जा. क्र.: -र.टा .म रा कौ वि / पुणे /MTX LAB/२०२४-२५/६३ दि.१७/०२/२०२५

दरपत्रक सुचना

विषय:- महाराष्ट्र राज्य कौशल्य विद्यापीठ,पुणे पिंपळे गुरव उपकेंद्रावर Fluid Mechanics and Machinery Laboratory चे उपकरणे खरेदी करणेबाबत.

रतन टाटा महाराष्ट्र राज्य कौशल्य विद्यापीठ, मुंबई यांचे कार्यालय एलफीस्टन महाविद्यालय येथे सुरु करण्यात आले आहे. रतन टाटा महाराष्ट्र राज्य कौशल्य विद्यापीठ, मुंबई अंतर्गत, पिंपळे गुरव, पुणे येथे नियमीत वर्ग सुरु करण्यात आले आहेत. B. Tech मेकॅट्रॉनिक्स सत्र ४ मधील विद्यार्थ्यांसाठी Fluid Mechanics and Machinery Laboratory विषयाचे Practical घेण्यासाठी साठी आवश्यक साहित्य खरेदीकरून घेण्याकरिता मा. कुलसचिव, रतन टाटा महाराष्ट्र राज्य कौशल्य विद्यापीठ, मुंबई यांच्या अनुमतीने संस्था / कंत्राटदार यांचेकडून सिलबंद दरपत्रके मागविण्यात येत आहेत.

अंतर्गत पिंपळे गुरव, पुणे येथे नियमीत वर्ग सुरु करण्यात आले आहेत. त्याद्दष्टीने कार्यशाळा सुरु करण्यासाठी Fluid Mechanics and Machinery Laboratory चे साहित्य खरेदी करून घेण्यासाठी आपले दरपत्रक मा. कुलसचिव, रतन टाटा महाराष्ट्र राज्य कौशल्य विद्यापीठ, पिंपळे गुरव, श्रद्धा क्रिटीकल हॉस्पिटल समोर, काशीद नगर, पिंपळे गुरव, पुणे यांच्या नावे दि.२४/०२/२०२५ दुपारी ०३.०० वाजेपर्यंत कार्यालयात पोहचतील अशा पद्धतीने पाठविण्यात यावीत, उशिरा प्राप्त झालेली दरपत्रके स्विकारण्यात येणार नाहीत.

दरपत्रकामध्ये दर नमूद करताना ते सर्व करासहीत, वाहतूक खर्च, लोंडींग अनलोडींग आणि इतर तत्सम खर्चासह असावेत अथवा त्यामध्ये याबाबत स्पष्ट उल्लेख असावा तसेच सिलबंद पाकिटावर करावयाच्या कामाच्या बाबींचा आणि दरपत्रक सादरीकरणाचा अंतिम दिनांकाचा स्पष्ट उल्लेख असावा.

प्राप्त झालेलूया दरपत्रकांपैकी काही अथवा सर्व दरपत्रके नाकारण्याचा अधिकार राखून ठेवण्यात आला असून याबाबतचे कोणतेही कारण देणे बंधनकारक नाही.

प्राप्त झालेल्या दरापैकी कमी असलेल्या दरास काम देण्यात येईल. सदर काम द्यावयाचे सर्व अधिकार मा. कुलगुरू, रतन टाटा महाराष्ट्र राज्य कौशल्य विद्यापीठ, मुंबई यांनी राखून ठेवले आहेत.

(डॉ. राजेंद्र तलवारे)
प्र.कुलसचिव

रतन टाटा महाराष्ट्र राज्य कौशल्य विद्यापीठ, मुंबई

प्रपत्र १

Details of Fluid Mechanics and Machinery Laboratory Pimple Gurav, Pune Centre

Sr. No	Item	Specification	Qty.	Rate Per Unit
1	**Closed circuit Pelton Wheel Turbine Test Rig coupled to rope brake dynamometer. (1 HP capacity output @ 1000 rpm)**	A) Pelton Wheel Turbine Type - Impulse Capacity- 1 hp Rated Speed - 1000 Rpm Runner -120-180 Diameter No of Buckets -12-18 Nos Buckets Material-CI or Aluminum Spear Spindle (Adjustable)- MS Liberal Size. Inlet Bend- Mild steel fabricated Casing - Mild steel B) Loading -Rope Brake Material - Cast Iron Drum Size - 200 Mm Diameter Type - Water Cooled with Scraper Arrangement Rope - 16 mm Diameter Type - Manila Speed -1000 Rpm Spring Balance - 0 To 5 Kg for Error Reading Dead Weight - Slotted Type in Kg C) Supply Pump Set Size - 65 x 50 mm Total Head - 35-meter approx Discharge - 310 LPM approx Motor Capacity - 5 Hp Normal Speed - 2880 Rpm Type - High Speed, Centrifugal, Single Suction Volute. Starting for pump - MCB Pump Make - REPUTED D) Flow Measurement - Orificemeter or Venturimeter Measurement - Hg manometer E) Turbine head Pressure Measurement Pressure Gauge 0-4 Kg/Cm^2 Range F)	01	

		Speed Measurement - Digital Rpm Indicator G) Sump Tank Material - S.S. tank with powder coated Size - 600 X 600 X 600 mm		
2	**Closed circuit (Horizontal Type) Kaplan Turbine Test Rig coupled to rope brake dynamometer Capacity out put :1 HP @ 1000 rpm**	A) Kaplan Turbine Type - Axial Flow Reaction Turbine Capacity - 1 Kw Rated Speed - 1000 Rpm Guide Vanes Blades (adjustable) - Aluminum vanes (Aerofoil shaped) Runner (fixed) - Steel metal type Rated Supply Head - 6 meters Discharge -2000 LPM No. of runner blades - 4 No. of guide vanes - 4 Brake Drum Diameter -200 mm Casing - Cast Iron B) Loading - Rope Brake Material - Cast Iron Drum Size - 200 Mm Diameter Type - Water Cooled With Scraper Arrangement Rope - 16 Mm Diameter Type - Manila Speed - 1000 Rpm Spring Balance - 0 To 5 Kg Dead Weight - Slotted Type in Kg C) Supply Pump Set –Size -80 x 100 mm Total Head -8 meter Discharge-2400 LPM Motor Capacity -5 0R 7.5 Hp Normal Speed-2880 Rpm Type-High Speed, Centrifugal, Single Suction Volute. Starting for pump -MCB Pump Make -Reputed D) Flow Measurement-Venturimeter Material-Cast Iron Measurement-Hg manometer E) Turbine head Pressure Measurement- Pressure Gauge -4 Kg/Cm^2 Range Vacuum Gauge - 0 to 760 mm of Hg F) Speed Measurement -Digital Rpm Indicator G) Sump Tank-S.S .tank with powder coated	01	

		Size-800 X 800 X 600 Mm		
3	**Closed circuit Francis Turbine Test Rig coupled to rope brake dynamometer Capacity out put : 1 HP @ 1000 rpm**	A) Francis Turbine Type-Inward Flow Reaction Capacity -1 hp Rated Speed - 1000 Rpm Guide Vanes Blade (Adjustable)-CI or Aluminum Vanes (Aerofoil Shaped) No of Guide Vanes-8 Nos Brake Drum Diameter- 200 mm Runner-Cast Iron Casing -Cast Iron B) Loading -Rope Brake Material-Cast Iron Drum Size-200 mm Diameter Type-Water Cooled With Scraper Arrangement Rope-16 mm Diameter Type-Manila Speed- 1000 Rpm Spring Balance -0 To 5 Kg Dead Weight- Slotted Type in Kg C) Supply Pump Set - Size -80 x 65 mm Total Head -20 meter Discharge- 1800 LPM Motor Capacity - 5-7.5 Hp Normal Speed -2880 Rpm Type- High Speed, Centrifugal, Single Suction Volute. Starting for Pump -MCB Pump Make - Reputed D) Flow Measurement-Orifice meter or Venturimeter Material-Cast Iron Measurement -Hg manometer E) Turbine head Pressure Measurement Pressure Gauge -0-4 Kg/Cm^2 Range Vacuum head measurements Vacuum Gauge 0 to 760 mm of Hg F) Speed Measurement-: Digital Rpm Indicator G) Sump Tank- S.S. tank with powder coated Size -600 X 600 X 600 mm	01	

4	**Closed circuit Conducting experiments and drawing the characteristic curves of reciprocating pump**	A) Pump- Suguna make, Size 1" x 3/4" Double acting piston pump. B) Motor - ELMO make 1 HP DC , 1500 RPM, 1 phase with drive C) Pipelines - B class pipes with ISI fittings. Valves - Gun metal Gate valve ISI brand for flow control Imported ball valve for tank drain, Gunmetal foot valve ISI Brand D) Pressure & Vacuum Gauge-KI/Fiebig' make 4" dial, 0 to 7 Kg/Cm^2 Range –1 No. 4" dial, 0 to 760 mm of Hg Range –1 No E) Tanks - Stainless Steel 304 grade 16 gauge with ms frame Outer sides of the tanks being powder coated Sump tank size- 1000 x 400 x 400 mm. Collecting tank size-400 x 400 x 600 mm. F) Panel-MS angle stand with Powder coated Main switch and Energy meter. Energy meter-BHEL / ECE Stopwatch-Electronic	01	
5	**Closed circuit Conducting experiments and drawing the characteristic curves of centrifugai pump**	A) Pump-Suguna make, size 1" x 1" single stage Centrifugal B) Motor-ELMO/Eqvt make 1.0 HP DC , 3000 RPM, 1 phase with drive C)Valves-Gun metal Gate valve ISI brand for flow control Imported ball valve for tank drain, Gunmetal foot valve ISI Brand D)Pressure & Vacuum Gauge-KI/Fiebig' make 4" dial, 0 to 7 Kg/Cm^2 Range –1 No. 4" dial, 0 to 760 mm of Hg Range –1 No E)Tanks-Tank is made of Stainless Steel 304 grade 16 gauge with ms frame Outer sides of the tanks being powder coated Sump tank size -1000 x 1000 x 500 mm. Collecting tank size-400 x 400 x 700 mm. F)Panel-MS angle stand with Powder coated Main switch and Energy meter. Switch- 1 set Energy meter- BHEL / ECE Stop Watch-Electronic	01	
6	**Closed circuit Determination of friction factor for a given set of pipes.**	A)Pipelines-B Class GI pipe of 15 & 20mm With pressure tapping at 1 m distance, Pressure distribution manifold, flow control gate Valves and mercury manometer chambers made of Acrylic . B)Water Recirculating Pump-Kirloskar ¼ OR 1/2 HP monoblock self priming pump, with 1.5 cable with plug top. C)Valve-Gunmetal gate valve ISI brand for flow control D)Tanks-Tank is made of Stainless Steel 304 grade 16 gauge with ms frame Outer sides of the tanks being powder coated Sump Tank Size-1000 x 300 x 300mm.	01	

		Collecting Tank Size-300 x 300mm. Stopwatch-Electronic		
7	**Closed circuit Calculation of the rate of flow using Rota meter.**	A) Pipeline: 25 or 20 mm diameter GI or CPVC B) Water Recirculating Pump-0.25 HP Kirloskar. C)Valve-Gunmetal gate valve ISI brand for flow control D)Tanks-Tank is made of Stainless Steel 304 grade 16 gauge with ms frame Outer sides of the tanks being powder coated Sump Tank Size-1000 x 300 x 300mm. Collecting Tank Size-300 x 300 x 300mm. D)Rotameter – 0-100 LPM Stopwatch-Electronic	01	
8	**Closed circuit Determination of the Coefficient of discharge of given Venturi meter**	A)Venturi meter - Gunmetal with tapping orifice meter made Standard size 25mm. B) Pipelines-B Class GI pipe of 25mm with pressure distribution manifold, flow control gate valves & mercury manometer. Manometer chambers made of Acrylic. C)Water Recirculating Pump-Kirloskar ¼ or 1/2 HP Monoblock self-priming pump, with 1.5 cable with plug top. D)Valve-Gunmetal gate valve ISI brand for flow control E)Tanks-Tank is made of Stainless Steel 304 grade 16 gauge with MS frame Outer sides of the tanks being powder coated Sump Tank Size -1000 x 300mm. Collecting Tank Size-300 x 300mm. Stopwatch -Electronic	01	
9	**Closed circuit Determination of the Coefficient of discharge of given Orifice meter.**	A)Venturimeter - Gunmetal with tapping orifice meter made Standard size 25mm. B) Pipelines-B Class GI pipe of 25mm with pressure distribution manifold, flow control gate valves & mercury manometer .Manometer chambers made of Acrylic . C)Water Recirculating Pump-Kirloskar ¼ or 1/2 HP monoblock self-priming pump, with 1.5 cable with plug top. D)Valve-Gunmetal gate valve ISI brand for flow control E) Tanks-Tank is made of Stainless Steel 304 grade 16 gauge with ms frame Outer sides of the tanks being powder coated Sump Tank Size -1000 x 300 x 300mm. Collecting Tank Size-300 x 300 x 300mm. Stopwatch -Electronic	01	
10	Redwood Viscometer to determine Viscosity of given Liquid	Redwood viscometer apparatus are widely used in Petroleum Laboratories, Industries, Oil Refineries, Educational Institutions, Research Organizations for standardization and determines the Viscosity of Petroleum products, which flows in a Newtonian liquid	01	

		except cut back Bitumen's and road oils at the set temperature, They confirm to requirement of IP 70. Two adaption of Redwood Viscometers are available. Redwood Viscometers No. I for liquids having Redwood Flow 20 seconds to 2000 Seconds and Redwood Viscometers No. II exceeds 2000.The complete outfit comprises hemmer tone finish, copper/Stainless steel bath with drain plug, electrical heating arrangement, Suitable to operate at 220 Volts 50 Hz AC mains Or gas heating arrangement with silver plated oil cup with precision stainless steel jet, ball value, cover, thermometer clip, stirrer and suitable stand with leveling screws. The sample required to be tested, is to fill in to the required level as indicated by the gauge in a cup having a Stainless-Steel jet fixed in the bottom. The temperature is maintained during the test by heating the liquid in a bath surrounding the cup, and the flow time for 50 ml of the sample is measured.		
11	**Closed circuit Study and demonstration of Pressure Measuring Devices.**	A) Pipe line: 20 mm diameter GI or CPVC B) Water Recirculating Pump-0.25 HP Kirloskar. C)Valve-Gunmetal gate valve ISI brand for flow control D)Tanks-Tank is made of Stainless Steel 304 grade 16 gauge with ms frame Outer sides of the tanks being powder coated Sump Tank Size-1000 x 300 x 300mm. Collecting Tank Size-300 x 300 x 300mm. D) Pressure gauge, Vacuum gauge, U-tube manometer, Differential manometer, Single tube manometer. Stop Watch-Electronic	01	