

**COLLEGE OF ENGINEERING TRIVANDRUM**  
**Thiruvananthapuram -16**

**NOTICE INVITING TENDER**

**No.CET/2616/2024-P1**

01-08-2024

Tender ID	:2024_DTE_678654-1
Tender NO	:14/P1/ME/24/CET
Superscription	:Purchase of "a slow speed single cylinder diesel engine test rig" in heat engines lab of Mechanical engineering dept.
Last date and time of receipt of tender on the website (www.etenders.kerala.gov.in)	:21/08/2024 3.p.m
Date and time of opening of tender	:23/08/2024 11.a.m
Date up to which the rates are to be firm	:23/02/2025
Tender Cost	:RS.708/-(RS 600/- + 18% GST)
EMD required	:RS. 2800/-
<b>Address of the Officer to whom hard copy is to be send.</b>	THE PRINCIPAL, COLLEGE OF ENGINEERING TRIVANDRUM, THIRUVANANTHAPURAM-695016, KERALA

Specifications are attached as Annexure

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**General conditions**

1. The price quoted should be inclusive of all taxes, freight charges, delivery, transporting, packing, shipping, loading and unloading charges, installation and commissioning charges and should be furnished unambiguously.
2. Payment: 100 % after successful supply, installation, and satisfactory performance.
3. The item should have a minimum warranty of 3 year.
4. Delivery Period: Maximum Delivery period will be 60 days from the date of receipt of supply order.
5. The item should be supplied at Heat engine Lab, Mechanical Engineering Department of this institution
6. Agreement as per NIT 2 in Rs.220/- Kerala Stamp Paper and tender form should be uploaded.
7. 5% security deposit along with agreement should be furnished within a month/fortnight

from the date of receipt of supply order.

8. Date of opening of tender : In case the proposed date declared as holiday, the tender will be opened on the next working day.
9. Only GST registered firms can participate in the Tender. GST number must be mentioned. The firm under composition scheme must mention the words "Composition taxable person" in their documents and should submit proof for that.
10. After E-Tendering the hard copy of documents should be submitted before the opening date.

NB: The Tender procedure will be made as per Rules mentioned in the Revised Store Purchase Manual.

The bidders should participate this tender through E-Tendering System. Tender cost and EMD should be submitted only through online. For more details Contact Ph.0471 2577088, 0471 2577188, 0471 257388,0471 257388, 0471 2515760, 9884402791

SL NO	ITEM	QTY	DESCRIPTION	PURPOSE
1	SLOW SPEED SINGLE CYLINDER DIESEL ENGINE TEST RIG	1	<p>ENGINE SPECIFICATIONS:</p> <p>1) Brand New single cylinder water cooled slow speed diesel engine (Field Marshal or Kirloskar make) with following engine specifications required            Power: 6 hp            Rated r.p.m: 660            Bore: 114.3 mm            Stroke: 139.7mm            No. of cylinders: 1            Compression ratio 17:1            Method of starting: Handle start</p> <p>All necessary documents such as purchase bill of engine etc (in original) and details related to the purchase of the above mentioned new engine shall be provided during the time of installation and demonstration of the test rig.</p> <p>LOADING ARRANGEMENT:</p> <p>2) Mechanical loading with brake dynamometer, belt and spring balances (2 No.s).</p> <p>OTHER REQUIREMENTS:</p>	For conducting various thermal lab experiments of B Tech Mechanical, Industrial and PG students.

3) Air box with calibrated orifice meter and u tube manometer for air consumption measurement of engine.

4) 5L fuel tank and CC tube for measuring the fuel consumption

5) Exhaust gas calorimeter fitted to engine exhaust for heat balance test purpose.

6) Good quality calibrated K type thermocouples, temperature shift knob and temperature indicator for measuring temperature at different points

Temperature measurement provisions:

Provisions shall be made for measuring

- Temperature of water inlet to engine.
- Temperature of water outlet to engine.
- Temperature of exhaust gas outlet to engine.
- Temperature of exhaust gas outlet to calorimeter.
- Temperature of water inlet to calorimeter.
- Temperature of water outlet to calorimeter.
- Temperature of ambient air.

7) Calibrated rotameters or water meters (2 no.s), one for measuring the flow rate of engine cooling water and one for measuring the flow rate of calorimeter cooling water . Gate valves for adjusting the flow rate

8) RPM sensor with rpm indicator for engine speed measurement.

9) Powder coated panel: U tube manometer for air consumption measurement, CC tube for fuel consumption measurement, Temperature knob and indicator for temperature measurements, rpm indicator. All these measurement facilities shall be provided on the powder coated control panel for easy demonstration.

10) Engine and loading arrangement shall be mounted on the metallic mounting frame with 6nos(minimum) of vibration mounting bush of sufficient capacity.

11) Fuel cut off provision for conducting the retardation test shall be provided.

12) Retardation test, Load test and Heat balance test on the engine shall be successfully demonstrated and self explanatory instruction manual for these experiments with sample calculation shall be provided.

		Any other devices, instruments etc which are not mentioned but are essential for conducting the tests/experiments mentioned above shall be supplied/provided along with the engine test rig	
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**Terms and Conditions:**

1. Minimum three year onsite warranty for all Mechanical and Electronic parts should be provided. During the above mentioned warranty period for the equipment, the company/supplier of the equipment shall have the responsibility of changing the defective part/parts in the equipment. The change of the defective part/parts during the warranty period and subsequent maintenance and restoration of equipment to working condition shall be done within 20 days of reporting of the fault/defects associated with the equipment from our side
2. Prices quoted should be inclusive of all taxes, freight charges, insurance charges, loading and unloading charges, installation, commissioning and demonstration.
3. Details of the list of institutes supplied previously for the above equipment or similar equipment should be furnished while quoting/tendering.

Digitally Approved by  
DR.SAVIER J S  
PRL CET

The document is digitally approved. Hence signature is not needed.