**20ME11P2- ENGINEERING WORKSHOP LABORATORY**

(Common to EEE, CSE, IT and AI&DS)

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| **Course Category** | Engineering Science | **Credits** | 1.5 |
| **Course type** | Practical | **Lecture- Tutorial-Practical** | 0-0-3 |
| **Pre-requisite:** | No Prerequisite | **Sessional Evaluation:**  **External Exam Evaluation:**  **Total Marks:** | 40  60  100 |

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| **Course Objectives:** | Students undergoing this course are expected to learn: | |
| 1. The usage of work shop tools and prepare the models in the trades such as carpentry, fitting, sheet metal & foundry. 2. The usage of wiring tools and to execute house wiring connections. 3. To demonstrate the usage of tools of welding, black smithy and machine tools. | |
| **Course Outcomes:** | After completing the course the student will be able to: | |
| **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:** | 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 | |
| **Text Books:** | **Text Books**  1. Engineering Work shop practice for JNTU, V. Ramesh Babu, VRB Publishers Pvt. Ltd,2009  2. Work shop Manual / P.Kannaiah/ K.L.Narayana/ Sci Tech Publishers,2004  3. Engineering Practices Lab Manual, Jeyapoovan, Saravana Pandian, Vikas publishers,2007. | |