

| B. E. MECHANICAL ENGINEERING | | | |
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| Choice Based Credit System (CBCS) and Outcome Based Education (OBE) | | | |
| SEMESTER – III | | | |
| WORKSHOP AND MACHINE SHOP PRACTICE | | | |
| Course Code | 18MEL38A/48A | CIE Marks | 40 |
| Teaching Hours/Week (L:T:P) | 0:2:2 | SEE Marks | 60 |
| Credits | 02 | Exam Hours | 03 |
| Course Learning Objectives: | | | |
| <ul style="list-style-type: none">• To guide students to use fitting tools to perform fitting operations.• To provide an insight to different machine tools, accessories and attachments.• To train students into fitting and machining operations to enrich their practical skills.• To inculcate team qualities and expose students to shop floor activities.• To educate students about ethical, environmental and safety standards. | | | |
| Experiments | | | |
| PART A | | | |
| Sl. No | | | |
| 1 | Preparation of at least two fitting joint models by proficient handling and application of hand tools- V-block, marking gauge, files, hack saw drills etc. | | |
| PART B | | | |
| 2 | Preparation of three models on lathe involving - Plain turning, Taper turning, Step turning, Thread cutting, Facing, Knurling, Drilling, Boring, Internal Thread cutting and Eccentric turning. Exercises should include selection of cutting parameters and cutting time estimation. | | |
| PART C | | | |
| 3 | Cutting of V Groove/ dovetail / Rectangular groove using a shaper. Cutting of Gear Teeth using Milling Machine. Exercises should include selection of cutting parameters and cutting time estimation. | | |
| PART D (DEMONSTRATION ONLY) | | | |
| | Study & Demonstration of power tools like power drill, power hacksaw, portable hand grinding, cordless screw drivers, production air tools, wood cutter, etc., used in Mechanical Engineering. | | |
| Course Outcomes: At the end of the course, the student will be able to: | | | |
| CO1: To read working drawings, understand operational symbols and execute machining operations. | | | |
| CO2: Prepare fitting models according to drawings using hand tools- V-block, marking gauge, files, hack saw, drills etc. | | | |
| CO3: Understand integral parts of lathe, shaping and milling machines and various accessories and attachments used. | | | |
| CO4: Select cutting parameters like cutting speed, feed, depth of cut, and tooling for various machining operations. | | | |
| CO5: Perform cylindrical turning operations such as plain turning, taper turning, step turning, thread Cutting, facing, knurling, internal thread cutting, eccentric turning and estimate cutting time. | | | |
| CO6: Perform machining operations such as plain shaping, inclined shaping, keyway cutting, Indexing and | | | |
| Conduct of Practical Examination: | | | |
| 1. All laboratory experiments are to be included for practical examination. | | | |
| 2. Breakup of marks and the instructions printed on the cover page of answer script to be strictly adhered by the examiners. | | | |
| 3. Students can pick one experiment from the questions lot prepared by the examiners. | | | |
| 4. Change of experiment is allowed only once and 15% Marks allotted to the procedure part to be made zero. | | | |

[Signature]
H.O.D.

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