**20ME12P3- ENGINEERING WORKSHOP**

(Common to CE, ME and ECE)

|  |  |  |  |
| --- | --- | --- | --- |
| **Course Category** | Engineering Science | **Credits** | 1 |
| **Course type** | Practical | **Lecture- Tutorial-Practical** | 0-0- 2 |
| **Prerequisite** | No Prerequisite | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |

|  |  |  |
| --- | --- | --- |
| **Course Objectives** | 1. To understand the usage of work shop tools and prepare the models in the trades such as carpentry, fitting, sheet metal & foundry. 2. To understand the usage of wiring tools and to execute house wiring connections. 3. To understand and demonstrate the usage of tools of welding, black smithy and machine tools. | |
| **Course Outcomes** | CO1 | Identify, Distinguish and Choose the tools of various trades (carpentry, fitting, sheet metal, foundry, wiring, welding, black smithy and machine tools). |
| CO2 | Demonstrate and Describe the usage of tools of various trades (carpentry, fitting, sheet metal, foundry, wiring, welding, black smithy and machine tools). |
| CO3 | Documenting the procedure adopted while preparing the model. |
| **Course Content** | **LIST OF EXPERIMENTS**   1. **Carpentry**: Half Lap, Mortise and Tenon and Bridle joint. 2. **Fitting:** Square, V, half round and dovetail fittings 3. **Tin-Smithy:** Tray, cylinder, hopper, cone 4. **House-wiring:** One lamp controlled by one switch, Two lamps (bulbs) controlled by two switches independently, Stair - case connection, Two lamps controlled by one switch in series, Two lamps controlled by on switch in parallel and Water pump connected with single phase starter. 5. **Foundry**: single-piece pattern and Two- piece pattern   **TRADES FOR DEMONSTRATION:**   1. Machine Tools 2. Welding 3. Black Smithy | |
| **Textbooks** | **TEXTBOOKS:**  V. Ramesh Babu, *“Engineering Workshop practice for JNTU”*, VRB Publishers Pvt. Ltd, 2009.  P. Kannaiah, K. L. Narayana, “*Workshop* *Manual”*, SciTech Publishers, 2004.  Jeyapoovan, Saravana Pandian, *“Engineering Practices Lab Manual”*, Vikas Publishers, 2007. | |