: Min. 1 hour and Max. 2 hours only can be allotted in the hour column against the topics to be covered.

**Justification for variance in Lesson plan:**

Planned hours : Executed hours: Variance :

Justification :

**Monitored by DEAN/HOD/Course in Charge**