SHIVAJI UNIVERSITY, KOLHAPUR

Department of Technology

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Accredited By NAAC

INVITATION FOR QUOTATION

TEQIP-II/2016/MH1G05/Shopping/129 **05-Dec-2016**

To,

Sub: Invitation for Quotations for supply of Goods

Dear Sir,

1. You are invited to submit your most competitive quotation for the following goods with item wise detailed specifications given at Annexure I,

Sr. No	Brief Description	Quantity	Delivery Period(In days)	Place of Delivery	Installation Requirement (if any)
1	COMPUTERIZED ENGINE TEST SET-UP FOR 3 CYLINDER MPFI PETROL ENGINE	1	60	Department of Technology Shivaji University Kolhapur	yes

2. Government of India has received a credit from the International Development Association (IDA) towards the cost of the **Technical Education Quality Improvement Programme[TEQIP]-Phase II** Project and intends to apply part of the proceeds of this credit to eligible payments under the contract for which this invitation for quotations is issued.
3. Quotation,

3.1 The contract shall be for the full quantity as described above.

3.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.

3.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.

3.4 Applicable taxes shall be quoted separately for all items.

3.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

3.6 The Prices should be quoted in Indian Rupees only.

4. Each bidder shall submit only one quotation.
5. Quotation shall remain valid for a period not less than **45** days after the last date of quotation submission.
6. Evaluation of Quotations,

   The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

   6.1 are properly signed ; and

   6.2 confirm to the terms and conditions, and specifications.
7. The Quotations would be evaluated for all items together.
8. Award of contract:

   The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

   8.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.

   8.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
9. Payment shall be made in Indian Rupees as follows:

   Delivery and Installation - 90% of total cost

   Satisfactory Acceptance - 10% of total cost
10. All supplied items are under warranty of **12** months from the date of successful acceptance of items.

11. You are requested to provide your offer latest by **18:00** hours on **20-Dec-2016 .**
12. Detailed specifications of the items are at Annexure I.
13. Training Clause (if any) **Yes**
14. Testing/Installation Clause (if any) **YES**
15. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
16. Sealed quotation to be submitted/ delivered at the address mentioned below,
    Department of Technology, Shivaji University Kolhapur Maharashtra
17. We look forward to receiving your quotation and thank you for your interest in this project.

Sd/-

(Authorized Signatory)

Name & Designation

Annexure I

Sr. No	**Item Name**	**Specifications**
1	COMPUTERIZED ENGINE TEST SET-UP FOR 3 CYLINDER MPFI PETROL ENGINE	ENGINE: Make Maruti, Model Maruti OMNI, Type 3 Cylinder, 4 Stroke, Petrol (MPFI), water cooled, Rated Power 27.6Kw at 5000 rpm, Rated Torque 59 NM at 2500rpm,stroke 72 mm, bore 66.5mm, 796 cc, CR 9.2 DYNAMOMETER EDDY CURRENT WITH CLOSED LOOP, MULTIMODE CONTROLLER - EDDY CURRENT DYNAMOMETER Maximum Power –70 BHP @ 4100 to 10000 RPM Maximum Torque – 120 N-m @ @ 1200 to 4100 RPM Max RPM capability -10000 RPM **** DYNAMOMETER Power v/s Speed and Torque v/s Speed Capacity CurvesMUST be submitted with Quotation DYNAMOMETER Controller – 3U Rack with PID Cards and Current Controller Must be a Closed Loop Controller with following modes of operation ? Constant Current Mode ? Constant Speed Mode (With Control accuracy of ± 10 RPM) ? Constant Torque Mode (With Control accuracy of ± 0.5% of Max Torque) DYNAMOMETER SAFETY'S Required, LOW WATER FLOW, HIGH WATER OUTLET TEMPRATURE etc CONTROL PANEL – 19" Rack type Control Panel should be provided with 5 meters Cable loom Common Base Frame: - The engine and dynamometer are mounted on a Common Rigid Channel Frame,

		which can be directly mounted on the foundation block Cardan Shaft: - A Suitable Cardan Shaft for connecting Engine to Dynamometer is provided Cardan Shaft Guard fabricated from at least 5 mm thick MS Plate / Pipe for protection from rotating shaft. Fuel Flow Measurement -Gravimetric for MPFI Engine Test Rigs with RS232 interface for interfacing to software provided with accuracy of 1 gram Exhaust Gas Calorimeter System with Computerized, Cooling Water Flow-rate and Computerized Temperature Measurement for measuring heat carried away by exhaust gases – consisting of cooling water arrangement for exhaust gases, a water flow transmitter with 4-20 mA Output for measuring rate of flow of water. 6 Nos. temperature sensors are provided for measuring various temperatures required for heat balance sheet with PT-100 / Cr-Al thermocouples. Computerized Air Flow Measurement Set-up consisting of calibrated system based on Pressure across Orifice of Orifice meter. A precision Differential Pressure Transmitter with accuracy better that 0.5% should be provided and interfaced with PC software for logging the differential pressure and calculating the Air Flow Rate P-V system It consists of a the following Sensor Type : KISTLER MAKE 6613CQ09, Non Cooled, 100 Bar Pressure Range Crank Angle Sensor – 1 Degree Resolution NI® Card USB 6210) for Triggered Data Acquisition with suitable NI Driver for the same Windows based software for Pressure v/s Crank-angle, P-V, IHP, and IMEP analysis. Software with License for Carrying out the analysis of the engine test carried out to Display various parameters on the Monitor, Store the Test Data to a File and then Create reports of Test Analysis, which can be printed by means of Printer Provided. Following Tests and Characteristics should be possible Full and part load performance; Volumetric Efficiency; Air / Fuel Ratio at various loads Heat Balance Sheet and Energy studies; Heat release calculation B.H.P. , I.H.P. & Mechanical Efficiency; Brake Thermal Efficiency Indicated thermal efficiency; Specific Fuel Consumption; Variable Speed Test at Fixed Throttle Performance Variable Load at variable throttle Performance HIGHLIGHTS – 1) Export of Average Combustion Cycle Date at Each Load to Excel 2) Export of 120 Consecutive Combustion Cycles to MatLAB format DYNAMOMETER AND CONTROLLER WARRANTY – Minimum 3 Years ONSITE Warranty to be provided for Dynamometer and Controller. EQUIPMENT WARRANTY – minimum 12 months warranty from the acceptance of goods by technical committee will be applicable on equipment other than dynamometer

FORMAT FOR QUOTATION SUBMISSION

(In letterhead of the supplier with seal)

Date: _____

To:

_____

_____

Sl. No.	Description of goods (with full Specifications)	Qty.	Unit	Quoted Unit rate in Rs. (Including Ex Factory price, excise duty, packing and forwarding, transportation, insurance, other local costs incidental to delivery and warranty/ guaranty commitments)	Total Price (A)	Sales tax and other taxes payable	
						In %	In figures (B)
Total Cost							

Gross Total Cost (A+B): Rs. _____

We agree to supply the above goods in accordance with the technical specifications for a total contract price of Rs. ———————— (Amount in figures) (Rupees ————————amount in words) within the period specified in the Invitation for Quotations.

We confirm that the normal commercial warranty/ guarantee of ———————— months shall apply to the offered items and we also confirm to agree with terms and conditions as mentioned in the Invitation Letter.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery.

Signature of Supplier

Name: _____

Address: _____

Contact No: _____