II B. Tech – I Semester

(20ME3103) PRODUCTION TECHNOLOGY LAB

Int. Marks	Ext. Marks	Total Marks		L	T	P	C
15	35	50		-	-	3	1.5

Pre-Requisites: Production Technology

Course Objective:
- To acquaint the students with primary manufacturing processes.
- 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:

A student who successfully fulfills this course requirement will be able to:

S. No	Course Outcome	BTL
CO1	Identify and create basic parts and assemblies using powered and non-powered machine shop equipment	L3
CO2	Apply basic welding and forming techniques.	L2
CO3	Familiarize with different manufacturing methods in industries.	L4
CO4	To become familiar with processing of plastics	L4

Correlation of Cos with POs & PSOs:

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	3	2	3	0	0	3	1	0	3	3	3	3	2	2
CO2	3	2	3	0	0	3	1	0	3	3	3	3	3	1
CO3	3	2	3	0	0	3	1	0	3	3	3	3	3	2
CO4	3	2	3	0	0	3	1	0	3	3	3	3	3	2