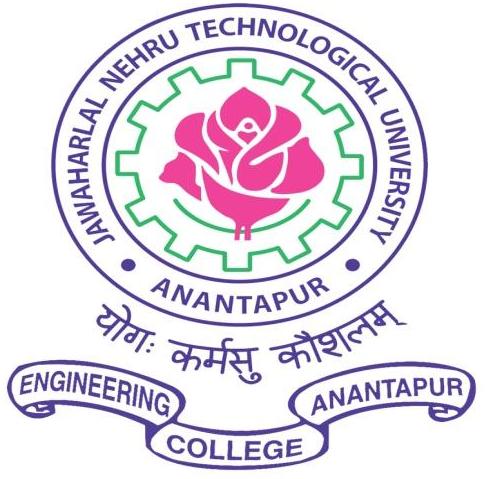
**INVITATION TO TENDER**

**AND**

**INSTRUCTIONS TO TENDERERS**

**FOR THE SUPPLY OF COMPUTERIZED VCR MULTI FUEL ENGINE WITH ACCESSORIES FOR MECHANICAL ENGINEERING DEPARTMENT**

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**COLLEGE OF ENGINEERING (Autonomous),**

**ANANTHAPURAMU – 515 002 (A.P)**

**1**

**JNTUA COLLEGE OF ENGINEERING, ANANTHAPURAMU**

INVITATION TO TENDER AND

INSTRUCTIONS TO TENDERERS

**FOR THE SUPPLY OF COMPUTERIZED VCR MULTI FUEL ENGINE WITH ACCESSORIES FOR MECHANICAL ENGINEERING DEPARTMENT**

**JNTUA College of Engineering, Ananthapuramu** invites tenders for the supply of computerized VCR Multi Fuel Engine with accessories to the department of Mechanical Engineering of JNTUA College of Engineering, Ananthapuramu, as per specifications given in the schedule attached to the Tender form annexed hereto. All offers should be made in English and should be written in both figures and words.

The tender schedules can be obtained from the Principal, JNTUA College of Engineering, Ananthapuramu on payment of Rs.2,360/- (Rs.2,000/- + GST 18%) in the form of crossed Demand Draft on any Nationalised Bank drawn in favour of the “Principal, JNTUA College of Engineering, Ananthapuramu” payable at Ananthapuramu. Alternatively the tender schedules can be down loaded from the website [**www.jntuacea.ac.in**](http://www.jntuacea.ac.in)**.** Such vendors who use downloaded tender schedules for submitting bids must enclose a demand draft for Rs.2,000/- + GST 18% towards the tender fee along with the bid in addition to EMD, otherwise the bid will be rejected.

**Note: The DD for Rs.2,360/- (Rs.2000+GST 18%), towards the tender document fee, drawn in favour of the Principal, JNTUA College of Engineering, Ananthapuramu on any Nationalized bank should have been obtained not before 13-12-2017.**

Tender fee once paid is neither refundable not adjustable for other tenders.

The JNTUA College of Engineering, Ananthapuramu reserves the right to select the item or to reject it. The JNTUA College of Engineering, Ananthapuramu also reserves the right to revise or alter the specifications of the computerized VCR Multi Fuel Engine with accessories for mechanical engineering department control systems lab equipment before acceptance of any tender.

Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored, and rejected.

**EMD:**

A Demand Draft, for **Rs.16,000/-** (Rupees Sixteen Thousand only) drawn in favour of the “Principal, JNTUA College of Engineering, Ananthapuramu”, towards EMD must accompany the tender. Those tenders without EMD will be rejected. The EMD will be refunded to all the unsuccessful tenderers only after the purchase orders are placed on the successful tenderer. The successful tenderer has to deposit an additional amount at **3%** on the contract value as Security Money Deposit.

The final acceptance of the material will be made only after delivering at our end in good condition and subject to satisfying all the specifications given by the University/College.

**2**

**BID PRICE:**

1. The contract shall be for the full quantity as described in the tender. Corrections, if any, shall be made by crossing out, initialing, dating and re-writing.

2. All duties, taxes and other levies payable by the vendor shall be included in the total price. Further, it is to be noted that JNTUA is registered with the Department of Scientific

& Industrial Research (DSIR) for availing Customs/Central Excise duty exemption and

the prices shall be quoted accordingly.

3. The rates quoted by the bidder shall be fixed for the duration of the contract and shall be

included in the total price.

4. The prices should be quoted in Indian Rupees only.

5. The prices should be quoted with FOR destination.

6. Packing, forwarding, insurance etc to vendors account.

7. After satisfactory installation, testing and demonstration, training has to be provided to

faculty and staff to the satisfaction of the purchaser at vendor’s cost.

8. The operation and maintenance manuals and lab manuals are to be supplied at vender’s cost.

9. All essential accessories cost must be included in the price quoted.

10. The cost of essential spares are to be quoted separately. This will be taken to into consideration while bids are evaluated.

11. Price bids are to be essentially signed by the vendor or person authorized by him.

12. Each bidder shall submit only one quotation. Alternatives offer option, if any, must be quoted in separate tender schedule.

**VALIDITY OF QUOTATION**

Quotation shall remain valid for a period of three months after the deadline date specified for submission. The vendor shall extend the validity if required.

**BIDDER QUALIFICATIONS**

1 . The bidder must be ISO 9001-2008 certified company

2 . Bidder must be a registered company with Goods & Service Tax, Sales Tax and Excise

Departments and a true copy of the such registration documents (PAN, GST, VAT,

Service Tax & TIN) should be submitted along with the bid.

3 . The bidder should submit the financial turnover report for the last three years.

4 . The bidders should submit the list of customers (Govt. Organizations/Universities) along with year of supply and details of equipment supplied.

5 . The bidders should submit Satisfactory Performance Certificates from the customers of

this equipment. The product approval certificate, if any, from reputed organizations may also be submitted.

**3**

6. Bidder debarred/ blacklisted by any Central or State Govt. / Quasi –Govt. Departments or organizations as on bid calling date for non-satisfactory past performance, corrupt, fraudulent or any other unethical business practices shall not be eligible.

7. The Principal, JNTUA College of Engineering, Ananthapuramu reserves the right to assess the capacity / capability of the suppliers in the overall interest of the Institute without assigning any reason.

**EVALUATION OF QUOTATIONS:**

The purchaser will evaluate and compare the quotations determined to be substantially responsive i.e; whether they are

1. Properly signed;
2. Conform to the terms and conditions, and specifications mentioned in this tender.
3. The quotations unless otherwise specified would be evaluated separately for each item, and
4. If the bidder is not the Original Equipment Manufacturer (OEM) they must Provide an authorization certificate from the Original Equipment Manufacturer, stating that the bidder is an approved agent of OEM and service warranty will be guaranteed by OEM in case the agent’s license is aborted or any other reason whatsoever during the warranty period.

**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.

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.

2. The institution reserves the right to place the orders for individual items with different tenders.

**3. Right to Acceptance:**

The Principal, JNTUA College of Engineering, Ananthapuramu does not bind himself to accept the lowest on any tender and reserves to himself the right of accepting the whole or any part of the tender or portion of the quantity offered the tenderer shall supply the same at the rate quoted.

4. The bidder, whose bid is accepted, will be notified for the award of contract by the purchaser prior to expiry of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

**4**

**DELIVERY:**

All the goods ordered shall be delivered with proper packing within 30 days from the date of issue of order. All the goods shall be delivered at JNTUA College of Engineering, Ananthapuramu.

**TERMS OF PAYMENT:**

a) Payment shall be made by the Principal, JNTUA College of Engineering, Ananthapuramu, after delivery at the specified location, and after installation, commissioning and satisfactory demonstration of the goods with all specifications and standards to the entire satisfaction of the college.

b) The bidder may give the details of bank and Account into which the payments are to be made.

c) Normal commercial warranty/guarantee shall be applicable to the supplied goods.

**DELIVERY OF TENDER:**

Bids for schedule of the tender is to be placed in separate envelope, clearly mentioning schedule No. on it. The Envelope must be super-scribed with the reference No. (JNTUACEA/ MED/TENDER/11-2017/Schedule No.ME/12/2017 dated: 13-12-2017)

The sealed tender should be addressed to:

**The Principal,**

**JNTUA College of Engineering,**

**Ananthapuramu,**

**Pin code: 515 002.**

**Bids in sealed covers should reach the above address latest by 4:00 PM hours on 02-01-2018. Tenders submitted after the specified time shall not be considered and no intimation will be sent in this regard.**

The college reserves the Right to reject any tender which fails to comply with the above instructions. All tenders should be sent by Post or through messenger, to drop the tender in the sealed tender box provided in the office. It is the responsibility of the tenderer to see that his tender offer is delivered by the specified time at the above address. All further communication should be addressed to the officer named above and by title only.

**OTHER TERMS:**

Tenderer should make their representative available on **04-01-2018** at 4:00 PM at the time of opening tenders in the chambers of Principal or any other designated place within the college.

The tenderer should produce Goods and Service Tax (GST)& Value Added Tax (VAT) Registration certificate.

**Tenderer should be responsible and bear any price escalation within the validity period and also after the indent has been placed till the supply.**

**Sd/- PRINCIPAL**

**5**

**BID PARTICULARS**

1. Name of the Supplier :

2. Address of the Supplier :

3. Address of the Show Room/Workshop :

4. Display of goods : Yes / No

5. EMD enclosed : Yes / No

DD No.\_\_\_\_\_\_\_\_\_\_\_\_\_ Bank:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Amount\_\_\_\_\_\_\_\_\_

6. Name and address of the officer to whom all reference shall be made regarding this tender enquiry

Name :

Address :

Telephone No. :

Fax No. :

Mobile No. :

e-mail :

website :

**6**

**FORMAT OF QUOTATION**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.No.** | **Schedule No...(As given in the Annexure)** | **Description Goods** | **Specifications** | **Qty.** | **Unit** | **Quoted Unit rate in Rs.** | **Total Amount** | |
| **in Figures** | **in words** |
|  |  |  |  |  |  |  |  |  |

**Gross Total Cost: 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 also confirm that the normal commercial warrantee / guarantee of ............... months shall apply to the offered goods.

**Signature for Supplier**

**with seal**

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**ABSTRACT OF EQUIPMENT**

Name of the Equipment: **Computerized VCR Multi Fuel Engine with Accessories**

Department: Mechanical Engineering

|  |  |  |
| --- | --- | --- |
| Schedule No. | Sl.No. | Name of the Equipment |
| *--* | 1. | COMPUTERIZED VCR MULTI FUEL ENGINE WITH ACCESSORIES |

A detailed specification of equipment is given in ANNEXURE.

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**Grams:”ENGCOL” Phone: 08554-273013, 273001**

|  |  |
| --- | --- |
| **JNTU college emblem copy** | **JAWAHARLAL NEHRU TECHNOLOGICAL**  **UNIVERSITY ANANTAPUR**  **COLLEGE OF ENGINEERING (Autonomous), ANANTHAPURAMU-515002 (AP)** |

|  |
| --- |
| **Rc.No. JNTUACEA/MED /TENDER/11-2017/Schedule No: ME/12/2017 Date:** **13-12-2017**  **TENDER NOTICE**  Sealed tenders are invited from the reputed dealers / suppliers for the supply of Computerized VCR Multi fuel Engine with Accessories for Mechanical Engineering of JNTUA College of Engineering, Ananthapuramu.  Details of the tender can be obtained from the undersigned from **04-01-2018** on payment of Rs. 2000.00 + GST 18% (Non refundable) in the form of Demand Draft payable at Ananthapuramu favouring of **The Principal, JNTUA College of Engineering, Ananthapuramu (A.P)** drawn on any nationalized bank, not before **13-12-2017**. The tender document can also be downloaded from our website **www.jntuacea.ac.in.**    The sealed tenders should reach the undersigned on or before **02-01-2018** **by 4.00 p.m.**  **Sd/-**  **PRINCIPAL** |

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***ANNEXURE-1***

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.No.** | **Item** | | **Quantity** |
| 1. | Computerized VCR Multi Fuel Engine with Accessories | | 01 |
| **Technical Specifications** | | |  |
| Engine | | Single cylinder, 4 stroke (Computerized) VCR Engine |  |
| Cooling | | Water Cooled |  |
| Power | | Diesel: (3.5kW) Petrol: (4.5kW) |  |
| Rated Speed | | 1600-1800rpm |  |
| Bore | | 87.5 mm |  |
| Stroke | | 110mm |  |
| Swept Volume | | 661 cc |  |
| Engine Start | | Electric Start with Battery & Alternator for charging the battery |  |
| Compression Ratio for Diesel mode | | 12:1 to 18:1 |  |
| Compression Ratio for petrol Mode | | 6:1 to 10:1 |  |
| Diesel mode | | 3.5 kW, 1600-1800rpm, CR range 12-18. Injection Variation:0-250 BTDC |  |
| Petrol mode | | 4.5 kW@1800 rpm, Speed range 1000-1800 rpm, CR range 6-10 |  |
| Dynamometer | | Swinging Field Eddy current dynamometer, Water Cooled, Capacity 7.5 kW with electronic controller |  |
| Propeller shaft | | With universal joints |  |
| Air box | | M.S. fabricated with orifice meter and manometer |  |

|  |  |  |
| --- | --- | --- |
| Fuel tank | Capacity 10 Lit, Type: Duel compartment, for Petrol & Diesel |  |
| Exhaust Gas Calorimeter | Pipe in Pipe Type |  |
| Combustion Pressure Sensor | Piezo sensor, Range 100 bar with low noise cable (Make PCB or equivalent imported) |  |
| Crank Angle Sensor | Resolution 1 Deg, Speed 5500 RPM with TDC pulse |  |
| Data Acquisition System | NI USB-6210, 16-bit, 250 kS/s.  (Make National instruments, USA) |  |
| Temperature Sensor | Type RTD, PT100 for ambient and Thermocouple, Type K for Exhaust gas & water |  |
| Temperature Transmitter | Type two wire, Input TRD PT100,  Range0-100 Deg C, Output 0-10V DC |  |
| Load Sensor | Load Cell, Strain Gauge Type Range 0-50 Kg for Torque Measurement |  |
| Fuel Flow Transmitter | Gravimetric fuel Flow transmitter,  Resolution 0.1g. |  |
| Air Flow Transmitter | Pressure Transmitter, Range 500 mm WC |  |
| Software | Engine performance analysis software or any other Engine performance analysis software. Windows based software developed in LAB View for  \* Data Logging  \* Real –Time Display  \* Tabulated & Graphical Results |  |
| Rota Meter | Engine cooling & Calorimeter cooling, Range 60-600 LPH |  |

CCCCCC

Contd. Pg-2

* Designed for comprehensive analysis of IC engine performance under variable

load conditions & at different Compression ratio settings.

* The Engine can be used as both Petrol & Diesel engine.
* Battery assisted Electric start arrangement for engine & alternator for battery

charging

* High Speed real time data acquisition system with Windows based software.

**EXPERIMENTAL CAPABILITIES**

* Determination of Brake Power & Mechanical Efficiency at different load conditions.
* To study effect of change in compression ratio on Engine performance.
* Determination of Fuel consumption & Brake specific fuel consumption, Brake Thermal Efficiency.
* Determination of air consumption & volumetric efficiency, Air/Fuel Ratios.
* Calculation of Heat balance of the engine.
* To study P-V Diagram & P-θ diagram for Petrol / Diesel engine.

::2::