



OFFICE OF THE PRINCIPAL, ENGINEERING COLLEGE NOWGONG

DISTT.-CHHATARPUR (M.P.)-471201

(ESTD. IN YEAR 2012 BY GOVT.OF MADHYA PRADESH)

Phone (O) : 07685-291217,291218

Fax : 07685- 291217

Email : enggcollegenowgong@rediffmail.com

Website : www.necnowgong.in

NO./ECN/OFF/2020/ 1364

Nowgong Dated... 06.02.2020

“QUATATION NOTICE FOR MECHANICAL ENGG. LAB”


Sealed Quotation are invited from the manufactures/authorized dealers/distributers on their Letter head for supply of following Equipment in different laboratory of ME Engineering Department of this institution.

1. **Universal Vibration Machine Apparatus**
2. **Static and Dynamic Balancing Apparatus**
3. **Universal Governor Apparatus**
4. **Cam Analysis Apparatus**
5. **Motorized Gyroscope**
6. **Whirling Speed of Shaft Demonstration Apparatus**
7. **Vapour compression refrigeration system test rig**
8. **Mechanical heat pump test rig lab apparatus**
9. **Crank and slotted lever quick return mechanism**
10. **With worth quick return mechanism**
11. **Scotch yoke mechanism**
12. **Elliptical trammel mechanism**

Detailed specifications of the machines along with the terms and conditions are provided with the tender document.

Order will be given under 5 lakhs only. If total price of above equipment go above the 5 lakhs than some of equipment will not be ordered

Quotation will be opened in the institution. Information regarding Tenders can be seen from the institute Website **www.necnowgong.in**


Principal
Nowgong Engineering College
Nowgong

OFFICE OF THE PRINCIPAL
NOWGONG ENGINEERING COLLEGE NOWGONG MP
NH 75 CHHATARPUR JHANSI ROAD NAURA PAHADI NOWGONG
DISTT CHHATARPUR MP-471201

No./ECN /OFF/2020) 1364

Nowgong, Date..06:02:2020

Mechanical Engineering Department

Last Date and time of receiving sealed Quotation

23/02/2020

I TERMS AND CONDITIONS:

1. Quotation received after due date and time will not be accepted in any case.
2. The Quotation must be sent in firm's own letter head, along with the terms and conditions of supply.
3. The Quotation received with overwriting or filled with pencil will not be accepted.
4. Quotation will be received by registered post and directly at institute office

II SPECIFICATIONS

- (i) If any of the equipment of required specification is not available, then nearest higher specification to the required specification may be considered.
- (ii) Equipment & Machinery calibrated in MKS/SI system only be quoted.
- (iii) The better or higher specifications than the required specification will be considered.

III RATES AND TAXES:

- (a) The rates must be quoted F.O.R. Nowgong Engineering College, Nowgong (MP) 471201.
- (b) The quoted rates must be inclusive of installation/demonstration of the equipment/machines in perfect working condition after delivery. No extra payment will be made for the installation and/or demonstrations.
- (c) Other taxes and duties, if payable extra should be clearly stated

IV PAYMENT:

Payment in full will be made after physical installation of the equipment in perfect working condition and demonstration in the institute No part payment for the defective/incomplete equipment will be made. If the undersigned feels that the equipment supplied is grossly defective and cannot be repaired or the supplied material/equipment is of substandard quality: the supplied equipment will be rejected & returned to the supplier at his risk. No payment or part their of will be made to this effect to the supplier and the order will be cancelled.

V WARRANTY: 2 YEARS Warranty period will start from the date of installation and satisfactory commissioning.

VI OTHER CONDITIONS:


Delivery Period: The delivery period for supply of equipment should not be more than 20 days (may be extended on specific request with the discretion of the undersigned).

VII Sealed quotation should be submitted in 2 envelopes as mentioned below:

Envelop A Technical Qualification: Enveloped comprising technical specification Brochures of equipment/printed catalogue/leaflets.

Envelop B Financial Bid : Enveloped comprising rates of equipments/machines.

All above two envelopes (A and B) should be sealed separately and then enclosed in another outer envelope C addressed to the Principal Nowgong Engineering College, Nowgong NH 75 chhatarpur - jhansi road naura pahadi nowgong Distt chhatarpur MP- 4710201


Principal
Nowgong Engineering College
Nowgong MP

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Department of Mechanical Engineering

Dynamics of Machines, RAC and Mechanical Vibration lab Apparatus

S.NO	NAME OF EQUIPMENT	SPECIFICATION	QUANTITY REQUIRED
1.	Universal Vibration Machine Apparatus	<ol style="list-style-type: none">Exciter Unit : With FHP DC Motor with Speed Control FacilityRPM measurement : Digital RPM Indicator with Proximity sensor.Ordinary Chart recorder : For recording Frequency and Amplitude of Vibration.Stop Watch: Electronic Stop Watch.Damper with arrangement for changing damping.Tachometer to measure RPMarrangement to measure torsional vibration with damping liquid	1
2.	Static and Dynamic Balancing Apparatus	<ol style="list-style-type: none">Drive motor – F.H.P. universal motorBalancing weights – 4 nos with different sized Drills for varying the unbalanceCord and container system with precision steel Balls for relative weight measurementRequired for operation 230V, 50Hz, 1 phase	1
3.	Universal Governor Apparatus	<ol style="list-style-type: none">Spindle:- Material Stainless SteelGovernor Mechanisms:- Four Different Types of Governor mechanisms with spring and weights.<ul style="list-style-type: none">Watt GovernorPorter GovernorHartnell GovernorProell GovernorMotor:- variable speed, standard make FHP MotorThe whole set-up is ingeniously designed and Schematically arranged on a powder coated rigid Structurespeed control unit, ON/OFF Switch, main	1

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		indicator etc	
4.	Cam Analysis Apparatus	<p>1. Cam shaft:- stainless Steel</p> <p>2. Cams:- Tangent, Eccentric, Circular Arc made of hardened alloy steel</p> <p>3. Followers:- Roller, knife edge, Mushroom made of hardened alloy steel</p> <p>4. Compression Spring</p> <p>5. Weights:- 1kg, 500gm, 200gm & 100gm</p> <p>6. Motor:- Variable speed DC motor with speed controller</p> <p>7. The whole set-up is ingeniously designed and schematically arranged on a powder coated rigid Structure</p> <p>8. Standard ON/OFF Switch, main indicator etc</p>	1
5.	Motorized Gyroscope	<p>1. Disc:- Material Stainless steel, dia 300mm x 10mm thick precisely balanced which can be rotated in 3 mutually perpendicular axis.</p> <p>2. Motor- Variable speed of standard make with speed control unit.</p> <p>3. Weights :- 2kg, 1kg, 500gm</p> <p>4. Stop watch:- Electronic</p> <p>5. Accurately marked scale and pointer to Measure precession rate.</p>	1
6.	Whirling Speed Of Shaft Demonstration Apparatus	<p>1. Test Shafts of Different Diameters. 3mm, 6mm, 7mm (approx) and Each length 1000mm</p> <p>2. Quantity:- two of each shaft</p> <p>3. Kinematic coupling bearing for fixed or free ends without restraints</p> <p>4. Drive Motor:- 5000 rpm FPH</p>	1
7	Vapour compression refrigeration system lab apparatus	<p>1. Power Supply AC</p> <p>2. Phase 1 Phase</p> <p>3. Voltage (V) 230 V</p> <p>4. Power (A) 15 Amp</p> <p>5. Automation Grade Automatic</p> <p>6. Compressor Type Hermetically Sealed</p> <p>7. Condenser Type Air Cooled</p> <p>8. Thermostatic Expansion Valve Type Cappillary</p>	1

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		<p>9. Multipoint Digital Temperature Indicator To measure temperatures at various salient points of the refrigeration cycle.</p> <p>10 Evaporator Copper Coil immersed in insulated water tank (shell) of stainless steel water tank, Capacity of 33 l</p> <p>11 Condenser Air-cooled condenser with -copper fins. This is a tube type condenser, FHP fan motor with fan blade</p> <p>12 Expansion device Capillary Tube Diameter suitable, Material copper</p> <p>13 Thermostatic Expansion Valve</p> <p>14 Rota meter For measuring flow rate of liquid refrigerant.</p> <p>15 Digital Wattmeter for power measurement of Compressor and Heater.</p> <p>16 Dimmer stat 230V AC, Solid-state heater controls capacity 4 Amp.</p> <p>17 Pressure Gauge 0 to 300 PSI (R-134A) –</p>	
8.	Mechanical Heat Pump Test rig lab apparatus	<p>1. Compressor - Hermetically sealed compressor using R-12 refrigerant, having capacity 0.3 tons of refrigeration.</p> <p>2. Condensing pressure max 15 Kg/cm² (Actual pressures will depend upon working conditions).</p> <p>2. Condenser - Shell and coil type with continuous water flow arrangement.</p> <p>3. Evaporator - Shell and coil type with continuous water flow arrangement.</p> <p>4. Expansion Valve - thermostatic expansion valve.</p> <p>5. Heat absorption chamber - immersed type (refrigerant grade copper tube)</p> <p>6. Direct expansion type provided Refrigerant - r-134 a</p> <p>7. Temp. Indicator - digital</p> <p>8. Pressure indication - dial type pressure gauges: 2 nos.</p> <p>9. Energy meter - provided for the compressor</p>	1

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9	Crank and slotted lever quick return mechanism	1 made of steel 2 full calibration to measure angle and stroke length 4 option to change the crank length	1
10	With worth quick return mechanism	1 made of steel 2 full calibration to measure angle and stroke length	1
11	Scotch yoke mechanism	1 made of steel 2 full calibration to measure angle and stroke length	1
12	Elliptical trammel	1 made of steel 2 full calibration to measure angle and stroke length	1