

# **WORKSHOP PRACTICE**

## **ME-151**

**L: 0 T: 0 P: 4 Cr: 2**

### **COURSE OUTCOMES:**

1. To instill fundamentals of materials, properties, various tools and their specifications employed in various shops/trades
2. To understand science and engineering of every task and tool employed in each shop/trade
3. To understand the drawing and specification of various tasks/jobs; plan, operate and acquire tools to make jobs as per specifications
4. Encourage student to use web/computing resources and relate the completed task with real life processes
5. Educate them for safety and security while performing assigned tasks in group of small size, prepare the record of tasks and submit

### **SYLLABUS**

#### **I-FOUNDRY :**

Mould cores, core prints, gates runner, risers, chaplets, common defects in casting, defects due to mould, metal pouring, solidification.

#### **II-METAL JOINING :**

Oxy acetylene gas welding equipment, types of flame, electric arc and contact welding, electrodes and equipments for AC and DC welding, electrode coating functions and constitutes, common welding defects.

#### **III-METAL CUTTING OPERATION AND TOOLS :**

Common metal cutting machine like lathe, milling, shaper, slotter and drill, lathe operations like turning, chamfering, facing, taper turning and knurling, material for lathe tools and other tools, bench grinder and use.

#### **Related Labs :**

1. Gas welding: simple joint like joint.
2. Electric Arc Welding: Simple joints like butt joint.
3. Tin Smithy: Mechanical joining, jobs like box, tray, funnel and soldering of joints.
4. Turning: Plane turning, taper turning, threading, knurling, facing and chamfering on the same job.
5. Shaping: Surface finishing at right angles.
6. Milling: Making a slot two or three surface finishing at angles of 1200C.
7. Drilling: Making drilled holes in plates or flats and grinding the corner of a plate to round.

#### **Text books/ Reference books:**

1. Elements of Workshop Technology by, Choudhary Vol. 1 & 2. Media promoters and publisher, 1996.
2. Workshop Technology, Vol. 1-3 by W A J Chapman, ELB. S