Exp. No.1 (Surface Roughness Measurement)
Instrument, Materials and Accessories:
1. Flat, hollow and cylindrical samples.
2. Standard sample (for calibration)

Exp. No.2 (Effect of solidification mode on the shrinkage morphology)
Instrument, Materials and Accessories:
1. Hexachloroethane, (C₂Cl₆) tablets (degassing of aluminum)
2. Sawing blade
3. Cleaning fluxing (kcl-Nacl-NaF)
4. A binary alloys of pure Al, Al-7%Si and Al-12%Si was selected to study
5. Curable furnace
6. A thermometer with thermocouple type chromel-alumel(K-Type)
7. Green sand
8. Dray and cope

Exp. No.3 (Roughness of Turned Surface)
Instrument, Materials and Accessories:
1. Lathe complete with cylindrical steel work piece approximately 300 in length and 76mm in diameter.
2. Carbide cutting tool.
3. Surface finish measuring instrument.
Exp. No.4  (Tool wear in turning operations)

Instrument, Materials and Accessories:

1. Engine lathe
2. Lathe tool with disposable carbide insert (steel-cutting grade)
3. Cylindrical work piece of iron approximately 600mm long and 76mm in diameter
4. Tool makers microscope or low –powder metallurgical microscope with a Calibrated eye piece.
5. Stop watch.