**LESSION PLAN**

**NAME OF THE FACULTY** : - HIMANSHU YADAV

**DISCIPLINE** : - ECE

**SEMESTER** : - SIXTH

**SUBJECT** : - INDUSTRIAL AUTOMATION

**LESSON PLAN DURATION** : - 15 weeks (from Feb 2024 to JUN 2024)

WORK LOAD (LECTURE/PRACTICAL) PER WEEK (IN HOURS):- LECTURE-**04**, PRACTIACL-**00**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **WEEK** | **THEORY** | | **PRACTICAL** | |
| **LECTURE DAY** | **TOPIC**  **(including assignment/test)** | **PRACTICAL DAY** | **TOPIC** |
| 1st | 1st | Concept ofPLC |  |  |
| 2nd | BuildingblocksofPLC |  |  |
| 3rd | Functionsofvariousblocks, |  |  |
| 4th | limitationsofrelays |  |  |
| 2nd | 5th | AdvantagesofPLCsoverelectromagneticrelays. |  |  |
| 6th | Differentprogramminglanguages |  |  |
| 7th | Differentprogramminglanguages |  |  |
| 8th | Differentprogramminglanguages |  |  |
| 3rd | 9th | Differentprogramminglanguages |  |  |
| 10th | PLC manufactureretc. |  |  |
| 11th | WorkingofPLC |  |  |
| 12th | Basicoperationandprinciples ofPLC |  |  |
| 4th | 13th | BasicoperationandprinciplesofPLC |  |  |
| 14th | ScanCycle |  |  |
| 15th | ScanCycle |  |  |
| 16th | Memorystructures,I/Ostructure |  |  |
| 5th | 17th | Memorystructures,I/Ostructure |  |  |
| 18th | Memorystructures,I/Ostructure |  |  |
| 19th | Programmingterminal,powersupply |  |  |
| 20th | Programmingterminal,powersupply |  |  |
| 6th | 21th | **Assignment-1** |  |  |
| 22th | **SessionalTest-1** |  |  |
| 23th | Basic instructionslikelatch,mastercontrolselfholdingrelays. |  |  |
| 24th | Timerinstructionlikeretentivetimers,resettingoftimers. |  |  |
| 7th | 25th | Counter instructions likeupcounter,downcounter, resettingofcounters. |  |  |
| 26th | ArithmeticInstructions(ADD, SUB,DIV, MULetc.) |  |  |
| 27th | MOV instruction |  |  |
| 28th | RTC (RealTime ClockFunction) |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 8th | 29th | WatchDogTimer |  |  |
| 30th | Comparisoninstructionslikeequal,not equal,greater,greaterthanequal,lessthan,lessthanequal |  |  |
| 31th | Programmingbasedonbasicinstructions,timer,counter,andcomparison instructionsusingladder program. |  |  |
| 32th | **Revision** |  |  |
| 9th | 33th | **Revision** |  |  |
| 34th | **Assignment-2** |  |  |
| 35th | **SessionalTest-2** |  |  |
| 36th | Concept ofDCS |  |  |
| 10th | 37th | Concept ofDCS |  |  |
| 38th | DCSI/Ohardware |  |  |
| 39th | DCSI/Ohardware |  |  |
| 40th | RemoteTerminalUnit |  |  |
| 11th | 41th | RemoteTerminalUnit |  |  |
| 42th | **Revision** |  |  |
| 43th | BlockDiagramofSCADA |  |  |
| 44th | BlockDiagramofSCADA |  |  |
| 12th | 45th | DifferencebetweenOpenArchitectureandDedicatedSystem |  |  |
| 46th | DifferencebetweenOpenArchitectureandDedicatedSystem |  |  |
| 47th | DifferencebetweenDCSandSCADA |  |  |
| 48th | DifferencebetweenDCSandSCADA |  |  |
| 13th | 49th | ElectricalDrives:ACDriveforSpeedandDirection control |  |  |
| 50th | ElectricalDrives:ACDriveforSpeedandDirection control |  |  |
| 51th | ElectricalDrives:AC Drivefor SpeedandDirection control |  |  |
| 52th | ElectricalDrives:ACDriveforSpeedandDirectioncontrol |  |  |
| 14th | 53th | **Revision** |  |  |
| 54th | **Revision** |  |  |
| 55th | **Revision** |  |  |
| 56th | **Revision** |  |  |
| 15th | 57th | **Revision** |  |  |
| 58th | **Revision** |  |  |
| 59th | **Assignment-3** |  |  |
| 60th | **SessionalTest-3** |  |  |