

MAHARAJA RANJIT SINGH PUNJAB TECHNICAL UNIVERSITY, BATHINDA

**Purchase of Apparatus for Engineering Material & Metallurgy Lab
at PIT, GTB Garh (Moga)**

Sr. No.	Description of Item	Qty.	Unit
1	Practice of specimen preparation (cutting mounting polishing, etching) of mild steel, aluminium and hardened steel specimens. Double Disc Polishing Machines	1	No.
	Two 200MM Aluminum discs over which polishing paper or cloth can be stretched Separate Motors for individual disc of ½ HP Variable speed from 50-1500 RPM Variac Variable Transformer for smooth speed change Single Phase High torque AC Motor Water inlet/outlet for wet polishing. Flexible water jet with control valve. The operation of the machine with 220V AC Complete Powder Coated Body for Corrosion resistant Paper & Polishing Cloth holding Ring. Front control panel with ON-OFF Switch & for Change the speed Machine Dimension (LXWXH: 870x460x570MM) Weight: 50 Kg. Approx.		
2	Study of the microstructure of prepared specimens of mild steel, Aluminum and hardened steel. i) Metallurgical Microscope	1	No.
	ii) Standard Accessories:- Metallurgical Image Analyzer Software, Supplementray lenses, Camera & Software	1	No.
	1) Objective - 5x, 10x, 20x, 40x	1	No.
	2) Eyepiece; WF 10 x (paired)	1	No.
	3) Camera : CCD or digital camera provision	1	No.
	4) Illumination; Light Attachment	1	No.
3	5) Magnification - 50x to 400x	1	No.
	Determination of hardenabilty of steel by jominy End Quench Test: 1) Jominy End Quench Apparatus	1	No.
	2) Jominy Fixture	1	No.
	3) Muffle Furnace (9x4x4) Temp 900-950C	1	No.
Motorized water circulation through water pump with storage and test tank. Standard test piece dimensions length, 100 ± 0.5mm, dia 25mm ± 0.5 x Height of free water jet (without test piece in position) 65 ± 10mm. Distance from tip of nozzle to the bottom of test piece 12.5 ± 0.5mm approx. Inside vertical water supply pipe. The nozzle, specimen holders and pipes for maintaining specific water head are included Power Supply. Single phase 230 Volts 50 Hz A.C. The apparatus is designed in accordance with IS: 3848-1981 & ASTM A-255	1	No.	