



# GOVT. COLLEGE OF ENGINEERING, AMRAVATI

Kathora Naka, Amravati – 444 604 (M.S.)  
(An Autonomous Institute of Govt. of Maharashtra)



“Towards Global Technological Excellence” Phone: (0721) 2531929 ,2531930, Fax: 0721-2531931,

Website-[www.gcoea.ac.in](http://www.gcoea.ac.in), E-mail:[principal@gcoea.ac.in](mailto:principal@gcoea.ac.in)

No: GCOEA/Physics Department/Purchase /2023-24/373

Date: 16-12-2023

## QUOTATION CALL LETTER

**Subject** :- Quotation for supply of Following Items For the department of Physics

**Ref** :- Budget of GCOEA for FY 2023-24 is principally approved by in 26th BoG Meeting-8<sup>th</sup> July-2023

Sir/Madam,

You are requested to quote your lowest reasonable rates for the following items and send the quotation in sealed cover so as to reach the undersigned on or before date:- 27/12 /2023

SN	Proposed Item	Specification	Qty. Required
1	Hallow Cathode Tube (HCL)	Separate Sheet Attached	01 No. of Each
2	Photoflourometer		01 No.
3	Acetylene gas Cylinder with reguleter		01 No.
4	Nitrogen gas Cylinder with reguleter		01 No.
5	Double Distillation Unit		01 No.
6	Astrophotography camera lenses		02 No
7	Vapour Generator (Hydride Generator) with argon cylinder		01 No
8	Flight controller kit		02 No
9	Catadioptric Telescope		01 No
10	Superconductivity Appratus		01No
11	RC transmitter and Receiver		02 No
12	Air compresser		01No
13	Nanoparticle		
14	Chemicals		
15	Glassware's		

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Head  
Department of Physics  
Government College of Engineering  
Amravati - 444 604

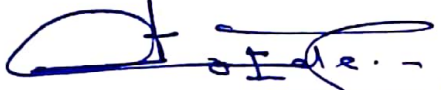
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Note :- 1. The quotations call letter no, name of the department and last date should necessarily be written on the envelope.

2. Please attached with quotation GST Registration Certificate, PAN Card and other necessarily documents.

### TERMA AND CONDITIONS

1. VALIDITY:- The rate must be valid for 90days from the date of opening of quotations.
2. PRICE:- For destination at Government college of Engineering, Amravati.
3. DELIVERY PERIOD:- Four weeks from the date of issue of this order.
4. ALL TAXES/GST:- Inclusive of all taxes, including installation, delivery, etc charges.
5. EXCISE DUTY:- If any, specify
6. TAXES:- Rates quoted will presumed inclusive of all taxes unless otherwise stated.
7. PACKING FORWARDING, FREIGHT & INSURANCE:- If any, specify.
8. INSTALLAION / TRAINING /COMISSION CHARGES:- Inclusive.
9. PENALTY:- for late delivery @0.5% of the value of undelivered stores per week.
10. SECURITY DEPOSITE:- In case purchase of equipment's cost costing above Rs. 1,00,000/-(Rs. One lakh), a performance bank guarantee for an amount equal to 5% (five per cent) of the cost price for the duration of warranty period will be taken from the supplier/Indian Agent within one week of the acceptance of the purchase order by the firm. This deposit is liable to forfeiture to Government College of Engineering, Amravati, in the event of non-fulfillment of the terms and conditions on which the Purchase order is issued.
11. PAYMENT:- 100% payment to be made on inspection, installation and test ing of the equipment.
12. WARRANTY:- One year against any manufacturing defects.

  
16-12-2023  
Deepak A. Notalc  
Head  
Department Of Physics  
Government College of Engineering  
Amravati.- 444604

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1	Hallow Cathode Tube (HCL)	<p>Above all suitable for Atomic Absorption Spectroscopy of model</p> <table border="1" data-bbox="483 315 1265 902"> <thead> <tr> <th>HCL</th> <th>Quantity</th> <th>Current in mA</th> <th><math>\lambda</math> in nm</th> <th>Slit in nm</th> <th>Working Range <math>\mu\text{g/ml}</math></th> </tr> </thead> <tbody> <tr><td>Ag</td><td>01</td><td>3.5</td><td>328.1</td><td>0.5</td><td>0.02 - 10</td></tr> <tr><td>Al</td><td>01</td><td>10</td><td>309.3</td><td>0.5</td><td>0.4 - 200</td></tr> <tr><td>Zn</td><td>01</td><td>5</td><td>213.9</td><td>1</td><td>0.01 - 2</td></tr> <tr><td>Ca</td><td>01</td><td>3.5</td><td>422.7</td><td>0.5</td><td>0.05 - 5</td></tr> <tr><td>Cd</td><td>01</td><td>3.5</td><td>228.8</td><td>0.5</td><td>0.01 - 3</td></tr> <tr><td>Fe</td><td>01</td><td>5</td><td>248.3</td><td>0.2</td><td>0.05 - 20</td></tr> <tr><td>Pb</td><td>01</td><td>EDL</td><td>270.0</td><td>1.0</td><td>0.2 - 30</td></tr> <tr><td>Hg</td><td>01</td><td>EDL</td><td>253.7</td><td>0.5</td><td>2 - 600</td></tr> <tr><td>Cr</td><td>01</td><td>7</td><td>357.9</td><td>0.2</td><td>0.06 - 20</td></tr> <tr><td>Mg</td><td>01</td><td>3.5</td><td>285.2</td><td>0.5</td><td>0.003 - 1</td></tr> <tr><td>Co</td><td>01</td><td>7</td><td>240.7</td><td>0.2</td><td>0.06 - 15</td></tr> <tr><td>Na</td><td>01</td><td>5</td><td>589.0</td><td>0.5</td><td>0.003 - 1.5</td></tr> <tr><td>K</td><td>01</td><td>5</td><td>766.5</td><td>1.0</td><td>0.03 - 2</td></tr> </tbody> </table>	HCL	Quantity	Current in mA	$\lambda$ in nm	Slit in nm	Working Range $\mu\text{g/ml}$	Ag	01	3.5	328.1	0.5	0.02 - 10	Al	01	10	309.3	0.5	0.4 - 200	Zn	01	5	213.9	1	0.01 - 2	Ca	01	3.5	422.7	0.5	0.05 - 5	Cd	01	3.5	228.8	0.5	0.01 - 3	Fe	01	5	248.3	0.2	0.05 - 20	Pb	01	EDL	270.0	1.0	0.2 - 30	Hg	01	EDL	253.7	0.5	2 - 600	Cr	01	7	357.9	0.2	0.06 - 20	Mg	01	3.5	285.2	0.5	0.003 - 1	Co	01	7	240.7	0.2	0.06 - 15	Na	01	5	589.0	0.5	0.003 - 1.5	K	01	5	766.5	1.0	0.03 - 2
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2	Photoflourometer	Light Source- 50W Tungstem halogen lamp, Display- LCD, Maximum sample volume – 4ml, Dtector Silicon Photodiode Sencitivity – 0.1ppm																																																																																				
3	Acetylene gas Cylinder with Reguleter	Laboratory used , 6cubm, Purity-99.9% with regulator																																																																																				
4	Nitrogen gas Cylinder with Reguleter	Laboratory used , 7cubm, Purity above 95% with regulator																																																																																				
5	Double Distillation Unit	All Quartz Double Distillation Unit, output capacity 1.5L/hr, power consume 3KW, minimum cooling water requirement 1lt/min, biological activity- pyrogen free, conductivity S/cm-<0.1, Total organic carbon < 500 $\mu\text{g/l}$ , organic matter -nil, total solids mg/lit <0.1, distillation temp – 65-75 $^{\circ}\text{C}$ , $\text{KmnO}_4$ colour retention -1hr, Uv absorbance at 254nm-0.007																																																																																				

6	Astrophotography camera lenses	<p><b>No 1.</b> Comperable for CANON R10 having-RF 100-400mm f/6-8 IS USM lens specification Mount: Canon RF, Full frame: Yes, Lens construction: 12 elements in 9 groups, Diaphragm blades: Minimum aperture: f/32 at 100mm, f/45 at 400mm, Closest focusing distance: 0.88m Maximum magnification: 0.41x, 5.5-stop Optical Image Stabilizer.</p> <p><b>No.2.</b> Comperable for CANON R10 having-RF 70-300-mm f/6-8 IS USM lens specification Canon RF, Full frame: Yes, Lens construction: 12 elements in 9 groups, Diaphragm blades: Minimum aperture: f/32 at 100mm, f/45 at 400mm, Closest focusing distance: 0.88m Maximum magnification: 0.41x, 5.5-stop Optical Image Stabilizer.</p>
7	Vapour Generator (Hydride Generator) with argon cylinder	<p>VGA 1200ET HYDRIDE VAPOR GENERATOR BASED ON ELECTROTHERMAL TECHNOLOGY VAPOR GENERATOR ACCESSORY IDEAL FOR PPB LEVEL ANALYSIS OF VAPOR GENERATION ACCESSORY OFFERS AN EXTREMELY SENSITIVE PROCEDURE FOR ANALYSIS OF METALLIC ION OF AS, BI, SB, SE, TE, SN &amp; PB, GE &amp; WITH FLAME &amp; MERCURY COLD. * CONTROLLED THROUGH AAS SOFTWARE. * DUAL PERISTALTIC PUMP: VARIABLE FLOW 0.3 TO 5 ML/MIN. * PRECISION GAS FLOW CONTROLLER: 0.1 ML TO 15 ML/MIN. * REAGENT MIXTURE: PTFE CORROSION RESISTANT. * CONTROLLED HEATING: ELECTRICAL HEATING 200 TO 1200 DEGREE C.</p> <p>Argon Cylinder 47liter, Argon Cylinder Regulator, T &amp; U shape Cell, NaBh<sub>4</sub> -100gm, KBH<sub>4</sub>- 100gm, Cold vapour Hg – 100gm, SnCl<sub>2</sub>, NaOH – 100gm,</p>

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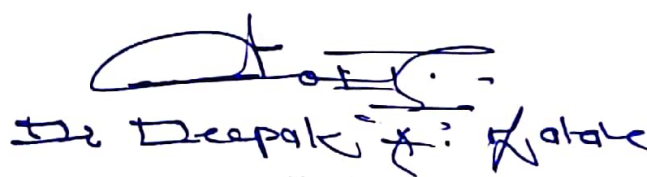
8	Flight controller kit	<p>No.1  Processor-STM32F427, Accelerometer-LSM303D,  Compatibility -Quadcopter, Hexacopter, plane, Helicopter, Octacopter, Rover,  Antenna, Custom, Gyroscope-L3GD20, RAM Size-256k, Barometer-MS5611, 32-bit  Pixhawk PX4 Autopilot Open Code Flight Controller V2.4.8, 2 bit 1.32 STM32F427  flash Cortex M4, with the floating-point hardware processing unit, 2 main frequency:  256 K, RAM 168 MHz, 32-bit processor STM32F103 backup co  Sensors:L3GD20 3-axis 16-bit digital gyroscope, LSM303D 14/3 Axis Accelerometer  Magnetometer, MPU6000 6-axis accelerometer / magnetometer, MS5611 high  precision barometer  Interface:5 UART 1 High Voltage compatible, 2 with hardware flow control, 2 CAN,  DSM / DSM-X Spektrum compatible satellite receiver input, SBUS input and output  compatible, PPM signal input, RSSI (PWM or input voltage)I2C, SPI, 3.3 and 6.6  VADC inputs, external US MICRO</p> <p>No. 2  Processor- ATMEGA2560 and ATMEGA32U-2, Input Voltage-12~16 VDC, Sensors  - 3-Axis Gyrometer, Accelerometer, High-performance Barometer, Dimensions  (LxWxH)7 x 4.5 x 1.5 cm, Arduino Compatible, Atmel's ATMEGA2560 and  ATMEGA32U-2 chips for processing and USB functions respectively, Built-in  compass, Includes 3-axis gyro, accelerometer, and magnetometer, along with a high-  performance barometer, Straight Needle, One of the first open-source autopilot systems  to use InvenSense's 6 DOF Accelerometer/Gyro MPU-6000., Onboard 4 MegaByte  Data flash chip for automatic data logging, Optional off-board GPS, uBlox LEA-6H  module with Compass., Barometric pressure sensor upgraded to MS5611-01BA03,  from Measurement Specialties.</p>
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9	Catadioptric Telescope	<p>Optical Design: Schmidt-Cassegrain, Aperture:235mm (9.25"), Focal Length:2350mm (93") Focal Ratio:f/10, Focal Length of Eyepiece 1:40mm (1.57"), Magnification of Eyepiece 1:59x Focal Length of Eyepiece 2: 13mm (.51"), Magnification of Eyepiece 2: 180x Finderscope: Red Dot Finderscope, Star Diagonal: 1.25" Star Diagonal, Optical Tube:Aluminum, Highest Useful Magnification: 555x, Lowest Useful Magnification: 34x Limiting Stellar Magnitude:14.4, Resolution (Rayleigh): 0.59 arc seconds, Resolution (Dawes): 0.49 arc seconds, Light Gathering Power (Compared to human eye): 1127x, Secondary Mirror Obstruction: 85mm (3.35"), Secondary Mirror Obstruction by Diameter:36%, Secondary Mirror Obstruction by Area: 13%, Optical Coatings:StarBright XLT, Optical Tube Length: 559mm (22"), Optical Tube Diameter: 271.78mm (10.7"), Optical Tube Weight: 20 lbs (9.07 kg), Dovetail: CG-5 Dovetail bar</p> <p>MOUNT INFO:Mount Type: Computerized Altitude-Azimuth Single Fork Arm, Instrument load capacity: 25 lbs (11 kg), Height adjustment range (includes mount and tripod):1244.6mm - 1651mm (49" – 65"), Tripod Leg Diameter: 50.8mm (2") Stainless Steel, Mount Head Weight:16 lbs (7 kg), Accessory Tray: Yes, Tripod Weight: 26.6 lbs (12.06 kg), Slew Speeds: 9 slew speeds - max speed 4°/second, Tracking Rates: Sidereal, Solar and Lunar, Tracking Modes:Alt-Az, EQ North and EQ South, GPS: N/A, Dovetail Compatibility: CG-5 saddle plate, Number of Auxiliary Ports: 4 AUX Ports (Hand Control can use any of the AUX Ports)</p> <p>Autoguide Port: No, USB Port: Yes, Hand Control input and Mount output, Power Requirements: Internal 9 6V, 4 5Ah lithium iron phosphate battery (LiFePO4)</p> <p>Motor Drive: DC servo motors Alignment Procedures: SkyAlign, 1-Star Align, 2-Star Align, Auto 2-Star Align, Solar System Align, Quick-Align, Last Alignment, EQ North / EQ South Alignment (EQ align requires an equatorial wedge)</p> <p>Computerized Hand Control: 2 line x 18 character backlit Liquid Crystal Display, 19 LED backlit buttons, USB 2.0 Port for PC connection</p> <p>Software: Celestron Starry Night Special Edition Software and SkyPortal App</p> <p>Included Items: Optical tube Single Fork Arm Mount and Tripod</p> <p>Accessory Tray, Built-in Wifi, Integrated Lithium-iron battery</p> <p>NexStar+ Hand Control 40mm and 13mm eyepiece</p> <p>Red dot finderscope Visual Back Star Diagonal 4 plug AC adapter</p>
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10	Superconductivity Apparatus	<p>Learning Objectives/experiments &lt; To measure the transition temperature of a high temperature superconductor. Scope of delivery 4 1 Superconductivity measurement unit 4 1 Bismuth Sample with Four Probe arrangement 4 2 Sensor Cable (mini USB) 4 1 Liquid nitrogen Experiment Chamber 4 1 Data logger with micro USB 4 1 Software CD 4 2 Voltage sensor 4 1 Power Cord 4 1 Liquid Nitrogen Transport container(Optional) Feature 1. Bismuth superconductor with four probe arrangement &amp; thermocouple. 2. Voltage probes for temperature &amp; voltage measurement. 3. Data logger with 100k samples per second capacity. 4. Data Logger with 6 bulit-in sensors 5. Free data analyzing software. Technical data Superconductivity : Constant Current 150mA (max.), 4mm sockets for sample and sensor, Gain &amp; offset pot. Power Indicator LED, Datalogger : Up to 100K SPS, memory capacity 800K sample, Li polymer rechargeable battery, 6 in-built sensor, 4 ext. sensor port (60+ sensor available), connectivity port micro USB, 90.2 x 90.2 x 20mm (LxWxH), 120g Voltage Sensor : <math>\pm 25V</math> (AC/DC), accuracy <math>\pm 3\%</math>, resolution 12.5mV, input resistance &gt; 250 M<math>\Omega</math> Sample : Bismuth, 4 probe arrangement, 'T' Type Thermocouple, Aluminium housing, Connection 4mm plu</p>
11	RC transmitter and Receiver	<p>No. 1.  Operating Voltage(V) 7.4~18.0V, Operating Current (A)  DSSS &amp; FHSS &lt;90mA at 12V , CRSF depend on the transmission power selection,  Frequency Band 2.4GHz ISM band (2400MHz ~ 2483.5MHz) , Spread Spectrum mode DSSS &amp; FHSS/CRSF, Adjacent channel rejections &gt;38dbm, Modulation mode QPSK, Bandwidth 5.0MHz, Signal output PWM/SBUS/PPM/CRSF  RC Drone Remote 647g, Receiver Operating voltage 3.0~10V, Receiver operating current 30~45mA@5V, output signal SBUS/SBUS&amp;PWM, Channel quantity 9 channel for PWM signal output; 10 channel for SBUS&amp;PWM signal output</p> <p>No. 2.  Model Type Digital Radio Trans receiver, Modulation Type,GFSK, Band-Range (GHz)2.40 ~ 2.48, Sensitivity (dBm),105dbm (Receiver), Bandwidth500, Operating Voltage (VDC), Receiver: 5, Transmitter: 12 Antenna Length (mm) 26, Code Type Digital, DSC Port PS/2 Port PPM, Charging Port Yes, Low Voltage Warning Yes(at less than 9V)  No. of Channels 10, RF Power Less Than 20 dbm Default Operating Mode Mode 2 (Left-Hand Throttle)</p>

12	Air compressor	<p>5-gal, 175-PSI portable electric air compressor inflates tires and other objects quickly  120-volt, 2-HP induction motor provides extended life and longer use with single fill  Oil-free pump reduces maintenance time  Two single-handed-operation brass quick couplers allow you to use two air tools simultaneously  Steel control panel provides a display area and protects the 2-in metal-cased gauges, couplers and regulator  Roll-cage construction provides complete protection to withstand extreme jobsite environments and twin stack design adds air capacity while saving floor space  Sliding handle and 8-in heavy-duty rubber wheels offer easy moving and storage  Hose management design keeps things from getting tangled or obstructive  Large on/off switch knob and lever handle ball valve are used in conjunction with the drain valve for easy operation</p>
13	Nanoparticle	1) CuO 2) ZnO, 3)Al <sub>2</sub> O <sub>3</sub> , 4) CeO 5) CdO, 6)AgO, 7)AuO, 8)NiO, 9) TiO <sub>2</sub> , 10)SiO <sub>2</sub>
14	Chemicals	3) AgNO <sub>3</sub> , 4) CuSO <sub>4</sub> , 5) CdNO <sub>3</sub> , 6) AuNO <sub>3</sub> 7)TiCl <sub>3</sub> , 8) Al <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub> , 9)CeNO <sub>3</sub>
15	Glassware	<ol style="list-style-type: none"> <li>1. Micropipettes of volume range 0.5-10<math>\mu</math>l,</li> <li>2. 10mm Borosil Screw or wide mouth Vials of clear screw vial with write on patch &amp; Pre-slit PTEE-Silicon septa in a black screw cap</li> <li>3. Desiccators: Borosil ID Ground Flange-100mm</li> <li>4. Dishes: Borosil Approx O.D. <math>\times</math> height 80<math>\times</math>17</li> <li>5. Cover Glass: Borosil Square Dimension 18<math>\times</math>18, 22<math>\times</math>22, 24<math>\times</math>24,</li> <li>6. Cover Glass: Borosil Rectangular Dimension 22<math>\times</math>40, 22<math>\times</math>50, 22<math>\times</math>60,</li> <li>7. FTO (Conducting) Glass</li> <li>8. Volumetric flask with stopper – Borosil 100ml, 250ml, 500ml</li> <li>9. Volumetric flask with stopper amber colour - Borosil 100ml, 250ml,</li> <li>10. Whatmann filter paper No42</li> </ol>

  
Dr. Deepak S. Katar

**Head**

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