



MANIPAL UNIVERSITY JAIPUR

School of Automobile Mechanical and Mechatronics Engineering

Department of Mechanical Engineering Course Hand-out

Basic Workshop Practice| ME 1130 | 2 Credits

Session: July 2018 – May 2019 | Faculty: Dr.Ashish Sharma | B.Tech First Year, Semester I/II

Course Outcomes: At the end of the course, students will be able to

MEI130.1 Understanding about the various measuring, marking and cutting tools and Comprehend the safety measures required to be taken while using tools.

MEI130.2 Knowledge about lathe machine and its operations.

MEI130.3 Understand the process of moulding and welding processes.

MEI130.4 Have hands on practice in carpentry and fitting work.

ME1130.5 To fulfils the requirements of present day employers, who demand sound engineering skills employability.

A. SYLLABUS

- i. Introduction: Basic workshop experiments, tools, machines and applications of processes.
- ii. Machine shop (A): Study of parts of lathe machine and lathe operations.
- iii. Machine shop (B): Facing, Turning, Taper Turning and knurling on MS cylindrical work piece.
- iv. Foundry shop (A): Study different types of moulding processes and various tools use for foundry processes.
- v. Foundry shop (B): Prepare a green sand mould and demonstration of casting with molten aluminum.
- vi. Welding shop (A): Study of types of welding process and applications of welding process.
- vii. Welding shop (B): Welding of different types of joint on MS plate with arc welding process.
- viii. Carpentry shop (A): Cut and prepare "T halving joint part A" *.
- ix. Carpentry shop (B): Cut and prepare "T halving joint part B" *.
- x. Fitting shop (A): Cut and prepare mild steel square part and make all the edges at 90 degree*.
- xi. Fitting shop (B): Cut a 10x10 mm Notch on the mild steel Piece and make all the edges of notch at 90 degree *.
- xii. Soldering shop (A): Cut and Prepare part A of the funnel *.
- xiii. Soldering shop (B): Cut and Prepare part B of the funnel *.
- xiv. Plumbing shop: Cut PVC pipe 'work piece' and prepare thread on it.

B. TEXT BOOK

i.H.S. Bawa "Workshop Practice" McGraw Hill Education, 2009

REFERENCE BOOK

İ.S K Hajra Choudhary "Elements of Workshop Technology" Media Promoters & Publishers Pvt. Ltd 2007

