

Ref:

Date: 16/03/12

### **Notice inviting quotation for Hydraulics Lab Equipments**

Competitive quotations are invited for the supply of Hydraulics Machines Lab Equipments to our campus. The quotation along with catalogs, specifications, details of test can be performed, and one photograph able to show the over all size and perfection of equipment should reach the undersigned on or before 31/03/12. The list of equipments with our preferred specification is given below.

The warranty period, all taxes, insurances and transportation charge to our campus must be mentioned clearly in your quotation to avoid rejection.

#### **1. PELTON WHEEL TURBINE TEST RIG**

Pelton turbine	: Turbine Power output 4 HP or above. The turbine cups and Nozzle made Gunmetal casting.
Loading device	: Cast iron brake drum of 300 mm diameter with water cooling arrangement.
Pump	: Kirloskar make Suitable for the turbine / 15 HP 2880 rpm 3 phase size 3 x 2 ½” with discharge 630 LPM at 50 M head.
Flow measuring Device	: Venturimeter made as per ASME standard with 1 M length manometer.
Tank	: Tanks made of 3mm thick MS sheet with fiberglass lining And MS angle reinforcement.
Tank Capacity	: Above 1000Ltrs.
Pipe lines and Valves	: MS Pipe of 3mm thickness welded with flanges and gate Valve.
Pressure gauge	: Fiebig make 4” dial, 0 to 7 Kg/cm
Panel	: Board to house Main Switch & star delta starter
Main switch	: GEM / HPL
Starter	: Automatic L&T star Delta starter.

## **2. FRANCIS TURBINE TEST RIG**

Francis turbine	: The turbine out put 4 HP or above. The turbine Runner and Guide vanes made of Gunmetal casting. The turbine body made of cast iron.
Loading device	: Cast iron brake drum of 300 mm diameter with water cooling arrangement.
Pump	: Kirloskar make Suitable for the turbine / 15 HP 1440 rpm 3 phase size 130 x 130 mm with discharge 2400 LPM at 20 M head.
Flow measuring Device	: Venturimeter made as per ASME standard with 1 M length manometer.
Tank	: Tanks made of 3mm thick MS sheet with fiberglass lining and MS angle reinforcement
Tank Capacity	: 1000 Ltrs.
Pipe lines and Valves	: MS Pipe of 3mm thickness welded with flanges with gate valve
Pressure gauge and Vacuum gauge	: Fiebig make 4" dial, 0 to 4 Kg/cm
Panel	: Board to house Main Switch & manual star delta starter
Main switch	: GEM / HPL
Starter	: Automatic L&T star delta starter

## **3. KAPLAN TURBINE TEST RIG**

Kaplan turbine	: The Turbine out put 3.5 HP or Above. The turbine Runner and guide vanes made of Gunmetal casting. The turbine body made of cast iron.
Loading device	: Cast iron brake drum of at least 300 mm diameter with water Cooling arrangement.
Pump	: Kirloskar make Suitable to your turbine or 20 HP 1440 rpm 3 phase size 10" with discharge 6000 LPM at 6.5 M head ( Mixed flow Pump ).
Flow measuring Device	: Venturimeter with 1 M length manometer.
Tank	: Tanks made of 3mm thick MS sheet with fiberglass lining and MS angle reinforcement.

Tank Capacity	: Above 3000 Ltrs.
Pipe lines	: GI Pipe of 3mm thickness welded with flanges and valve
Pressure gauge	: Fiebig make 4" dial,
Panel	: Board to house Main Switch and star delta starter
Main switch	: GEM / HPL
Starter	: Automatic L&T star delta starter

#### **4. CENTRIFUGAL PUMP TEST RIG**

Pump	: Kirloskar make, Centrifugal 2 HP or above.
Pipelines	: B class pipes with fittings.
Valves	: Gun metal Gate valve for flow control, ball valve for tank drain, foot valve.
Pressure and Vacuum gauge	: Fiebig make.
Tanks	: All tanks made of 3mm MS sheet with fiberglass lining.
Sump tank	: 300 Ltrs
Collecting tank	: 150 ltrs.
Panel	: Board to house Main Switch, starter, and Energy meter
Main switch	: GEM / HPL
Starter	: L&T
Energy meter	: ECE

#### **5. MULTI STAGE CENTRIFUGAL PUMP**

Pump	: Kirloskar make 1Hp or above
Pipelines	: B class pipes with fittings.
Valves	: Gun metal Gate valve for flow control, ball valve for tank drain, foot Valve
Pressure and Vacuum gauge	: Fiebig make.
Tanks	: All tanks made of 3mm MS sheet with fiberglass lining.
Sump tank	: 300 Ltrs

Collecting tank : 150 ltrs.  
Panel : Board to house Main Switch starter ,and Energy meter  
Main switch : GEM / HPL  
Starter : L & T  
Energy meter : ECE

## **6. RECIPROCATING PUMP TEST RIG**

Pump : Kirloskar make 1 HP or Above, 1440 RPM,  
Pipelines : B class pipes with fittings.  
Valves : Gun metal Gate valve for flow control, ball valve for tank drain, foot valve  
Pressure and Vacuum gauge : Fiebig make.  
Tanks : All tanks made of 3mm MS sheet with fiberglass lining.  
Sump tank : 300 Ltrs  
Collecting tank : 150 ltrs.  
Panel : Board to house Main Switch starter ,and Energy meter  
Main switch : GEM / HPL  
Starter : L&T  
Energy meter : ECE

## **7. JET PUMP TEST RIG**

Pump : 1HP Kirloskar make, size 1 1/4" x 1 "x 1" pump.  
Pipelines : B class pipes with fittings.  
Valves : Gun metal Gate valve for flow control, ball valve for tank drain, foot valve  
Pressure and Vacuum gauge : Fiebig make.  
Tanks : All tanks made of 3mm MS sheet with fiberglass lining.

Sump tank : 300 Ltrs  
Collecting tank : 150 ltrs.  
Panel : Board to house Main Switch starter ,and Energy meter  
Main switch : GEM / HPL  
Starter : L&T  
Energy meter : ECE

## **8. SELF PRIMING PUMP TEST RIG**

Pump : 1HP or Above Kirloskar make, size 1 1/4" x 1 "x 1" pump.  
Pipelines : B class pipes with fittings.  
Valves : Gun metal Gate valve for flow control, ball valve for tank drain, foot valve  
Pressure and Vacuum gauge : Fiebig make.  
Tanks : All tanks made of 3mm MS sheet with fiberglass lining.  
Sump tank : 300 Ltrs  
Collecting tank : 150 ltrs.  
Panel : Board to house Main Switch starter ,and Energy meter  
Main switch : GEM / HPL  
Starter : L&T  
Energy meter : ECE

## **9. GEAR PUMP TEST RIG**

Pump : Kirloskar make 1.5 HP, 1440 RPM, 3 phases  
Pipelines : B class pipes with fittings.  
Valves : Gun metal Gate valve for flow control, ball valve for tank drain.  
Pressure and Vacuum gauge : Fiebig make.

Tanks : All tanks made of 3mm MS sheet.  
Sump tank : 100Ltrs  
Collecting tank : 60 Ltrs  
Panel : Board to house Main Switch starter ,and Energy meter  
Main switch : GEM / HPL  
Starter : L&T  
Energy meter : ECE

### **10. SUBMERSIBLE PUMP TEST RIG**

Pump : Kirloskar make, size 1 ½” Submersible pump/motor - 1 HP  
Pipelines : B class pipes with fittings.  
Valves : Gun metal Gate valve for flow control, ball valve for tank drain,  
Pressure : Fiebig make.  
Tanks : All tanks made of 3mm MS sheet with fiberglass lining.  
Sump tank size : 300 ltrs  
Collecting tank : 150 ltrs.  
Flow measuring device: 1 ½” Gunmetal Venturimeter with 1 m manometer.  
Panel : Board to house Main Switch starter ,and Energy meter  
Main switch : GEM / HPL  
Starter : L & T  
Energy meter : ECE

### **11. HYDRAULIC RAM TEST RIG**

Hydraulic Ram : Minimum size Size 1” x ½” Complete with Gun metal Valves enclosed in Fabricated casing..  
Pump : Kirloskar ½ HP mono block self priming pump  
Pipelines : B class pipes with ISI fittings.  
Valves : Gun metal Gate valve for flow control, ball valve for tank drain.

Tanks : All tanks made of 3mm MS sheet with fiberglass lining.

Sump tank size : 500 Ltrs

Supply Tank : 150 Ltrs

Collecting tank size : 150Ltrs.

Pressure gauge : Fiebig make

Supporting stand for  
the supply tank : MS angular stand at a height of about 10 ft.

**Note: All the equipments should be placed over the base or sump tank in order to use it as a self-contained closed circuit unit for conducting experiments.**

**For Rajagiri School Of Engineering And Technology**

**Director**