MATERIAL SCIENCE LABORATORY

LIST OF EQUIPMENT

1. **DOUBLE DISC POLISHING MACHINE**
2. **METZER 57 MICROSCOPES**
3. **METALLOGRAPHIC SPECIMEN MOUNTS**
4. **JOMINY QUENCHING MACHINE**
5. **MUFFLE FURNACE WITH DIGITAL CONTROLLER**

1. DOUBLE DISC POLISHER APPARATUS



Double Disc Polisher Apparatus

Equipment Name	Double Disc Polisher Apparatus
Make / Manufacturer	Metsonic Engineers Pvt. Ltd.
Manufacturer Location	Secunderabad
Motor Capacity	0.5 HP
Power Supply	Single Phase
Operating Speed	600 rpm
Number of Discs	Two
Diameter of Each Disc	8 inches
Application / Experiment	Fine polishing of the given specimen

2. METALLURGICAL / COMPOUND MICROSCOPES



Microscopes arranged in the Material Science Laboratory



Additional view of the laboratory microscopes

Description: The photographs show multiple bench-top compound microscopes. Visible components include the eyepiece/head assembly, revolving nosepiece with objective lenses, mechanical stage, focusing controls and base. These instruments are used to observe prepared material specimens and examine their microstructural features.

Equipment Name	Metallurgical / Compound Microscope
Laboratory	Material Science Laboratory
Quantity	Multiple units (exact inventory count to be verified)
Optical Arrangement	Eyepiece and objective-lens assembly (as visible)
Specimen Platform	Mechanical stage with specimen holder (as visible)
Focusing Arrangement	Coarse / fine focusing controls (as visible)

Illumination	Base illumination arrangement (visible on some units)
Make / Manufacturer	Not identifiable from the supplied photographs
Model Number	Not visible / not provided
Magnification Range	Not visible / not provided
Power Rating / Supply	Not visible / not provided

3. METALLOGRAPHIC SPECIMEN MOUNTS



Mounted metallographic specimens supplied for laboratory use

Description: The photograph shows cylindrical mounted specimen samples with different exposed surface shapes. The mounts hold small material samples for grinding, polishing and microscopic examination.

Item Name	Mounted Metallographic Specimens / Specimen Mounts
Quantity	Approximately 25 pieces visible in the photograph
Form	Cylindrical mounts
Specimen Surface	Different exposed specimen geometries are visible
Application	Preparation and microscopic examination of material specimens
Mounting Material / Resin Type	FERROUS AND NON FERROUS

4. JOMINY END QUENCHING MACHINE



EQUIPMENT SPECIFICATIONS

Name of the Equipment	Jominy End Quench Test Apparatus
Water Circulation	Motorized water circulation through water pump with storage and test tank
Test Piece Length	100 ± 0.5 mm
Test Piece Diameter	25 ± 0.5 mm
Height of Free Water Jet	65 ± 10 mm
Distance from Nozzle to Bottom of Test Piece	5 ± 0.5 mm (Approx.)
Water Supply Pipe	Inside vertical water supply pipe
Accessories	Nozzle, specimen holders and pipes for maintaining specific water head
Power Supply	Single Phase, 230 Volts, 50 Hz AC
Standard	IS: 3848-1981 and ASTM A255

5. MUFFLE FURNACE WITH DIGITAL CONTROLLER



MUFFLE FURNACE – EQUIPMENT SPECIFICATIONS

Name of the Equipment	Muffle Furnace
Make / Manufacturer	B.S. Pyromatic India (P) Ltd.
Location of Manufacturer	Chennai
Temperature Range	30°C to 1600°C

Measuring and Controlling Device	Digital LED temperature indication controller with adjustable set point and fast-response probe
Insulation Chamber Size	4" × 4" × 10"
Power Rating	2 kW and above
Insulation Material	Alumina Ceramic Blanket
Purpose / Application	Heating specimens to a specified temperature for heat-treatment processes such as annealing, normalizing, etc.