

# Maharaja Ranjit Singh Punjab Technical University, Bathinda

Purchase of FLUID MACHINERY Lab Apparatus for PIT GTB  
Garh, MOGA

**Name of Work:**

**Name of Agency**

Sr. No.	Description of Item	Qty.	Unit	
1	<p>To draw the characteristics of Pelton Turbine</p> <p>Pelton Turbine test Rig</p> <p>Output Power 1 kw Output Power: 1KW or 3 KW.</p> <p>Discharge : 630 LPM (Approx.)</p> <p>Supply Head : 45 m</p> <p>Speed : 1000 RPM (Approx.)</p> <p>Impeller: Material Bucket type.</p> <p>Nozzle: Material Stainless Steel.</p> <p>Spear: Material Stainless Steel.</p> <p>Dynamometer: Rope Brake type, Dia 300 mm.</p> <p>Sump Tank: Capacity 400 Ltrs.</p> <p>Water Circulation: Centrifugal Pump (Kirlosker make), Capacity 15 HP, Three Phase.</p> <p>Discharge Measurement: Pitot Tube with Manometer.</p>	1	No.	
	<p>To draw the characteristics of Francis Turbine</p> <p>Francis Turbine Test Rig, Output Power 1kW</p> <p>UTILITIES REQUIRED: Water Supply and Drain. Electricity 5 kW. 440V AC, Three Phase. Floor Area 2 x 1 m.</p> <p>TECHNICAL DETAILS:</p> <p>Output Power : 1 KW, Discharge : 1000 LPM (Approx.)</p> <p>Supply Head : 10 m (Approx.)</p> <p>Speed : 1000 RPM (Approx.)</p> <p>Runner: Having Curved Vanes.</p> <p>Dynamometer: Rope Brake type.</p> <p>Sump Tank : Capacity 200 Ltrs.</p> <p>Water Circulation: Centrifugal Pump, Standard Make, Capacity 5 HP Three Phase.</p> <p>Discharge Measurement : Pitot Tube with Manometer</p> <p>Control Panel Comprises of : L&amp;T make Starter, Mains Indicator, MCB for overload protection.</p> <p>Instruction Manual : An ENGLISH instruction manual will be provided along With the Apparatus Tanks will be made of Stainless Steel.</p>	1	No.	
	<p>To draw the characteristics of Kaplan Turbine</p> <p>KAPLAN TURBINE TEST RIG</p> <p>UTILITIES REQUIRED : Electricity Supply: Three phase, 420 VAC, 50 Hz, 32 Amp. 4 Pole MCB with earth connection. Water supply (Initial Fill) Floor Drain Required. Floor Area required: 5.5 x 1.5 m Tachometer to measure RPM. Mercury for Manometer (250gms)</p> <p>TECHNICAL DETAILS:</p> <p>Output Power : 3 KW or 1 KW Discharge : 6000 LPM, Supply Head : 5M</p> <p>Speed : 1500 RPM Dynamometer : Rope Brake type, Dia 300 mm. Water Circulation : Centrifugal Pump, Standard Make, Capacity 20 HP Three Phase. Control Panel Comprises of : L&amp;T make, fully automatic starter, Mains Indicator, MCB for overload protection.</p> <p>Instruction Manual : An ENGLISH instruction manual will be provided along with the Apparatus Tanks will be made of Stainless Steel.</p>	1	No.	

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To draw the various characteristics of Centrifugal pump

**Centrifugal Pump test Rig**

**UTILITIES REQUIRED:** Water Suppl, Drain, Electricity 1 kW, 220V AC, Single Phase. Floor Area 2 x 1 m.  
**TECHNICAL DETAILS :**  
 Pump : Kirloskar Make, Capacity 1 HP Speed 2800 RPM (max.), Head 12 m (max.)  
 Medium Flow: Clear Water Drive: 1 HP DC Motor with Thyristor controlled DC drive for variable speed.  
 Sump Tank: Capacity 110 Ltrs.  
 Flow Measurement: Using Measuring Tank with Piezometer, Capacity 70 Ltrs.  
 Stop watch: Electronic.  
 Pressure Gauge : Bourdon type  
 Control Panel Comprises of : RPM measurement: Digital RPM Indicator with Proximity sensor.  
 Energy measurement: L&T make, Electronic Energy meter. Standard make On/Off Switch, Mains Indicator, etc.  
 Instruction Manual: An ENGLISH instruction manual will be provided along With the Apparatus Tanks will be made of Stainless Steel. The whole set-up is well designed and arranged in a good quality painted structure.

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**HYDRAULIC RAM TEST RIG**

**UTILITIES REQUIRED:** Electricity supply: Single Phase, 220 V AC, 50 Hz, 5-15 amp combined socket with earth connection.  
 Water Supply (Initial Fill), Floor Drain required. Floor Area Required: 1.5 m x 0.75 m  
**TECHNICAL DETAILS:** Ram: Supply Head 1.0 m, Delivery Head 4 m (Max.) Water Circulation: FHP Pump, Crompton make.  
 Sump Tank : Capacity 140 Ltrs. (approx.)  
 Overhead Tank : Capacity 50 Ltrs. (approx.)  
 Air Vessel: Suitable Capacity  
 Flow Measurement : Using Measuring Tank & Electronic Stop Watch for waste water and for useful water  
 Pressure Gauge : Bourdon type. Control Panel Comprises of : Standard make On/Off Switch, Mains Indicator, etc. Instruction Manual : An ENGLISH instruction manual will be provided along with the Apparatus Tanks will be made of Stainless Steel. The whole set-up is well designed and arranged in a good quality painted structure.

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