

# AMME22 METAL FORMING & POWDER METALLURGY

## UNIT-1 METAL FORMING

1. Construction Flow Stress – Strain curve.
2. Erichsen cupping Test.
3. Determination of interface friction factor using ring compression test.
4. Construction of FLD of a sheet metal.
5. Water hammer forming.
6. Determination of Power consumption in sheet rolling process and wire drawing process.
7. Determination of strain rate sensitivity index of given specimen.
8. Superplastic forming studies on Pb-Sn alloys.
9. Deep drawing.
10. Forward Extrusion process.
11. Micro-forming.
12. Simulation studies on metal forming.

## UNIT-2 FOUNDRY

1. Preparation of green moulding sand i. testing for Compression, shear, tensile, transverse strengths. ii. Hardness in green condition.
2. In dry condition after drying in oven at 150oC for one and half hour.
3. Permeability testing.
4. Determining the clay content.
5. Sieve analysis of dry silica sand.
6. Determining the moisture content.
7. Melting any non-ferrous metal and making simple castings – Demonstration.

### Reference Book:

1. The students can have hands on experience on presses, welding and foundry equipment's. It is useful for students to fabricate structure using welding machine.