

II Year I Semester

Code: 20ME3103

L T P C

0 0 3 1.5

PRODUCTION TECHNOLOGY LAB

Course Objective:

1. To acquaint the students with primary manufacturing processes.
2. To impart hands-on practical exposure on manufacturing processes and equipment.

Note: Minimum of 10 Exercises need to be performed

I. METAL CASTING:

1. Pattern Design and making - for one casting drawing.
2. Sand properties testing - for strength and permeability
3. Mould preparation, Melting and Casting

II. WELDING:

1. Gas welding
2. Gas cutting
3. Manual metal arc welding - Lap & Butt Joints
4. TIG/MIG Welding
5. Resistance Spot Welding
6. Brazing and soldering

III. METAL FORMING AND POWDER METALLURGY:

1. Blanking & Piercing operations and study of simple, compound and progressive dies.
2. Deep drawing and extrusion operations.
3. Bending and other operations
4. Basic powder compaction and sintering

IV. PROCESSING OF PLASTICS

1. Injection Moulding
2. Blow Moulding

Virtual Lab Links:

- <http://vlabs.iitkgp.ac.in/psac/newlabs2020/vlabiitkgpAM/>
- <http://msvs-dei.vlabs.ac.in/msvs-dei/#>

Course Outcomes:

- CO1 Identify and create basic parts and assemblies using powered and non-powered machine shop equipment
- CO2 Apply basic welding and forming techniques.
- CO3 Familiarize with different manufacturing methods in industries.
- CO4 To become familiar with processing of plastics.