

## Maharaja Ranjit Singh Punjab Technical University, Bathinda

Name of Work:		Purchase of Apparatus for Mechanical Measurement & Metrology Lab at PIT GTB Garh	
Sr. No.	Description of Item	Qty.	Unit
1	Measurement of an angle with the help of sine bar		
	Sine Bar	1	No.
	Sine Bar Normal Quality : 200mm	1	No.
	Slip Gauges	1	No.
	Slip Gauge Accessoires Set : INDIAN -Set of 17 pieces	1	No.
	Slip Gauge Accessoires Set : MICRO GERMAN - Set of 17 pieces	1	No.
2	Measurement of surface roughness of a machined Plate, Rod and Pipe		
	Surface Roughness Tester		
	TR110 Roughness parameter Ra, Rz,Rt,Rq Tracing length 6mm Tracing speed 1.0mm/sec Cut-off lengths 0.25mm/0.8mm/2.5mm Evaluation length 1.25mm/4.0mm/5.0mm Measuring range Ra: 0.05-10.0µm Rz: 0.1-50µm Tolerance ±15% Repeatability	1	No.
3	Measurement of gear elements using profile projector		
	Profile projector		
	Profile projector, ..with std. Acc, Mag. upto 100x Screen dia 200mm	1	No.
	Profile projector, ..with std. Acc, Mag. upto 100x Screen dia. 300mm	1	No.
	Measurement of effective diameter of external threads using Three wire method		
	Vernier Caliper		No.
	Mitutoyo : 150mm	1	No.

4	Mitutoyo :200mm	1	No.
	Mitutoyo : 300mm	1	No.
	MICRO GERMAN ; 150mm	1	No.
	MICRO GERMAN 200mm	1	No.
	MICRO GERMAN 300mm	1	No.
	ITI INDIAN : 150mm	1	No.
	ITI INDIAN 200mm	1	No.
	ITI INDIAN 300mm	1	No.
	CHINA : 150mm	1	No.
	CHINA : 200mm	1	No.
	CHINA : 300mm	1	No.
	Micrometer		
	Micrometer, ..0-25mm: Mitutoyo	1	No.
	Micrometer, ..0-25mm: MICRO GERMAN	1	No.
	Micrometer, ..0-25mm: ITI INDIAN	1	No.
	Micrometer, ..0-25mm: CHINA	1	No.
	Vernier Height Gauge		
	Mitutoyo : 12"/300mm	1	No.
	Mitutoyo : 24"/600mm	1	No.
	MICRO GERMAN: 12"/300mm	1	No.
	MICRO GERMAN: 18"/450mm	1	No.
	MICRO GERMAN: 24"/600mm	1	No.
	ITI indian : 12"/300mm	1	No.
	ITI indian :18"/450mm	1	No.
	ITI indian : 24"/600mm	1	No.
	CHINA : 12"/300m	1	No.
	CHINA : 18"/450mm	1	No.
	CHINA : 24"/600mm	1	No.
Measurement of thread element by Tool makers microscope			

5	Tool Maker Microscope	1	No.
	Tool maker microscope, with std. Acc , 30x mag		
6	Calibration of a pressure guage with the help of a dead weight guage tester	1	No.
	Dead Weight Gauge Tester		
	dead weight gauge tester, with std. Acc		
7	Use of stroboscope for measurement of speed of shaft	1	No.
	Stroboscope		
8	Use of pitot tube to plot velocity profile of a fluid through a circular duct	1	No.
	Pitot Tube		
	Pitot Tube Std.		
9	Preparation of a thermocouple, its calibration and application for temperature measurement	1	No.
	Thermocouple Apparatus		
	thermocouple, with Digital Display Unit		