Model Engineering College, Thrikkakara, Kochi 21

TENDER SCHEDULE

Tender No. 10/2022-23/MEC

No. A2/2185/2022/MEC 30.11.2022

Tenders are invited for the supply of Equipments for Mechanial Engineering Lab

Last date for receipt of tender will be 16.12.2022 11am . Late tenders will not be accepted. The tenders will be opened at 12 noon 16.12.2022 in the presence of the tenderers or their authorized representatives who may be present at that time.

Intending tenderers may, on application to the Principal , Model Engineering College, Thrikkakara obtain the requisite tender forms on which tenders should be submitted. Application for the tender form should be accompanied by a cash remittance of ₹500 **+ 18% GST** which is the price fixed for a form/set of forms and which is not refundable under any circumstances. The tender forms are not transferable. Sale of tender forms will be closed at **3pm** on 15.12.2022 . Cheques, postage stamps etc., will not be accepted towards the cost of forms, nor will the forms be sent per V.P.P. Duplicate tender forms, if required will be issued at ₹300 **+ 18% GST and** per copy.

Every tenderer should send along with his tender, an **earnest money of 1 %** of the total cost of the articles tendered (rounded to the nearest rupee) subject to a minimum of ₹ 1500, if the amount calculated at one per cent of the value of the articles tendered for falls below ₹ 1500. If the Government has exempted any firm from furnishing the EMD, they should produce relevant document along with the tender

The successful tenderer shall, deposit a sum equivalent to **5 %** of the value of the quoted value as **security deposit**, less the amount of money deposited by him along with his tender

Place:Thrikkakara

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Detailed specification of the items

Equipments for Mechanical Engineering Lab

S. No.	Name of the Equipment
1.	**Whirling of Shaft Apparatus** (1 Nos) **Technical Description** • A base upon which bearing holders and driving motors (FHP) are coupled. • 2A Variac for controlling speed of driving motor. • The unit should demonstrate the phenomenon of whirling of shaft with single rotor. • Tachometer to be provided to measure the RPM of the shaft/Motor • Different diameter shafts like 03, 04, 05 mm shafts to be provided along with the equipment.
2.	**Gyroscope Apparatus** (1 Nos) **Technical Description** • The unit should consist of a heavy rotor mounted in bearings • To be driven by 100 Watt DC variable speed motor. • There should be weight platform to apply weights • Rotor should be able to move about three axes. • 5 nos. x 500 gram weights to be supplied along with the Apparatus • A variable DC drive for the motor to be supplied • A tachometer/RPM indicator to be provided • A digital stop watch to be provided
3.	**Universal Governor Apparatus** (1 Nos) **Technical Description** • The set-up is to study the working of different governors • Should consist of the main spindle mounted vertically on the base plate. • This spindle to be driven by a 100W variable speed DC Motor (mounted vertically on the same base plate). • Governor assembly should be able to be mounted on spindle. • A DC drive to be provided for controlling the speed of governor • A graduated scale to be fitted to the sleeve to measure the displacement. • A tachometer/RPM indicator is to be provided to measure the speed of governor • Suitable weights to be provided to load the governor.
4.	**Vibration Setup for Experimentation** (1 Nos) **Technical Description:** The apparatus provided should be a comprehensive unit to perform the vibration experiments. A universal frame is provided upon which quick and easy assembly of various experiments can be done. The unit is self-contained to safely store spares. The students can easily assemble the experiments and study the theory of vibrations practically.

	• Exciter Unit : FHP DC Motor with Speed Control Facility • RPM measurement: Digital RPM Indicator with Proximity sensor • Ordinary Chart recorder: For recording Frequency and Amplitude of Vibration. • Stop Watch: Digital Stop Watch • The whole set-up to be arranged on a powder-coated rigid structure **Control Panel:** • Digital RPM Indicator • Standard make On/Off switch, Mains Indicator etc. • Speed Control Unit. Following experiments could be conducted using above equipment: 1. Natural Frequency of Spring Mass System 2. Determine time period, amplitude and frequency of undamped free longitudinal vibration of single degree spring mass systems. 3. Determine time period, amplitude and frequency of damped free longitudinal vibration of single degree spring mass systems 4. Simple Pendulum 5. Compound Pendulum 6. Undamped tensional vibrations of single rotor system. 7. Undamped torsion vibrations of double rotor system.
5.	**Experimental set-up for Nondestructive Test AC/DC** (1 Nos) **Magnetic Yoke Specification:** Pole Distance: 50 to 300 mm Cord Length: 3 mtr Input Supply: 220 V ,50 Hz Max Current Drawn: AC -2.2 AMPS DC 2.5 AMPS Lifting Capacity: at 100 mm pole Distance: 5kg AC Mode 27 kg Dc Mode Yoke Weight: 3.5 Kg **To be included:** • Pie Field Indicator, Red Powder, Black Powder, ASTM Test block • Penetrant & Developer, Cleaner
Total	

- **Rates should be inclusive of taxes ,freight and installation**
- **Supply at Model Engineering College, Thrikkakara**

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