

TECHNICAL SPECIFICATIONS

DETAILS OF ITEMS FOR COLLEGE OF MILITARY ENGINEERING

Note :-

1. Appropriate original technical literature / pamphlets supporting the specifications should be provided.
2. Failure to provide the requisite information such as make and model will make the Bid null & void and will not be consider further.
3. Technical specifications as have been asked should be replied with "Yes" or "No" against each item in the "specifications of the item being provided" column and not your own specification be proposed. If higher specifications are available with the Firm a separate comparative statement of specification as have been asked for by this Institution and being offered by the Firm can be attached. Offering your own specification in Tech bid will reject your bid automatically.

Procurement of Trg Eqpt for Mech Lab for FY 2024-25

Ser No	Specification desired by the Faculty	Specifications of item accepted by the vendor
(a)	<p><u>Level Measuring Instrument Workbench (01 Nos)</u></p> <ul style="list-style-type: none"> • DAQ - 1 No (Data acquisition system). • Analog input - 04 Nos • Analog output - 02 Nos • Digital input - 06 Nos • Digital output - 04 Nos • ADC resolution- 24 bit • Two unity gain amplifier-0 to 5v • Ethernet interface- Yes • RS485 interface- Yes • Data logging - Yes • HMI - No (human machine interface) • Supply - +24 V DC • CPU - 32 bits 400 Mhz RISC • Storage - 128 M Flash 64 M DDRAM • Display size - 7 inch • Resolution - 800 X 480 TFT LCD 65536 color • Interface - RS\$*% • Touch screen - High precision four wire resistive <p><u>Type of Level Sensor</u></p> <ul style="list-style-type: none"> • Volumeric pressure sensor-01 Nos • Supply - 90 to 260V AC, 50 Hz • Accuracy - +/- 0.5% of full scale • Output - 4 to 20mA, 2 wire system • Probe body - SS-304 • Rating - Rated at 6A, 230V AC for non-inductive loads • Housing - Single channel wall mounting • Ultrasonic sensor- 1 no • Output - 0 to 5 VDC • Range - upto 5.00 M • Magnet Float sensor-1 No • Supply - +24V DC • Output - 4-20 mA • Sensing - Rod SS304 • Housing - Cast Aluminum weather proof • Supply - +24 DC 	

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	<ul style="list-style-type: none"> • Measurement span- 15 to 50000 pf above zero • Response time- 0.5 s to 5 Second • Accuracy - $\pm 1\%$ FSL • Output - 4 to 20 mA • Range - 0.5 meter • User interface- 4 Digit display with 4 keys and LED • Point to point sensor-1 No • Supply - 5 V DC • Output - 0 or 5 V DC • Sensing - Rod SS304 • Digital panel meter- 2 Nos • Display 4 digit, 7 segment digital display • Key - 3 for digital setting • Input Type - Current • Resolution - 1 or 0.1 degree • Supply voltage - 230 V Ac • Panel Component description push to on switch - 4 Nos • Toggle switch - 4 Nos • Contractor - 1 no • Solenoid valve - 1 No • Pump - 1 no • Sump Tank - 1 No • Capacity - 100 Ltr • Acrylic measuring Tank-1 No 65 Ltr capacity • Manual valve - 03 nos • Caster Wheel - 4 Nos (2 with lock & 2 without lock) • Size - 75 75 mm dimension in mm : H1735 X W1500 X D740 • Included Accessories: • 4mm patch cord 18" : 08 No (yellow) • 4mm patch cord 18" : 8 Nos (blue) • 4mm patch cord 25" : 8 Nos (Red) • 4mm patch cord 25" : 8 Nos (Black) • Ethernet cable : 1 No • Flex chart of equipment • Mannual Hard Copy 	
(b)	<p><u>Study of Strain Gauge (01 Nos)</u></p> <ul style="list-style-type: none"> • Strain gauge 350 Ω - 04 No • Gauge factor - 2:1 • Maximum bearable weight 500 gm • Cantilever material - Stainless steel • Cantilever width - 2.5 cm • Cantilever thickness - 0.16 cm • Cantilever length - 20 cm • Bridge voltage - +8 V DC • Bridge configuration - full bride • Display - 3.5 Digit LED • Product tutorial - hard copy 	

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	<ul style="list-style-type: none"> • Power supply - 230V±10%, 50 hz, 60 hz on request • Power consumption - 3 VA approximate • Dimension (mm) - W 340 X D 240X H 105 • Weight - 3.5 Kg • Operating condition - 0-40degree Celsius 85% RH • Accessories includes - Main cord 01 no standard weight 1 set and USB cable one number • Flex chart of equipment 	
(c)	<p><u>Study of Load cell (01 Nos)</u></p> <ul style="list-style-type: none"> • Maximum bearable weight - 5 Kg • Maximum allowed weight - 500 gm • Load cell type - Strain gauge / shear beam • Bridge voltage - +5 VDC • Bridge configuration - Full Wheat stone bridge • Tact Switch - 2 nos • Display - 16X2 LCD • Tact Switch - 2 Nos (Tare and calibration) • Test point - 4 Nos • Controller - ATMEGA328P • ADC - 24 bit • Product tutorial - On line • Dimension (mm) - W 340 X D 240X H 105 • Weight - 1.5 Kg (approximately) • Operating condition - 0-40degree Celsius 85% RH • Flex Chart of equipment 	
(d)	<p><u>Pin on Disk wear Testing Machine (01 Nos)</u></p> <ul style="list-style-type: none"> • Specimen Contact Geometry-Point, Line and Area • Specimen - Pin, Ball and Disc • Sliding Velocity - 0.5 to 10 m/s • Disc rotation speed - 100 to 2000 rpm • Normal load applied (dead weights) - Up to 20 Kg • .Frictional Force Measurement Range - Up to 20 Kg • Wear Measurement range - ±2mm • Test Duration - 99hrs:59mins:59sec • Wear disc diameter - Ø160mmX8mm (58-60HRC) • Wear Disc - hardened Bearing Steel • Wear Track for sliding Distance- 10 to 140mm • Test specimen Pin Diameter- Ø4mm to Ø12mm • Test Pin Length - 25 to 30mm 	
(e)	<p><u>Diamond Precision Cutting Machine (01 Nos)</u></p> <ul style="list-style-type: none"> • Motor Capacity - 0.25 HP High Torque geared motor • Wheel shaft - ½" dia • Speed Variable from - 50 RPM to 500 RPM • Speed display Digital RPM meter • Weights for loading (selectable) -Upto 250 grams • Weights for balancing 200 grams • Sample Positioning With help of Micrometer, positioning accuracy +/- 0.01 mm • Control Panel Panel to set RPM, ON/OFF 	

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	<ul style="list-style-type: none"> • Power Supply 230 V AC 50 Hz • Features • Machine stops automatically after the cutting is completed (Auto Cut off cycle). Buzzer facility available for completion of cutting cycle • Diamond Cutting blade runs through the coolant to avoid heating of the sample. The Coolant tank can be taken out easily for coolant change. • Loading of the specimen will be effected by placing the weights on the specimen holderarm. • Provision exists for holding samples with Allen screws and chuck. • CDS- 500 will be supplied with specimen holderfor 30 mm dia. moulded or round sample & Coolant tank, with one number of 4" diamond wafering blade. • Optional Accessories: <ul style="list-style-type: none"> (i) Diamond Blades <ul style="list-style-type: none"> (a) 3" x 0.006" x 1/2", 0.2" D.D. (b) 5" x 0.014" x 1/2", 0.2" D.D. (c) 7" x 0.025" x 1/2", 0.2" D.D. (ii) Sample Holders <ul style="list-style-type: none"> (a) For Irregular Shape Samples Upto 38 Mm Sizes. (b) For Irregular Shape Samples Upto 25 Mm Sizes. (c) For Fragile Samples with Soft Jaws. (d) For Longitudinal Shape Samples Upto 40 Mm Long. (e) Sic Dressing Stick. 	
(f)	<p><u>Computerized Pelton Wheel Turbine Test Rig (01 Nos)</u></p> <ul style="list-style-type: none"> • Pelton Wheel:-Fitted with 18 buckets, nozzle for water jet, casing with one side of Perspex sheet. The turbine develops 1 Kw Approx. output power. • Rope brake dynamometer : belt thickness –6mm / drum dia190mm • Water Pump set unit: Suitable pump to supply pressurized water to the turbine at the head of 30 m & 5 H.P.capacity. • Flow Measuring unit: venturimeter & manometer to measure water flow rate. <ul style="list-style-type: none"> (a) Inlet of venturi – 52 mm (b) Throat – 30 mm (c) Pressure Transmitters to measure head. • Pipes and Valves - The Whole piping of pelton turbine is in G.I. (2") & valves are ball valves type made by brass material • Data Acquisition System with PC - Data Acquisition system with software Compatible for Pelton Wheel Turbine Test Rig with PC. 	

(Stamp and Signature of Vendor)