

Tender Document

for

“Supply of Laboratory Equipments in

**Departments of Botany, Zoology, Physics, Chemistry, Mathematics and Computer
Science**

at

Government College, Koraput”

Tender Document No- **1869 /2024**

Dated: **09/12/2024**

Issued By:

**Principal,
Government College, Koraput**

OFFICE OF THE PRINCIPAL : GOVT.COLLEGE, KORAPUT

No. 1869/2024

Date : 09.12.2024

QUOTATION CALL NOTICE

Sealed tenders in prescribed Application form are invited under Two-bid system from original manufacturer/ registered firms / dealers/ suppliers having valid GST registration, PAN, IT Clearance and manufacturer's authorization certificate for the supply, installation and commissioning of laboratory equipments to the different departments of the College so as to reach the undersigned on or before 23.12.2024, 5.00 PM through registered or speed post only. The quotations will be opened on 24.12.2024 at 11.00 AM in the chamber of the undersigned in presence of intending tenderers or their representative. The undersigned reserves the right to accept or reject any or all quotations without assigning any reason thereof. The details of terms, conditions, list of equipments, application form, technical bid form and financial bid form are available in the website of the College: www.govtcollegekoraput.ac.in .

Sd/-
PRINCIPAL
Govt. College, Koraput

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SCHEDULE FOR TENDER

Tender No & Date	1869/2024 & dt.: 09/12/2024
Name of the tender issuer	Principal, Government College, Koraput
Scope of Work	Supply of Laboratory equipment to the Departments of Botany, Zoology, Chemistry, Physics, Maths & Computer Science
Details	Items to be supplied As per Annexure I
Performance Bank Guarantee (PBG)	5% of Bid Value
Date of issue of tender document	09.12.2024
Last Date & Time for Submission of Bids	23.12.2024; 5.00 PM
Date & Time of Opening of Bids	24.12.2024; 11.00 AM Principal's Chamber
Address for Communication	Principal, Government College, Koraput 764021, Odisha

ELIGIBILITY CRITERIA

The bidders who are desirous for above work require fulfilling the following conditions:

- 1) Must be registered under GST Act.
- 2) Must have average annual turnover for the last three years i.e. 2021-22, 2022-23, 2023-24 not less than Rs. 20 Lakhs. The bidder must submit copy of audited balance sheet and profit & loss account certified by the Chartered Accountant along with the acknowledgement of Income tax return as a proof in the Technical bid.
- 3) Should not have been blacklisted by any State Govt. / Central Govt. / PSU in India. A self-declaration is required as per Annexure IV.
- 4) Must have a valid PAN.
- 5) Must have valid authorisation from the manufacturer(s)

BID SUBMISSION

Steps to be followed for submission of bid:

The bid shall be submitted in two parts: Technical Bid & the Financial Bid.

I. The Technical bid sealed in one envelope marked as “Technical Bid” and shall contain the followings:

- The bidder should supply the items strictly as per technical specification mentioned in **Annexure I**.
- The tenderer should comply about the general information of the firm in **Annexure-IV**
- The bidder should submit the details in **Annexure II**, duly filled in, signed and complete in all respects. (*No alteration / modification in the format shall be permitted.*)
- A self-declaration that the tenderer has not been blacklisted by any State Government/ Central Govt. / PSU in India in **Annexure V**.
- Audited balance sheet and profit & loss account along with copy of acknowledgement of Income Tax return of last three financial years i.e. 2021-22, 2022-23, 2023-24.
- A declaration from the Tenderer to supply, install and commission the items along with the Vouchers to the undersigned for the payment within three weeks from the date of issue of the work order in **Annexure-VI**.

II. The Financial bid shall be sealed in another envelope marked as “Financial Bid”. This shall contain the price bid in **Annexure III** duly completed in all respects.

- Rate quoted should be inclusive of GST.
- No extra cost will be borne by the college towards transportation, installation and commissioning of supplied items.
- No price increase on account of change in tax structure, duties, levies, charges etc shall be permitted.

The two separate envelopes containing technical bid and financial bid and other documents should be sealed in one envelope super-scribed as “**Supply of Laboratory equipments in Departments of Physics, Chemistry, Botany, Zoology, Mathematics and Computer Science.**”

GENERAL TERMS AND CONDITIONS OF THE BID

Note: Bidders must read these conditions carefully and comply strictly while submitting their bids.

1. Bidder shall prepare the bid and submit it in a sealed envelope addressed to Principal, Government College, Koraput and send it through Speed Post/Registered Post only (no hand delivery will be entertained). Each envelope should bear the name of bidder, along with the tender number. The authorities shall not be responsible for postal and other delays in receipt of the bids.
2. Bidders are requested to check for any notice /amendment/ clarification etc. to the Tender Document through the website www.govtcollegekoraput.ac.in/ Notice board of the office of Government College, Koraput.
3. The Bidders should note that Prices should not be indicated in the Technical bid and should be quoted only in the Financial Bid as per Annexure III. In case the prices are indicated in the Technical bid, the bid shall stand rejected.
4. **OPENING OF TECHNICAL BID:** The Technical Bids will be opened on 24.12.2024 at 11:00 A.M in presence of the Tender Committee of the college, Tenderers and representative of the bidders. No separate intimation will be given to the bidders in this regard.
5. **EVALUATION PROCESS:** Technical proposals will be evaluated on the basis of compliance to eligibility criteria, technical specification, and other terms & conditions stipulated in the tender document by the Tender Committee.
6. Financial Bids will be opened of those bidders who qualify in the technical evaluation. The Committee reserves the right to reject any or all the tenders without assigning any reason thereof.
7. **Award of Contract:** Financial bids with lowest price quotation for the assignment as per **Annexure-III** will be considered for negotiations and award of contract. However where there is tie between bidders in lowest evaluated package price, the person having highest financial turnover in the preceding 3 financial year will be given preference. **The supply, installation and commissioning of items must be completed strictly within three weeks from the date of issue of work order.**
8. **PERFORMANCE BANK GUARANTEE:** The selected bidder shall deposit performance security of 5% of bid Value in the form of a demand draft/ fixed deposit receipt from a commercial bank / bank guarantee from a commercial bank within a week of notice of award of the tender. The performance security deposit will be retained till completion of supply, installation and commissioning of the items.

9. **The bids not submitted in prescribed format or in prescribed manner, shall be rejected by the Tender Committee at the risk and responsibility of the bidder.**
10. All the information as called for in the tender document should be submitted truly, clearly, legibly, transparently, unambiguously and without using abbreviations.
11. In the financial bid the **total figures** should be **written in figures** followed by **words**.
12. **Each page of the tender document should be signed by the bidder with seal, in token of having understood and accepted the terms and conditions of the contract and serially numbered and page marked.**
13. A bid submitted cannot be withdrawn. The bidder or his authorized representative (one person only) will be allowed to be present at the time of opening of tenders.
14. The Tendering Authority reserves the right to accept any bid, and to allow the bid process and reject all bids at any time prior to award of contract, without assigning reasons & without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds for the action.
15. All the transit risks shall be the responsibility of the supplier.
16. All the disputes shall be subjected to the jurisdiction of Civil Courts situated in Koraput.
17. Any matter which has not been covered under these provisions shall be governed as per the provisions of Odisha State Government Rules.
18. If the work is found un-satisfactory or, if the firm dishonours the contract, the Performance Security Deposit may be forfeited and the job may be entrusted to another firm. In this regard the decision of the tender Committee is final and binding on the supplier.
19. Any notice given by one party to the other pursuant to this contract shall be sent in writing to Principal, Government College, Koraput.
20. **Payment Terms:** All payments will be made within 30 days of submission of Invoice, based on completion of respective terms & conditions. TDS will be deducted as per the rules. The invoice will be raised in favour of Principal, Government College, Koraput.
21. **Completion Period:** The work shall be completed in all respect within three weeks from the date of issue of work order.
22. **A firm can apply for any Part(s) or whole of the tender.**

ANNEXURE I

LIST OF EQUIPMENTS WITH TECHNICAL SPECIFICATION

DEPARTMENT OF BOTANY			
S. No	PRODUCT NAME	Specifications	Quantity Required
1	UV-Visible Spectrophotometer	Double beam Grating 1200 lines/mm UV visible (200-1100 nm, resolution 0.1 nm, accuracy ± 0.5 nm range band width 2nm, wavelength accuracy 0.5nm,) Photometric range 0 - 100 %T, -0.3 to 3A, 0 - 9999 Conc. scanning with multiple scan facility based, Time Scan, Kinetic Scan	
2	BOD Incubator	Microprocessor controlled (113 litres, 2-60 ^o C, LED display, Microprocessor temp control, 2-5 shelves approx.)	
3	Cooling Centrifuge with rotors	(24x1.5 ml and 8x15 ml) max speed 16000rpm, brushless, Fast running, LED display, Brushless induction, digital countdown, CFC free refrigeration, precooling features, Motor overload protection, imbalance signal	
4	Benchtop centrifuge	Speed 16000 rpm, stepless regulator, imbalance detector with cutoff, brushless, wxdxh-280x350x290 Rotors 10x2 ml, 24x1.5 ml, 8x5 ml	
5	Water bath	15 litres, double walled, 355 x 405 x 100 mm, No. of holes 12, 75 mM diameter, temp upto 100 degree C, temp sensor, digital timer, stirrer and automatic cut off	
6	Lab refrigerator digital	Refrigerator with 4 ^o C and -20 degree C control facility	

DEPARTMENT OF ZOOLOGY

S. No	PRODUCT NAME	Specifications	Quantity Required
1	Cooling Centrifuge with rotor	Swing out : 4100 rpm and for angle: 14,000 rpm. • Maximum rcf swing out : 3045xg and for angle : 18,407xg. • Maximum capacity : swing out – 4x200 ml, angle : 24x2 ml. • System should speed set range of 500- 14000. • Speed set step of 10 rpm. • System should have control accuracy of ±20rpm. • Temperature range should be -9°C to + 40°C. • Temperature performance limited to +4°C at max. speed. • Machine should have LCD display for showing parameters	
2	Double distillation plant	Borosilicate boiler, borosilicate condenser and quartz heater Powder coated stand for rust free operation. Provision for easy cleaning of boiler Input voltage: 220 V AC ± 10%, 50-60 Hz Distillate Quality • Conductivity: < 3.0 µS/cm • Distilled Water Quality: Pyrogen Free Capacity: 2 LTR. PER HOUR Stage: Double stage	
3	Flame photometer	Microcontroller controlled automation for ease of operation. Determination upto four elements with single aspiration (Na, K, Li, and Ca). Upto five point calibration available. Facility for restandardisation with single standard available. Data processing with linear mode or quadratic curve fitting Results of a measurement taken earlier can be recalled and displayed (Max. results storage: 700)20-character, 4-line	

		alphanumeric LCD readout for adequate user interfaces. Built-in real time clock for date and time of analysis. Centronix printer port for Epson compatible. Dot Matrix / Inkjet printers to get hard copy of results. Printout facility for individual sample, batch samples in the memory (700 max).	
4	Spring balance (Digital)	Range 100 g to 10 Kg, Readout accuracy: 2 gram, Aluminium material; Accessories include: 1x Hanging Scale, 1x S hook and Shackle, 1x Charging cable; with batteries	
5	Ice box	Insulated Plastic Material; capacity: 20 liter; dimension: Rectangular/Oval Included with Chiller Ice Box,	
6	Plankton net	Pore size 10um	
7	Lux meter (Digital)	Functions : MAX / MIN, Backlight, Auto Power Off Range : 0 ~ 200,000 lux / 0 ~ 20,000 fc Accuracy : $\pm 5\%$ rdg + 10 dgt (< 10,000 lux / fc) $\pm 10\%$ rdg + 10 dgt (>10,000 lux / fc) Resolution : 0.1 lux or 0.1 fc Selection : lux / fc Power : 9 V Battery	
8	Trinocular Microscope	Bright field, Dark field, Phase contrast, LED lamp, Tilting binocular, Camera 5mp, USB connection	
9	Range finder	Forestry Pro range finder. Measurement range 7.3 - 1600 meter, Increment reading - 0.27 meter, Magnification 6X, Angular field of view 7.5 degree, Eye relief 18mm, Diopter adjustment $\pm 4^\circ$, Lithium battery, Size 10.9 x 7.4 x 4.3 cm	

10	Salinity Refractometer	Measuring Range 0 - 28 salinity , Resolution 0.2 Automatic temp compensation range - 10-30° C, Dimension 6.5 x1 x 1.5 inch	
11	Soil PH meter and Moisture Hygrometer	Mounting type - Tabletop, Operating temp 5 -50 C, Range 3-8, Accuracy ± 0.3,	
12	Sphygmomanometer	Model No: OMS101, Scale Range: 0- 300 mm Hg, Accuracy:±3mm Hg, Mercury Purity 99.99%,	
13	Staining tray	25 slides rack	
14	Table top Centrifuge	Digital Speed Indicator. Stepless speed regulator. 0-99 minutes digital countdown timer. Imbalance detector with cut off Safety Lid interlock to prevent cover opening during centrifugation Max. Speed: 5250 rpm, Max. RCF: 300 g Max. Capacity: 300 ml, Dimension: 365w x 415d x 350h mm	
15	Tally counter	Four digit reader goes upto 9999; resets easily with a turn of the knob, white number and black back ground	
16	Haemocytometer set	HBG Haemocytometer with BL chamber, Item Code -HP2051309 - MXRADY	
17	Haemoglobinometer	HBG Sahli's Haemometer Set. Item Code- HP20714 - MXRADY	
18	Anemometer	Bearing- Sapphire jewel Bearing; Temperature sensor-K type thermocouple; Operating Temperature-0-50 °C; Operatening Humidity- less than 80%; Operating Pressure- 500mB; Avearge period for wind speed measurement- m/s- 0.6second, knots- 0.2 second, km/hr- 2.2second; Dimention- 150*72*35	

		Accuracy-3%±0.1	
19	Burette with stand	capacity-50ml; graduation interval-0.01ml	
20	Humidity & Temperature Meter	Humidity Measuring Functions °C / °F / RH Selection, MAX / MIN, Auto Power Off , Range 0% ~ 100% RH Accuracy ± 3%RH (25°C , 20 ~ 80% RH)± 3.5%RH (At Other Ranges), Resolution 0.01%RH Temperature Measuring Range - 20°C ~ 80°C / - 4°F ~ 176°F Accuracy ±0.5°C / ±0.9°F (25°C)±0.8°C / ±1.5°F (At Other Ranges) Resolution 0.01°C / 0.01°F Power 9V Battery Dimensions 173 x 56 x 39mm (approx.) , Weight 139gms Accessories Carrying Case, Inst. Manual, 9V Battery (installed)	

DEPARTMENT OF CHEMISTRY

S. No	PRODUCT NAME	Specifications	Quantity Required
1.	UV-Visible Spectrophotometer	<p>Optics: Single Beam Wavelength Range: 340 to 960 nm Bandwidth: 10 nm Resolution: 0.1 nm Photometric Range: -0.04 to 2.5 Abs Photometric Accuracy: ± 0.005 Abs at 1.0 Abs PC Based Automatic Source Optimisation & Base Line Correction Wavelength Range: 200-1100 nm Resolution: 0.1 nm Accuracy: ± 0.5 nm Bandwidth: 2 nm Sample Holder: Automatic 5 position Sample Changer Single Position 10 mm Cuvette Holder Operation Mode: %T, Abs, Conc. (K Factor, Multi Standard) Measuring modes: Single Wavelength, multi Wavelength, Scan, Time Scan.</p> <p>*SERVICE SHOULD BE PROVIDED IN ODISHA</p>	
2.	Photo Reactor	<p>1. Medium pressure mercury vapor lamp radiate predominantly 365-366nm light with smaller amounts in the ultra-violet region 2. wattage- 120 w 3. IMMERSION WELLS: double-walled wells, made in Quartz or Borosilicate Glass, which house the lamp. Inlet and outlet tubes provide for water cooling.</p>	

3.	High Pressure Autoclavewith Stirrer.	<ul style="list-style-type: none"> 1. 100 ml teflon lined container 2. stirrer with speed 0-1500 rpm 3. maximum temp. -350 C 4. maximum pressure- 22 Mpa 	
4.	Digital Balance	WENSAR Precision Balance-300g/1mg- LPB22 Capacity-300g/1mg LCD Display with white black light. Multifunction Weighing Units. Overload Alarm. In built rechargeable battery.	
5.	Lab Microwave Oven	StainlessSteel Material with 60 Lit Capacity. Temp Range: 50-150 Degree Celsius. Frequency: 50 Hz, Voltage: 230V	
6.	Multi position magnetic Stirrer	<ul style="list-style-type: none"> Dimension: 36L x 32W x 5H cm Speed: 80-2000 RPM Display Type: Digital LED 4 position motorless magnetic stirrer Power Rating: 5/10/15/20 Watts 	

DEPARTMENT OF PHYSICS

SL. NO.	NAME OF THE EQUIPMENTS/ ITEM	SPECIFICATIONS	Quantity Required
1	Surface tension of a liquid (by capillary rise method).	Capillary Tube Apparatus - a) Capillary tube apparatus Consists of rising table fitted with rod and clamp to hold three capillary tubes.	
2	Newton's Ring	Newton's Ring Microscope - a) Newton's Ring Apparatus – Deluxe Complete with Newton's ring lens fitted in front of microscope. Except sodium lamp and transformer, Planoconvex lens of focal length 100 cm	
3	Study of frequency response of LCR Circuit.	LCR Series And Parallel Resonance Apparatus - Objective – To plot frequency vs. Current characteristics of LCR circuit when connected in series or parallel. Features- Instrument comprises 3 resistances, 3 capacitors and one inductance connected inside and connection brought out at sockets. 2 ac moving coil meters to measure voltage and current. With Built-In Sine Wave Oscillator	
4	To verify the Stefan's law of radiation and to determine Stefan's constant.	DC regulated Power supply 0 to 20 V. Voltmeter and Ammeter mounted on the front panel. Bulb holder with bulbs 19 V mounted on the front panel	
5	To determine wavelength and velocity of ultrasonic wave in liquid.	High frequency generator-single frequency, Measuring Cell-Max displacement of reflector 20 mm, Required quantity of liquid 10 cc. least count of micrometer 0.01 mm to 0.001 mm. Shielded cable impedance 50 Ohm	

6	To study PE hysteresis loop of a ferroelectric crystal	Sample holder for mounting PZT crystal. Glass container and oil is required to place the sample holder. One microswitch with screw at the top to connect high volt supply. Four sockets for CRO connections are needed.	
7	To measure the Dielectric Constant of a Solid Materials and variation with frequency	R.F generator (Range 9-10 MHz approx.) Micro Ameter range 0-50 mA . Potentiometer for sensityvity selection Fixed capacitor metal (Metal). Variable Gang capacitor. Sockets for capacitor and variable capacitor brought out at front panel. One solid bakelite plate	
8	To build Flip-Flop (RS,Clocked RS, D- type and JK) circuits using NAND gates.		
9	To design monostable multivibrator of given specifications using 555 Timer.		
10	To design astable multivibrator of given specifications using 555 Timer.		
11	Kit required to perform Half Adder, Full Adder and 4-bit binary Adder.		
12	Kit required to perform Half Subtractor, Full Subtractor, Adder-Subtractor using Full Adder I.C.		
13	To design a switch (NOT gate) using a transistor.		
14	Kit to verify and design AND, OR, NOT and XOR gates using NAND gates.		
15	He-Ne laser(Red light) 2 mW.	Power-2mW. Operating wave length 632.8 nm(Red). Bim diamter 0.8 mm, Beam divergence less than 1 mrad, Polarization-random, Mode Transverse electromagnetic mode-TEM00. Output power stability 2.5 percentage, Power input 220V AC +- 10 percentage, 50 Hz min, Operating life time 15000 hrs, Shelf life: 10 years	

16	To determine the Plancks constant using LEDs of at least 4 different colours.	Kit for Plancks constant	
17	To show the tunneling effect in tunnel diode using I-V characteristics.	Inbulit fixed DC regulated power supply, Tunnel diode-IN 3717, Power requirement:230 VAC 10 percentage, 50 Hz	
18	Wien bridge oscillator for given frequency using an opamp	Instrument comprises of 12V DC, regulated power supply, circuit diagram printed and components mounted on the front panel.	
19	To design a phase shift oscillator of given specification using BJT	Instrument comprises of 12V DC, regulated power supply, circuit diagram printed and components mounted on the front panel.	
20	To study the Collpitt's oscillator.	Instrument comprises of 12V DC, regulated power supply, circuit diagram printed and components mounted on the front panel.	
21	To design and study OP Amp-IC (741/351) as integrator and differentiation and study frequency response.		
22	To study the frequency response of voltage gain of a RC-coupled transistor amplifier.		
23	To design and study OP Amp-IC (741/351) as inverting amplifier		
24	To design and study OP Amp-IC (741/351) as non inverting amplifier		
25	To design and study OP Amp-IC (741/351) as integrator study frequency response.		
26	To design and study OP Amp-IC (741/351) as differentiation and study frequency response.		
27	Transistor characteristics using BJT and draw load line	Regulated Power supply, 2-Ameter(250 micro ampere, 50 mA) and 2-voltmeter(one with 0-1 Volt and other with 0-10 V) on front side of kit. Both NPN and PNP.	

28	To study the V-I characteristics of a Zener diode.	Zenerdiode characteristics apparatus, Voltmeter 0-15 V DC, Regulated power supply, Mili ameter 0-150 mA, 3 different zener diode with breakdown voltage, source resistance	
29	Study of V-I and power curves of solar cells, and find maximum power point and efficiency.	Solar Cell(Photo-Voltaic Cell), Light Source, Two analog ameter and Voltmeter, Fitted with decade resistance box fixed in wooden sheet with 50 cm scale.	
30	To study the variation of Thermo-emf of a Thermocouple with Difference of Temperature of its Two Junctions.	Inbuilt digital mili volt meter 0 to 200 mV, Inbuilt oven with separate on off switch, circuit diagram printed on the panel, Cupper constantan thermocouple should be attached	
31	To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).	Callander and Griffith bridge, Galvanometer, DRM -65 rectangular dial, regulated power supply 0-5V DC at 0.5 A. Standard platinum resistance thermometer	
32	Mechanical equivalent of heat by Callander and barnes constant flow method	Callander and Barnes apparatus with constant label bath and stand, Battery ellimator 2-12V DC in steps/variable at 4A, DC ameter 65 mm round dial to read 3 amp.DC volt meter 65 mm round dial to read 0-15 V	
33	To determine specific heat of liquid by the method of cooling	Joules calori meter, Battery ellimator, digital stop clock, thermometer, liquid (Glycerin)	
34	To study the characteristics of a series RC Circuit.	Kit for RC circuit	
35	Battery Ellimator	0-12V, 0-10V, 0-15V, Current 1A-4 A	
36	Plug Keys	(2, 3 , 4 ways and 6ways) each two	

37	Function generator for CRO	Frequency range 0.1 Hz to 10 MHz, Functions sine, square, triangle. Ramp pulse TTL pulse output, Open circuit 20 Vp-p (Sine, square, triangle)+ 5V in DC mode into 50 ohms:10 Vp-p (sine, square, triangle). Peak amplitude+DC off-set < +10 V. Attenuator: 2 steps attenuators 20 DB each and vernier fine 20 dB. Amplitude flatness upto 3MHz	
38	Grating	15000 lines Per Inch Window size 50x35mm (Indian Replica)	
39	Magnifying glass	Reading magnifying glass	
40	Digital balance for lab		
41	Soldering Iron kit	Electric 25w soldering iron kit set 7 in 1	
42	Screwdriver kit		
43	Concave lens	2" F.L. 15 – 25CM	
44	Convex lens	2" F.L. 15 – 25CM	
45	Concave mirror	2" F.L. 15 – 100CM	
46	Convex mirror	2" F.L. 15 – 100CM	
47	Plano convex and Plano concave lens	Focal length 25 cm and 50 cm	
48	Daniel cell	Electronic Daniel Cell works on 230 V AC, regulated output 1.08 V	
49	Leclanche cell	Electronic Leclanche Cell works on 230 V AC, regulated output 1.5 V	
50	Computers for programming	CPU-Intel core i7, 16 GB RAM, 250 GB SSD, 1TB Hard drive, Monitor, Key board, Mouse	
51	Ameter Voltmeter (AC, DC)	Ampere, microampere, miliampere. Ameter (0 to 5 A) and 10 to 15 A. 0 to 150 mA. Voltmeter 0 to 5 V, 0 to 12 V, 0 to 15V.	
52	Digital Multimeter		
53	One way Key, Two way Key, Four way Key		
54	AC Mains	0 to 12 V and 3 A	
55	Step up and Step down transformer	12 V, 2A	
56	Thermometer	Range 0 degree to 10 degree C. 10 division in each section. Mercury with red ink.	

57	Measurement of susceptibility of paramagnetic solution by Quinck's tube method	U shaped electro magnet with soft iron core, Field intensity 7.5 kg at 10 mm air-gap, Pole pieces 15 mm diameter, energising coils each of resistance 3 ohms, Power requirement 0 to 30 V, 4A. Digital Gauss meter	
58	Hall effect experimental set up	Digital Gauss meter (2kg to 20 Kg), Hall effect Volt meter 0 to 20 mV, Current 0 to 20 mA and 0 to 10 micro ampere, Hall Probe(Germanium single crystal n-type or p-type), Constant current source (0 to 4 A), U-shaped electromagnet (7.5 Kg at 10 mm air gap)	
59	Elliptical polarized light by using Babinet compensator	Index scale for tuning analyzer into azimuth. Second scale for measuring degree of orientation. Least count of micrometer screw 0.001 cm.	
60	Determination of Polarization of light by reflection and determine the polarizing angle for air glass interface.	Spectrometer fitted with diode laser 5 mW with power supply analyzer Polarizer Photodetector, Glass acrylic plate.	
61	Anderson Bridge	Digital null detector, Decade resistance, Variable Capacitor, Sine wave signal of 1kHz, An inductor of 100 mH.	
62	Measurement of magnetic field strength (B) and its variation in solenoid	IC regulated power supply 0 to 30 V, 0 to 5 A with digital meter, digital gauss meter with gauss probe InAs material, Optical rail arrangement with clamping	
63	Sextant-SXT	Stainless scale is divided in 130 degree with micrometer overhead vernier. Readings are conveniently taken to 12 sec without a magnifier, complete with one erecting telescope, sight tube filter sun glasses in polished wooden cases	
64	Inertia table	Inertia Table, metal bodies(cylindrical, Triangular, spherical, Annular). Digital stop clock	
65	CRO	30 MHz or 20 MHz both XY-mode, AF, HF, RF,LF,VF operated	
66	Crocodile Key		

DEPARTMENT OF MATHEMATICS

Sl. No.	Equipments	Specification	Quantity
1	HP All-in-One	Processor: 13th Gen Intel Core i5-1335U (up to 4.6 GHz with Intel Turbo Boost Technology, 12 MB L3 cache, 10 cores, 12 threads), 23.8 inch Memory: 8GB DDR4-3200 MHz RAM Storage: 512 GB PCIe NVMe M.2 SSD Operating System & Software: Windows 11 Home, MS Office Professional UPS: Back-UPS BX600C-IN 600VA / 360W, 230V, UPS System	
2	MATLAB (Software)	Intended Use- Academic License Term—Perpetual	

DEPARTMENT OF COMPUTER SCIENCE

Sl. no	PRODUCT NAME	Specifications	Quantity Required
1	HP All-in-One	<p>Processor:13th Gen Intel Core i5-1335U(up to 4.6 GHz with Intel Turbo Boost Technology, 12 MB L3 cache, 10 cores, 12 threads),23.8inch Memory: 8GB DDR4-3200 MHz RAM Storage: 512 GB PCIeNVMe M.2 SSD</p> <p>Operating System & Software: Windows 11 Home , MS Office Professional</p> <p>UPS: Back-UPS BX600C-IN 600VA / 360W, 230V, UPS System</p>	

ANNEXURE II

LIST OF EQUIPMENTS WITH TECHNICAL SPECIFICATION

DEPARTMENT OF BOTANY					
S. No	Product Name	Item Code	Specifications	Make	Item can be supplied as per specification Yes/No
1	UV-Visible Spectrophotometer	Bot 1	Double beam Grating 1200 lines/mm UV visible (200-1100 nm, resolution 0.1 nm, accuracy ± 0.5 nm range band width 2nm, wavelength accuracy 0.5nm,) Photometric range 0 - 100 %T, -0.3 to 3A, 0 - 9999 Conc. scanning with multiple scan facility based, Time Scan, Kinetic Scan		
2	BOD Incubator	Bot2	Microprocessor controlled (113 litres, 2-600 C, LED display, Microprocessor temp control, 2-5 shelves approx.)		
3	Cooling Centrifuge with rotors	Bot3	(24x1.5 ml and 8x15 ml) max speed 16000rpm, brushless, Fast running, LED display, Brushless induction, digital countdown, CFC free refrigeration, precooling features, Motor overload protection, imbalance signal		
4	Benchtop centrifuge	Bot4	Speed 16000 rpm, stepless regulator, imbalance detector with cutoff, brushless, wxdxh-280x350x290 Rotors 10x2 ml, 24x1.5 ml, 8x5 ml		
5	Water bath	Bot5	15 litres, double walled, 355 x 405 x 100 mm, No. of holes 12, 7 5 mM diameter, temp upto 100 degree C, temp sensor, digital timer, stirrer and automatic cut off		
6	Lab refrigerator digital	Bot6	Refrigerator with 40 C and -20 degree C control facility		

DEPARTMENT OF ZOOLOGY

S. No	Product Name	Item Code	Specifications	Make	Item can be supplied as per specification Yes/No
1	Cooling Centrifuge with rotor	Zoo1	Swing out : 4100 rpm and for angle: 14,000 rpm. • Maximum rcf swing out : 3045xg and for angle : 18,407xg. • Maximum capacity : swing out – 4x200 ml, angle : 24x2 ml. • System should speed set range of 500- 14000. • Speed set step of 10 rpm. • System should have control accuracy of ±20rpm. • Temperature range should be -9°C to + 40°C. • Temperature performance limited to +4°C at max. speed. • Machine should have LCD display for showing parameters		
2	Double distillation plant	Zoo2	Borosilicate boiler, borosilicate condenser and quartz heater Powder coated stand for rust free operation. Provision for easy cleaning of boiler Input voltage: 220 V AC ± 10%, 50-60 Hz Distillate Quality		

			Conductivity: < 3.0 $\mu\text{S}/\text{cm}$ • Distilled Water Quality: Pyrogen Free Capacity: 2 LTR. PER HOUR Stage: Double stage		
3	Flame photometer	Zoo3	Microcontroller controlled automation for ease of operation. Determination upto four elements with single aspiration (Na, K, Li, and Ca). Upto five point calibration available. Facility for restandardisation with single standard available. Data processing with linear mode or quadratic curve fitting. Results of a measurement taken earlier can be recalled and displayed (Max. results storage: 700) 20-character, 4-line alphanumeric LCD readout for adequate user interfaces. Built-in real time clock for date and time of analysis. Centronix printer port for Epson compatible. Dot Matrix / Inkjet printers to get hard copy of results. Printout facility for individual sample, batch samples in the memory (700 max).		
4	Spring balance (Digital)	Zoo4	Range 100 g to 10 Kg, Readout accuracy: 2 gram, Aluminium material; Accessories include: 1x Hanging Scale, 1x S hook and Shackle, 1x Charging cable; with batteries		
5	Ice box	Zoo5	Insulated Plastic Material; capacity: 20 liter; dimension: Rectangular/Oval Included		

			with Chiller Ice Box,		
6	Plankton net	Zoo6	Pore size10um		
7	Lux meter (Digital)	Zoo7	Functions : MAX / MIN, Backlight, Auto Power Off Range : 0 ~ 200,000 lux / 0 ~ 20,000 fc Accuracy : ± 5% rdg + 10 dgt (< 10.000 lux / fc) ± 10% rdg + 10 dgt (>10.000 lux / fc) Resolution : 0.1 lux or 0.1 fc Selection : lux / fc Power : 9 V Battery		
8	Trinocular Microscope	Zoo8	Bright field, Dark field, Phase contrast, LED lamp, Tilting binocular, Camera5mp, USB connection		
9	Range finder	Zoo9	Forestry Pro range finder. Measurement range 7.3 - 1600 meter, Increment reading - 0.27 meter, Magnification 6X, Angular field of view 7.5 degrre, Eye relief 18mm, Diopter adjustment ± 4°, Lithium battery , Size 10.9 x7.4 x 4.3 cm		
10	Salinity Refractometer	Zoo10	Measuring Range 0 - 28 salinity , Resolution 0.2 Automatic temp compensation range - 10-30° C, Dimension 6.5 x1 x 1.5 inch		
11	Soil PH meter and Moisture Hygrometer	Zoo11	Mounting type - Tabletop, Operating temp 5 -50 C, Range 3-8, Accuracy ± 0.3,		
12	Sphygmomanometer	Zoo12	Model No: OMS101, Scale Range: 0-300 mm Hg, Accuracy:±3mm Hg, Mercury Purity 99.99%,		
13	Staining tray	Zoo13	25 slides rack		

14	Table top Centrifuge	Zoo14	Digital Speed Indicator. Stepless speed regulator. 0-99 minutes digital countdown timer. Imbalance detector with cut off Safety Lid interlock to prevent cover opening during centrifugation Max. Speed: 5250 rpm, Max. RCF: 300 g Max. Capacity: 300 ml, Dimension: 365w x 415d x 350h mm		
15	Tally counter	Zoo15	Four digit reader goes upto 9999; resets easily with a turn of the knob, white number and black background		
16	Haemocytometer set	Zoo16	HBG Haemocytometer with BL chamber, Item Code - HP2051309 - MXRADY		
17	Haemoglobinometer	Zoo17	HBG Sahli's Haemometer Set. Item Code- HP20714 - MXRADY		
18	Anemometer	Zoo18	Bearing- Sapphire jewel Bearing; Temperature sensor-K type thermocouple; Operating Temperature-0-50 °C; Operating Humidity- less than 80%; Operating Pressure- 500mB; Average period for wind speed measurement- m/s- 0.6second, knots- 0.2 second, km/hr-2.2second; Dimension- 150*72*35 Accuracy-3%±0.1		
19	Burette with stand	Zoo19	capacity-50ml; graduation interval-0.01ml		

20	Humidity & Temperature Meter	Zoo20	<p>Humidity Measuring Functions °C / °F / RH Selection, MAX / MIN, Auto Power Off, Range 0% ~ 100% RH Accuracy ± 3% RH (25°C, 20 ~ 80% RH) ± 3.5% RH (At Other Ranges), Resolution 0.01% RH Temperature Measuring Range - 20°C ~ 80°C / - 4°F ~ 176°F Accuracy ± 0.5°C / ± 0.9°F (25°C) ± 0.8°C / ± 1.5°F (At Other Ranges) Resolution 0.01°C / 0.01°F Power 9V Battery Dimensions 173 x 56 x 39mm (approx.), Weight 139gms Accessories Carrying Case, Inst. Manual, 9V Battery (installed)</p>		
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DEPARTMENT OF CHEMISTRY

S. No	Product Name	Item Code	Specifications	Make	Item can be supplied as per specification Yes/No
1.	UV-Visible Spectrophotometer	Chem1	<p>Optics: Single Beam Wavelength Range: 340 to 960 nm Bandwidth: 10 nm Resolution: 0.1 nm Photometric Range: -0.04 to 2.5 Abs Photometric Accuracy: ± 0.005 Abs at 1.0 Abs PC Based Automatic Source Optimisation & Base Line Correction Wavelength Range: 200-1100 nm Resolution: 0.1 nm Accuracy: ± 0.5 nm Bandwidth: 2 nm Sample Holder: Automatic 5 position Sample Changer Single Position 10 mm Cuvette Holder Operation Mode: %T, Abs, Conc. (K Factor, Multi Standard) Measuring modes: Single Wavelength, multi Wavelength, Scan, Time Scan.</p> <p>*SERVICE SHOULD BE PROVIDED IN ODISHA</p>		
2.	Photo Reactor	Chem2	<p>1. Medium pressure mercury vapor lamp radiate predominantly 365-366nm light with smaller amounts in the ultra-violet region 2. wattage- 120 w 3. IMMERSION WELLS:</p>		

			double-walled wells, made in Quartz or Borosilicate Glass, which house the lamp. Inlet and outlet tubes provide for water cooling.		
3.	High Pressure Autoclave with Stirrer.	Chem3	1. 100 ml teflon lined container 2. stirrer with speed 0-1500 rpm 3. maximum temp. -350 C 4. maximum pressure- 22 Mpa		
4.	Digital Balance	Chem4	WENSAR Precision Balance-300g/1mg- LPB22 Capacity-300g/1mg LCD Display with white black light. Multifunction Weighing Units. Overload Alarm. In built rechargeable battery.		
5.	Lab Microwave Oven	Chem5	Stainless Steel Material with 60 Lit Capacity. Temp Range: 50-150 Degree Celsius. Frequency: 50 Hz, Voltage: 230V		
6.	Multi position magnetic Stirrer	Chem6	Dimension: 36L x 32W x 5H cm Speed: 80-2000 RPM Display Type: Digital LED 4 position motorless magnetic stirrer Power Rating: 5/10/15/20 Watts		

DEPARTMENT OF PHYSICS

S. No	Product Name	Item Code	Specifications	Make	Item can be supplied as per specification Yes/No
1	Surface tension of a liquid (by capillary rise method).	Phy1	Capillary Tube Apparatus - a) Capillary tube apparatus Consists of rising table fitted with rod and clamp to hold three capillary tubes.		
2	Newton's Ring	Phy2	Newton's Ring Microscope - a) Newton's Ring Apparatus – Deluxe Complete with Newton's ring lens fitted in front of microscope. Except sodium lamp and transformer, Planoconvex lens of focal length 100 cm		
3	Study of frequency response of LCR Circuit.	Phy3	LCR Series And Parallel Resonance Apparatus - Objective – To plot frequency vs. Current characteristics of LCR circuit when connected in series or parallel. Features- Instrument comprises 3 resistances, 3 capacitors and one inductance connected inside and connection brought out at sockets. 2 ac moving coil meters to measure voltage and current. With Built-In Sine Wave Oscillator		
4	To verify the Stefan's law of radiation and to determine Stefan's constant.	Phy4	DC regulated Power supply 0 to 20 V. Voltmeter and Ameter mounted on the front panel. Bulb holder with bulbs 19 V mounted on the front panel		

5	To determine wavelength and velocity of ultrasonic wave in liquid.	Phy5	High frequency generator- single frequency, Measuring Cell-Max displacement of reflector 20 mm, Rquired quantity of liquid 10 cc. least count of micrometer 0.01 mm to 0.001 mm. Shielded cable impedence 50 Ohm		
6	To study PE hysteresis loop of a ferroelectric crystal	Phy6	Sample holder for mounting PZT crystal. Glass container and oil is required to place the sample holder. One microswitch with screw at the top to connect high volt supply. Four sockets for CRO connections are needed.		
7	To measure the Dielectric Constant of a Solid Materials and variation with frequency	Phy7	R.F generator (Range 9-10 MHz approx.) Micro Ameter range 0-50 mA . Potentiometer for sensivity selection Fixed capacitor metal (Metal). Variable Gang capacitor. Sockets for capacitor and variable capacitor brought out at front panel. One solid bakelite plate		
8	To build Flip-Flop (RS,Clocked RS, D- type and JK) circuits using NAND gates.	Phy8			
9	To design monostable multivibrator of given specifications using 555 Timer.	Phy9			
10	To design astable multivibrator of given	Phy10			

	specifications using 555 Timer.				
11	Kit required to perform Half Adder, Full Adder and 4-bit binary Adder.	Phy11			
12	Kit required to perform Half Subtractor, Full Subtractor, Adder-Subtractor using Full Adder I.C.	Phy12			
13	To design a switch (NOT gate) using a transistor.	Phy13			
14	Kit to verify and design AND, OR, NOT and XOR gates using NAND gates.	Phy14			
15	He-Ne laser(Red light) 2 mW.	Phy15	Power-2mW. Operating wave length 632.8 nm(Red). Bim diamter 0.8 mm, Beam divergence less than 1 mrad, Polarization-random, Mode Transverse electromagnetic mode-TEM00. Output power stability 2.5 percentage, Power input 220V AC +- 10 percentage, 50 Hz min, Operating life time 15000 hrs, Shelf life: 10 years		
16	To determine the Plancks constant using LEDs of at least 4 different colours.	Phy16	Kit for Plancks constant		

17	To show the tunneling effect in tunnel diode using I-V characteristics.	Phy17	Inbuilt fixed DC regulated power supply, Tunnel diode- IN 3717, Power requirement:230 VAC 10 percentage, 50 Hz		
18	Wien bridge oscillator for given frequency using an opamp	Phy18	Instrument comprises of 12V DC, regulated power supply, circuit diagram printed and components mounted on the front panel.		
19	To design a phase shift oscillator of given specification using BJT	Phy19	Instrument comprises of 12V DC, regulated power supply, circuit diagram printed and components mounted on the front panel.		
20	To study the Collpitt's oscillator.	Phy20	Instrument comprises of 12V DC, regulated power supply, circuit diagram printed and components mounted on the front panel.		
21	To design and study OP Amp- IC (741/351) as integrator and differentiation and study frequency response.	Phy21			
22	To study the frequency response of voltage gain of a RC-coupled transistor amplifier.	Phy22			
23	To design and study OP Amp- IC (741/351) as inverting amplifier	Phy23			
24	To design and study OP Amp- IC (741/351) as non inverting amplifier	Phy24			

25	To design and study OP Amp-IC (741/351) as integrator study frequency response.	Phy25			
26	To design and study OP Amp-IC (741/351) as differentiation and study frequency response.	Phy26			
27	Transistor characteristics using BJT and draw load line	Phy27	Regulated Power supply, 2-Ameter(250 micro ampere, 50 mA) and 2-voltmeter(one with 0-1 Volt and other with 0-10 V) on front side of kit. Both NPN and PNP.		
28	To study the V-I characteristics of a Zener diode.	Phy28	Zenerdiode characteristics apparatus, Voltmeter 0-15 V DC, Regulated power supply, Mili ameter 0-150 mA, 3 different zener diode with breakdown voltage, source resistance		
29	Study of V-I and power curves of solar cells, and find maximum power point and efficiency.	Phy29	Solar Cell(Photo-Voltaic Cell), Light Source, Two analog ameter and Voltmeter, Fitted with decade resistance box fixed in wooden sheet with 50 cm scale.		
30	To study the variation of Thermo-emf of a Thermocouple with Difference of Temperature of its Two Junctions.	Phy30	Inbuilt digital mili volt meter 0 to 200 mV, Inbuilt oven with separate on off switch, circuit diagram printed on the panel, Cupper constantan thermocouple should be attched		

31	To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).	Phy31	Callander and Griffith bridge, Galvanometer, DRM -65 rectangular dial, regulated power supply 0-5V DC at 0.5 A. Standard platinum resistance thermometer		
32	Mechanical equivalent of heat by Callander and barnes constant flow method	Phy32	Callander and Barnes apparatus with constant label bath and stand, Battery eliminator 2-12V DC in steps/variable at 4A, DC ammeter 65 mm round dial to read 3 amp. DC volt meter 65 mm round dial to read 0-15 V		
33	To determine specific heat of liquid by the method of cooling	Phy33	Joules calorimeter, Battery eliminator, digital stop clock, thermometer, liquid (Glycerin)		
34	To study the characteristics of a series RC Circuit.	Phy34	Kit for RC circuit		
35	Battery Eliminator	Phy35	0-12V, 0-10V, 0-15V, Current 1A-4 A		
36	Plug Keys	Phy36	(2, 3, 4 ways and 6ways) each two		
37	Function generator for CRO	Phy37	Frequency range 0.1 Hz to 10 MHz, Functions sine, square, triangle. Ramp pulse TTL pulse output, Open circuit 20 Vp-p (Sine, square, triangle)+ 5V in DC mode into 50 ohms:10 Vp-p (sine, square, triangle). Peak amplitude+DC off-set < +10 V. Attenuator: 2 steps attenuators 20 DB each and vernier fine 20 dB. Amplitude flatness upto 3MHz		

38	Grating	Phy38	15000 lines Per Inch Window size 50x35mm (Indian Replica)		
39	Magnifying glass	Phy39	Reading magnifying glass		
40	Digital balance for lab	Phy40			
41	Soldering Iron kit	Phy41	Electric 25w soldering iron kit set 7 in 1		
42	Screwdriver kit	Phy42			
43	Concave lens	Phy43	2" F.L. 15 – 25CM		
44	Convex lens	Phy44	2" F.L. 15 – 25CM		
45	Concave mirror	Phy45	2" F.L. 15 – 100CM		
46	Convex mirror	Phy46	2" F.L. 15 – 100CM		
47	Plano convex and Plano concave lens	Phy47	Focal length 25 cm and 50 cm		
48	Daniel cell	Phy48	Electronic Daniel Cell works on 230 V AC, regulated output 1.08 V		
49	Leclanche cell	Phy49	Electronic Leclanche Cell works on 230 V AC, regulated output 1.5 V		
50	Computers for programming	Phy50	CPU-Intel core i7, 16 GB RAM, 250 GB SSD, 1TB Hard drive, Monitor, Key board, Mouse		
51	Ameter Voltmeter (AC, DC)	Phy51	Ampere, microampere, miliampere. Ameter (0 to 5 A) and 10 to 15 A. 0 to 150 mA. Voltmeter 0 to 5 V, 0 to 12 V, 0 to 15V.		
52	Digital Multimeter	Phy52			
53	One way Key, Two way Key, Four way Key	Phy53			
54	AC Mains	Phy54	0 to 12 V and 3 A		
55	Step up and Step down transformer	Phy55	12 V, 2A		

56	Thermometer	Phy56	Range 0 degree to 10 degree C. 10 division in each section. Mercury with red ink.		
57	Measurement of susceptibility of paramagnetic solution by Quinck's tube method	Phy57	U shaped electro magnet with soft iron core, Field intensity 7.5 kg at 10 mm air-gap, Pole pieces 15 mm diameter, energising coils each of resistance 3 ohms, Power requirement 0 to 30 V, 4A. Digital Gauss meter		
58	Hall effect experimental set up	Phy58	Digital Gauss meter (2kg to 20 Kg), Hall effect Volt meter 0 to 20 mV, Current 0 to 20 mA and 0 to 10 micro ampere, Hall Probe(Germanium single crystal n-type or p-type), Constant current source (0 to 4 A), U-shaped electromagnet (7.5 Kg at 10 mm air gap)		
59	Elliptical polarized light by using Babinet compensator	Phy59	Index scale for tuning analyzer into azimuth. Second scale for measuring degree of orientation. Least count of micrometer screw 0.001 cm.		
60	Determination of Polarization of light by reflection and determine the polarizing angle for air glass interface.	Phy60	Spectrometer fitted with diode laser 5 mW with power supply analyzer Polarizer Photodetector, Glass acrylic plate.		
61	Anderson Bridge	Phy61	Digital null detector, Decade resistance, Variable Capacitor, Sine wave signal of 1kHz, An inductor of 100 mH.		
62	Measurement of magnetic field strength (B) and its variation in solenoid	Phy62	IC regulated power supply 0 to 30 V, 0 to 5 A with digital meter, digital gauss meter with gauss probe InAs material, Optical rail arrangement with clamping		

63	Sextant-SXT	Phy63	Stainless scale is divided in 130 degree with micrometer overhead vernier. Readings are conveniently taken to 12 sec without a magnifier, complete with one erecting telescope, sight tube filter sun glasses in polished wooden cases		
64	Inertia table	Phy64	Inertia Table, metal bodies(cylindrical, Triangular, spherical, Annular). Digital stop clock		
65	CRO	Phy65	30 MHz or 20 MHz both XY-mode, AF, HF, RF,LF,VF operated		
66	Crocodile Key	Phy66			

DEPARTMENT OF MATHEMATICS

S. No	Product Name	Item Code	Specifications	Make	Item can be supplied as per specification Yes/No
1	HP All-in-One	MAT1	Processor:13th Gen Intel Core i5-1335U(up to 4.6 GHz with Intel Turbo Boost Technology, 12 MB L3 cache, 10 cores, 12 threads),23.8inch Memory: 8GB DDR4-3200 MHz RAM Storage: 512 GB PCIe NVMe M.2 SSD Operating System & Software: Windows 11 Home UPS: Back-UPS BX600C-IN 600VA / 360W, 230V, UPS System		
2	MATLAB (Software)	MAT2	Intended Use- Academic License Term—Perpetual		

DEPARTMENT OF COMPUTER SCIENCE

S. No	Product Name	Item Code	Specifications	Make	Item can be supplied as per specification Yes/No
1	HP All-in-One	COMP 1	<p>Processor:13th Gen Intel Core i5-1335U(up to 4.6 GHz with Intel Turbo Boost Technology, 12 MB L3 cache, 10 cores, 12 threads),23.8inch Memory: 8GB DDR4-3200 MHz RAM Storage: 512 GB PCIeNVMe M.2 SSD</p> <p>Operating System & Software: Windows 11 Home</p> <p>UPS: Back-UPS BX1100C-IN 1100VA / 660W, 230V, UPS System</p>		

ANNEXURE III

PROFORMA FOR FINANCIAL BID

To,

The Principal,
Government Degree College, Koraput
Koraput-764021

Ref: Bid no. Dated

Sir,

I / We _____ hereby offer to supply, install and commission of the following item(s) at the prices indicated below:

DEPARTMENT OF BOTANY				
S. No	PRODUCT NAME	Item Code	MAKE	Item can be supplied as per specification Yes/NO
1	UV-Visible Spectrophotometer	Bot 1		
2	BOD Incubator	Bot2		
3	Cooling Centrifuge with rotors	Bot3		
4	Benchtop centrifuge	Bot4		
5	Water bath	Bot5		
6	Lab refrigerator digital	Bot6		

DEPARTMENT OF ZOOLOGY

S. No	PRODUCT NAME	Item Code	MAKE	Item can be supplied as per specification Yes/NO
1	Cooling Centrifuge with rotor	Zoo1		
2	Double distillation plant	Zoo2		
3	Flame photometer	Zoo3		
4	Spring balance (Digital)	Zoo4		
5	Ice box	Zoo5		
6	Plankton net	Zoo6		
7	Lux meter (Digital)	Zoo7		
8	Trinocular Microscope	Zoo8		
9	Range finder	Zoo9		
10	Salinity Refractometer	Zoo10		
11	Soil PH meter and Moisture Hygrometer	Zoo11		
12	Sphygmomanometer	Zoo12		
13	Staining tray	Zoo13		
14	Table top Centrifuge	Zoo14		
15	Tally counter	Zoo15		
16	Haemocytometer set	Zoo16		
17	Haemoglobinometer	Zoo17		
18	Anemometer	Zoo18		
19	Burette with stand	Zoo19		
20	Humidity & Temperature Meter	Zoo20		

DEPARTMENT OF CHEMISTRY

S. No	PRODUCT NAME	Item Code	MAKE	Item can be supplied as per specification Yes/NO
1.	UV-Visible Spectrophotometer	Chem1		
2.	Photo Reactor	Chem2		
3.	High Pressure Autoclavewith Stirrer.	Chem3		
4.	Digital Balance	Chem4		
5.	Lab Microwave Oven	Chem5		
6.	Multi position magnetic Stirrer	Chem6		

DEPARTMENT OF PHYSICS

S. No	PRODUCT NAME	Item Code	MAKE	Item can be supplied as per specification Yes/NO
1	Surface tension of a liquid (by capillary rise method).	Phy1		
2	Newton's Ring	Phy2		
3	Study of frequency response of LCR Circuit.	Phy3		
4	To verify the Stefan's law of radiation and to determine Stefan's constant.	Phy4		
5	To determine wavelength and velocity of ultrasonic wave in liquid.	Phy5		

6	To study PE hysteresis loop of a ferroelectric crystal	Phy6		
7	To measure the Dielectric Constant of a Solid Materials and variation with frequency	Phy7		
8	To build Flip-Flop (RS,Clocked RS, D- type and JK) circuits using NAND gates.	Phy8		
9	To design monostable multivibrator of given specifications using 555 Timer.	Phy9		
10	To design astable multivibrator of given specifications using 555 Timer.	Phy10		
11	Kit required to perform Half Adder, Full Adder and 4-bit binary Adder.	Phy11		
12	Kit required to perform Half Subtractor, Full Subtractor, Adder- Subtractor using Full Adder I.C.	Phy12		
13	To design a switch (NOT gate) using a transistor.	Phy13		
14	Kit to verify and design AND, OR, NOT and XOR gates using NAND gates.	Phy14		

15	He-Ne laser(Red light) 2 mW.	Phy15		
16	To determine the Plancks constant using LEDs of at least 4 different colours.	Phy16		
17	To show the tunneling effect in tunnel diode using I-V characteristics.	Phy17		
18	Wien bridge oscillator for given frequency using an opamp	Phy18		
19	To design a phase shift oscillator of given specification using BJT	Phy19		
20	To study the Collpitt's oscillator.	Phy20		
21	To design and study OP Amp-IC (741/351) as integrator and differentiation and study frequency response.	Phy21		
22	To study the frequency response of voltage gain of a RC-coupled transistor amplifier.	Phy22		
23	To design and study OP Amp-IC (741/351) as inverting amplifier	Phy23		
24	To design and study OP Amp-IC (741/351) as non inverting amplifier	Phy24		

25	To design and study OP Amp-IC (741/351) as integrator study frequency response.	Phy25		
26	To design and study OP Amp-IC (741/351) as differentiation and study frequency response.	Phy26		
27	Transistor characteristics using BJT and draw load line	Phy27		
28	To study the V-I characteristics of a Zener diode.	Phy28		
29	Study of V-I and power curves of solar cells, and find maximum power point and efficiency.	Phy29		
30	To study the variation of Thermo-emf of a Thermocouple with Difference of Temperature of its Two Junctions.	Phy30		
31	To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT).	Phy31		
32	Mechanical equivalent of heat by Callander and barnes constant flow method	Phy32		

33	To determine specific heat of liquid by the method of cooling	Phy33		
34	To study the characteristics of a series RC Circuit.	Phy34		
35	Battery Eliminator	Phy35		
36	Plug Keys	Phy36		
37	Function generator for CRO	Phy37		
38	Grating	Phy38		
39	Magnifying glass	Phy39		
40	Digital balance for lab	Phy40		
41	Soldering Iron kit	Phy41		
42	Screwdriver kit	Phy42		
43	Concave lens	Phy43		
44	Convex lens	Phy44		
45	Concave mirror	Phy45		
46	Convex mirror	Phy46		
47	Plano convex and Plano concave lens	Phy47		
48	Daniel cell	Phy48		
49	Leclanche cell	Phy49		

50	Computers for programming	Phy50		
51	Ameter Voltmeter (AC, DC)	Phy51		
52	Digital Multimeter	Phy52		
53	One way Key, Two way Key, Four way Key	Phy53		
54	AC Mains	Phy54		
55	Step up and Step down transformer	Phy55		
56	Thermometer	Phy56		
57	Measurement of susceptibility of paramagnetic solution by Quinck's tube method	Phy57		
58	Hall effect experimental set up	Phy58		
59	Elliptical polarized light by using Babinet compensator	Phy59		
60	Determination of Polarization of light by reflection and determine the polarizing angle for air glass interface.	Phy60		
61	Anderson Bridge	Phy61		
62	Measurement of magnetic field strength (B) and its variation in solenoid	Phy62		

63	Sextant-SXT	Phy63		
64	Inertia table	Phy64		
65	CRO	Phy65		
66	Crocodile Key	Phy66		

DEPARTMENT OF MATHEMATICS

S. No	PRODUCT NAME	Item Code	MAKE	Item can be supplied as per specification Yes/NO
1	HP All-in-One	MAT1		
2	MATLAB (Software)	MAT2		

DEPARTMENT OF COMPUTER SCIENCE

S. No	PRODUCT NAME	Item Code	MAKE	Item can be supplied as per specification Yes/NO
1	HP All-in-One	COMP 1		

Further, It is certified that I/ we have understood the general Terms and Conditions of the bid and our offer is to supply items strictly in accordance with the requirements and the terms mentioned in the bid.

Note:

No change in the Performa is permissible.

Date:

Place:

(Signature and seal of the bidder)

ANNEXURE IV

DETAILS OF THE TENDERER

Sl. No	Particular	
1	Name of the Firm/Agency/Company	
2	Complete postal address	
3	Telephone Number & e-mail Id	
4	Name of Authorized Signatory (in block letters)	
5	Contact No. of authorized signatory	
6	Type of /Firm (Proprietary/ Partnership/ Pvt Ltd./Public Ltd) Tenderer has to provide relevant documents (with the technical bid) as a proof of firm type	
7	Date of Establishment and Experience in business (In number of years). Work order to be attached	
8	G.S.T. Registration No.	
9	PAN No.	
10	Yearly turnover of the organization during last 3 years) and furnish audited balance sheet. 2021-22 2022-23 2023-24	
12	Furnish the names of 3 organisation and their address, Telephone Number etc. where you completed similar kinds of work.	

Date:

Place:

Signature & Seal of the Bidder

ANNEXURE V

SELF DECLARATION FOR NOT BLACK LISTED

To

The Principal,
Government College,
Koraput- 764021, Odisha

Ref. Tender No.....dated.....

Sir/Madam,

I/Wehereby confirm that our firm has not been banned or blacklisted by any Government Organization/ Financial institution/ Court/ Public/ sector unit/ Central Government.

Date:.....

Place:

(Signature and seal of the bidder)

ANNEXURE VI

DECLARATION

To

The Principal,
Government College,
Koraput- 764021, Odisha

Ref. Tender No.....dated.....

Sir/Madam,

I/Wehereby declare that my/our firm will complete the work in time and submit the vouchers for payment within three weeks from the date of issue of work order

Date:.....

Place:

(Signature and seal of the bidder)