SIDDHESWAR COLLEGE ESTD-1980 Date ..... AMARDA ROAD, BALASORE

OFFICE OF THE PRINCIPAL
SIDDHESWAR COLLEGE,
Amarda Road, Balasore, Odisha

TENDER FORM

Tender No & Date	No. 344/SC/23 Dt. 10.07.2023
Name of The Tenderer	Principal Siddheswar College, Amarda Road, Balasore
List of Items	See in **Annexure-II**
Date of publication of tender notification onofficial website and newspapers	Date: 12.07.2023
Sale of Tender Form commence from	Date: 12.07.2023
Last date & Time for sale of tender form	Date: 19.2023 Time: 11:00 AM
Last date & Time for submission of duly filledin Tender form	Date: 19.2023 Time: 11:00 AM
Date & Time for opening of Tender	Date: 20.07.2023 Time: 2:00 PM
Date and Time of the opening of TechnicalBids	Date: 20.07.2023 Time: 2:00 PM
Place of opening of Tender	Office of the Principal Siddheswar College, Amarda Road, Balasore

CHECK LIST

The tenderers are hereby instructed to arrange and submit the following required documents as perthe checklist

Sl. No	Name of Document	Yes/No	Page No
1	CHECK -LIST		
2	Bidder Details**(Annexure-I)**		
3	Technical specification with **Compliance Statement(Annexure-II)**		
4	Copy of Valid GSTIN Registration Certificate		
5	Copy of PAN		
6	The authorization certificate of OEM/ authorized Manufacturer/ Distributor/ Dealership Certificate		
7	Copy of Income Tax Return for last 03 years (20-21, 21-22 & 22-23)		
8	Must have SEFA/BIFMA Certificate for manufacturer		
9	Price schedule in prescribed format **(Annexure-III)**		
10	Self-declaration for not having been black listed **(Annexure-IV)**		
11	Guarantee/Warranty **(Annexure-V)**		
12	Letter of Willingness **(Annexure-VI)**		
13	The tenderer should have minimum 03 nos. of similar work orders during last three years in any of the Government organization Work Experience **(Annexure-VII)**		
14	Work of Similar nature (of value not less than 2 lakhs) over the last 5 years (**Annexure-VII)**		
15	Original Product catalogue		
16	Original Tender form Duly Signed & Stamp on each Page		

Signature and with seal of tenderer
Date

Note – If tender is not submitted in above manner by the tenderer, may be treated asnon-responsive & liable to be rejected

NOTICE INVITING TENDER

The Principal, **Siddheswar College, Amarda Road, Balasore** invites sealed tenders under **"TWO BID SYSTEM"** from reputed suppliers of good standards for selection of a supplier for the purpose of supplying different items to **Principal Siddheswar College, Amarda Road, Balasore.**

"TWO BIDS SYSTEM"

Tenderer should take due care to submit the tender in accordance with requirement in sealed covers. Bids received shall be evaluated as per the Criteria prescribed in the tender document.

The College will not entertain any modifications subsequent to opening of bids and bids not conforming to tender conditions shall be liable to be rejected. Therefore, bidders are advised to submit their bids complete in all respects as per requirement of tender document specifying their acceptance to all the clauses of Bid Evaluation Criteria, General terms and conditions and complianceto the Scope of Work requirement etc.

i) **Technical Bid** shall consist of all technical details along with commercial terms and conditions.

AND

ii) **Financial Bid** shall indicate item-wise price for the items mentioned in the technical bid.

The technical bid and the financial bid should be sealed by the bidder in separate covers duly superscribed as "**Technical Bid**" and "**Financial Bid**" respectively. **Both these sealed covers should then be kept in a bigger cover** which should also be sealed & duly superscribed as "Tender for Supplying (Name of the dept.) to **Principal Siddheswar College, Amarda Road.** "The **Letter of Willingness & Check List.**

The tender document can also be available from the college office. The tender document isnttransferable to any other person.

ELIGIBILITY CRITERIA

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

A. Must be registered under GST Act

B. Should not have been blacklisted by any State Govt. / Central Govt. / PSU India. A self-declaration is required as per **Annexure IV.**

C. The Tenderer must be a Reputed Original Equipment manufacturer (OEM) / or the authorized Dealer of an OEM should provide all documents relating to their manufacturing/ sales capabilities. Must have Odisha Office for after sales & Service (If OEM/ Dealer outside of the State). **Tenderer who has their own sales and service station in Odisha with GST Registration Number should only quote.**

D. Proof of Establishment of Firms / Manufacturing unit/ Dealership certificate from the OEM to be attached with **Technical Bid**.

E. The tenderer should have minimum 03 nos. of similar work orders during last three years in any of the Government organization. Photocopies of the work order and Installation report ofsimilar items to be attached with Technical Bid.

F. The bidder should supply the items as per technical specification mentioned in **Annexure II**. The list of items available with the tenderer. Original Technical Catalog as Proof of Technical Specification should be enclosed by Bidder, merely Copy & Paste of Technical Specification willbe outright Rejected.

G. The bidder should compile as per **Annexure II**, duly filled in, signed and complete in all respects. No alteration / modification in the format shall be permitted.

H. A self-declaration that the tenderer has not been blacklisted by any State Government/ /Central Govt. / PSU in India as per **Annexure IV.**

I. Performance Statement- **Annexure-V**

J. If any Technical conflict arises while evaluating the Technical Bid, **Principal of Siddheswar College, Amarda Road, Balasore** may ask for **Live Demonstration** of same product in front of the Purchase committee.

1. LIST OF ITEMS:

Supply of Laboratory equipments to **Siddheswar College, Amarda Road, Balasore.** The items have been described in Annexure-I A bidder can submit financial bid for any number of items however care should be taken to submit for accounting units mentioned against each item.

2. BIDDER:

The term Bidder shall mean Company, Farm, Agency or the Individual to whom the Contract is awarded and shall include its/ his/ her/ its heirs and legal representative. Successful Bidder is referredto as "Party" in this tender document.

3. MODE OF PAYMENT

(i) Payment shall be made through NEFT/ RTGS transfer only after satisfactory supply of the saiditems.
(ii) The principal shall be at liberty to withhold any of the payments in full or in part.
(iii) No advance payment will be made in any case
(iv) The 100% payment shall be given within 10-15 days after satisfactory installation of the equipment / material supplied & necessary training of operating personnel.

5. MODE OF SUBMISSION OF TENDER

A. Tender should be submitted by tenderer in prescribed form.
B. Tenderer should submit their offer in two parts as under:
   (a) Technical Bid, consisting of technical details, drawing/catalogues/ brochures, data sheets ormodels etc. **(Annexure-II)**
   (b) Financial Bid on prescribed format attached with the tender document **(Annexure-IV)**
C. Proposals complete in all respect should be submitted to the **Siddheswar College, Amarda Road, Balasore** through **Speed Post/ Registered Post/ Courier Service/By Hand** only. Delivery in person shall not beaccepted.
D. All details asked for in the Annexure(s) should be properly filled in and each page of tender should be Stamped & Signed by the tenderer. Failure to attach Annexure required may invalidate the tender.
E. Any tender which is not found in the proper form or is received late due to postal delay orotherwise shall in no case be accepted.
F. The bidder is expected to examine all instructions, forms, terms and specifications in the bid document. Failure to furnish all information required as per the tender document or submission of bids not substantially responsive to the bidding document in every respect will be at the bidder's risk and may result in rejection of the bid.
G. Offers should be typed and Price be quoted in words as well as in figures. In case of any discrepancy or variation in between figures and words is found, the offer in words shall be finally acceptable. Disagreement with this provision shall entail the bid as non-responsive andsubsequently rejected.
H. Tender documents are not transferable.
I. Incomplete tenders or tender received after due date and not accompanied with earnestmoney deposit shall be rejected.
J. In no case the bidding manufacturer or the bidder, otherwise can authorize any other agency whatsoever to supply the items to purchaser and receive payment in respect thereof.
K. No amendment or supplementary attachment in the bidding document shall be

allowed or entertained after the bid having been submitted to the purchaser. No representation there toat any stage shall be entertained.

L. **Principal, Siddheswar College, Amarda Road, Balasore** reserves the right to reject any or all offers or increase/decrease in quantities, call for acceptance the offer in full or in part, without assigningany reasons thereof.
M. ISO certified Company should have established service team & network across the state.
N. The principal is not bound to accept the tender quoting the least in the financial bid. The principal reserves the right to place order for a part of the quantity offered. The rates quotedby the bidder shall be valid for any such part.
O. They should be registered for GST/CST/ST & Income Tax and should enclose copies ofrelevant certificates.
P. Tenderer will have to produce all these original documents at any time as deemed by theInstitute.

6. TERMS & CONDITIONS

The tenderer are requested to follow the below mentioned instructions

A. Failure to comply with the conditions will result in forfeiting of the tender. Please cross out anymistakes and rewrite the same and countersign.
B. Cost involved in submitting the bids, attending the tender opening meeting, arrangements for the demonstration /presentation etc. shall be borne by the bidder.
C. No tenderer shall be allowed to withdraw the tender rates after opening of the tender. If any tenderer withdraws the rates, Rates should be offered unconditionally and if rates are submitted with any condition thetender shall be rejected.
D. Tenderer shall have to quote item wise rates; consolidated rates shall not be considered andtender shall be liable to be rejected out rightly.
E. Tenderer/Manufacturer should have extensive **experience of at least 05 years** of designing, manufacturing, Supplying, installation and commissioning of the required item.
F. It is a compulsory requirement that the items offered make and model, as quoted by thebidder must be supplied, installed and must be in good working condition.
G. Tenderer should quote for the whole set of items required and should be willing to undertake responsibility of commissioning, warranties and after sales service. Part offer/offers not as pergiven specification will not be considered.
H. Tenders should comply all the terms and conditions given in the tender document and bequoted for the specification given in the tender documents.
I. Notwithstanding anything stated herein above, the principal reserves the right to assess thetenderer capability and capacity to perform the contract, should the circumstances warrant such assessment.
J. In case any part of the equipment supplied being found to be non-functional the entire unit ofequipment shall be taken as non-functional
K. The principal reserves the right to change the quantity/ upgrade the criteria/ drop any item or part thereof/extension of delivery date at any time before placing the purchase/ work/ supplyorder.
L. Right of Acceptance: The college authority is not bound itself to accept the lowest tender. It is

the sole discretion of the principal to place order for better quality.

- Signing of Tender: The individual signing the tender (or the documents in connection with it)must specify whether he/she is signing as:

(i) A sole proprietor of the farm, or constituted attorney of such proprietor.

(ii) A partner of the farm, if it be a partnership, in which case he/she must have the authority to refer to arbitration, disputes if any, concerning the business of the partnership, either by virtueof the partnership agreement or power of attorney.

(iii) Authorized signatory of the farm, if it is a company, a letter of the authority in this respectmust been closed along with the bid.

(iv) A person signing the tender form or any part thereof, on behalf of another, shall be deemed towarrant that he/she has the authority to bind the other and if on inquiry it appears that the person so signing has no authority do to so, Principal may without prejudice to other Civil and Criminal remedies, cancel the contract and hold the signatory liable for all costs and damages.

7. PRICES

Farm will submit the prices (all inclusive) for each item to be quoted on prescribed format attached with the tender document including charges for installation and commissioning with at least One year (12 months) Warranty from the date of satisfactory installation and commissioning of the equipment. The installation will include the mechanical, civil, electrical, furnishing work (if any) required at site.
The tenderer should take care that the rates and amounts are written in such a way its misinterpretations not possible.

The price ranking will be carried out as under:

1. The prices of optional items if not required as per technical specifications will be excluded forranking purpose.
2. The ranking will be determined as under. Total Price (Cost) = Price quoted with all accessoriesas per technical specifications along with all the taxes and charges (if any). All these calculations must be clearly written by the bidder in price bid.
3. Offer with any price variation clause will not be accepted. The rates quoted in ambiguous terms such as "Freight on actual basis", "taxes as applicable extra" or "packing & forwardingextra" will render the tender liable for rejection.
4. G.S.T. or Central sales tax (C.S.T.) or as applicable must be reflected in the financial bid andthe tax amount is to be clearly indicated separately but included in the lump sum price.
5. Bids shall be accepted with price quoted invariably in Indian Currency.
6. No increase in price shall be allowed even if claimed on the grounds of any statutory increaseor fresh imposition of any other tax later.
7. Discount, if any, offered by the bidder shall not be considered unless specifically indicated in the price schedule and shall be taken into account for consideration only if it is quoted clearlywith net price taking all such factors like discount, free supply etc. to arrive at net price.
8. Prices: The tenderer are required to quote as per "Annexure" (Financial Bid) in a Separate Envelope. The rates quoted shall include the cost of Material, labour, Transport & Packagingetc., as required for the completion of work.

8. VALIDITY OF BID:

The bid will remain valid for 1 months from the date of opening of financial bid.

9. TEST AND INSPECTIONS

Upon completion of the installation work, the tenderer/supplier shall facilitate inspection of the equipment by the principal or his authorized representative, to inspect & test the equipment and to confirm that they are installed in conformity to the required specifications and are serving the desired purpose. Any defect or failure to

serve the desired purpose, discovered during the inspection will be promptly rectified and made good to the satisfaction of the principal or his authorized representatives.

10. GUARANTEE/ WARRANTY (Annexure-V)

The tenderer shall furnish along with their quotations the under noted Guarantee /Warranty:

A. The Guarantee/ Warranty shall be for a period of at least 12 months from the date of satisfactory installation and handing over the equipment and of works conducted there with covered under the contract in working order. During the guarantee period the replacement of any part(s) of the equipment or rectification of defect of works will be free of cost. If the downtime exceeds seven consecutive days at any one time, the guarantee period will be extended beyond aforesaid 12 months by a duration equal to the total down time during the period of warranty.

B. The tenderer should produce written guarantee stating that the equipment being offered is latest model and that spares for the equipments will be available for a period of at least five years after its supply to the purchaser.

C. The tenderer whose tender is accepted shall furnish the warranty (Where Ever Applicable) in **Annexure-V** Along with Bill.

D. The manufacturer and the tenderer should guarantee the entire unit against defects ofmanufacture, workmanship and poor quality of components.

E. The tenderer shall bear all cost of such replacement, including freight, if any, of such replace or repaired equipment and/or other articles but without being entailed to any extra payment on that or any other account. All documents required for replacement in part/parts will be made available by the indenter.

Annexure-I

Bidder Details

1. Name & Postal address of Bidder:
   Telephones Nos.:
   E-mail:
   Name & address of Owners/ Partners/ Directors:
2. Nature of Farm/ Agency/Company (Sole/ Partnership/ otherwise):
3. Copy of GST Registration Certificate
4. Copy of PAN Card
5. Income Tax return of preceding 3 financial years
6. Undertaking certifying that the Farm is not black listed in Annexure
7. Each page of tender form duly signed in
8. Dealership Certificate (Latest)
9. SEFA/BIFMA Certificate
10. Whether agreed to abide by all the terms & conditions of this tender

Signature of the Proprietor/ Authorized Signatory
(Name & Signature of the tenderer with seal)

Place:
Date:

ANNEXURE-II

DEPARTMENT OF CHEMISTRY

LIST OF APPARATUS FOR

Brand : Elraado/ Biolinkk/Omega India/ Spancotek/Whirlpool/Haier/HP/Epson/Spectronics/Benq/Pragati

Sl No.	Apparatus Name & Technical Specification	Vendor Specification	Deviation if any
01	**Island Table** ***Technical Specification*** ➢ Dimension: 1800mm (L) x 1200mm (W) x 850 mm (H) ➢ Granite Top: The Table top must have (a) 20mm (± 1mm) finely polished thick black colour Granite, Bull nose/Chamfer moulding & Groove at the bottom (b) The Granite top must be designed to withstand a load of 200-300kg per square meter ➢ Table Construction (under bench modules) as per specified drawing (a) Modules must have 20 SWG pre-coated electro-galvanised sheet (TATA/Jindal/SAIL/JSW or any steel of good quality) to with stand a load of 200-300kg per sqm with 70-80 micron thickness EPOXY PU/Poly Carbonate/Polyester Powder Coating of good international quality. (b) Must have top lockable drawers (4 nos-150mm H, bottom cup boards (4 nos) with horizontal removable inner partition & four lockable doors (two shutters each) with self close hydraulic hinges. (c) Must have power coated Stainless Steel handles for drawers & cupboards (d) Provision for floor levellers (e) The base of modules must have skirting panels ➢ (f) Provision for one reagent racks (900mm L x 300mm W x 600mm H) with one good locking poly propylene peg board facility with 25 pegs, Peg Board Size: 600 H x 450 L (g) Provision for one poly propylene sink (600mm L x 450mm W x 300mm H), It must have (1) high durability and high thickness, (2) Inert towards all chemicals/Acids/Alkalis/U.V Radiation & Oxidising agents (h) 3-way tap must be provided with sink (i) One nos of 4 way heavy duty brass Gas Connector, 4 nos heavy duty brass Bunsen Burner & Gas Connection for each table. (j) The table must be designed for aesthetic look ➢ Hardware Fittings (a) Drawer Runner: Godrej / EBCO Make/ or any other make of good quality (b) Hinges: Godrej / EBCO Make/ or any other make of good quality (c) Handle: Godrej / EBCO Make/ or any other make of good quality (d) Lock: Godrej / EBCO Make/ or any other make of good quality Colour of the module: Ivory & Dark Blue		
02	**Office Table** ***Technical Specification*** ➢ Dimension: 1500mm (L) x 750mm (W) x 900 mm (H) ➢ Granite Top: The Table top must have (a) 20mm (± 1mm) finely polished thick black colour Granite, Bull nose/Chamfer moulding & Groove at the bottom (b) The Granite top must be designed to withstand a load of 200-300kg per square meter		

	➢ Table Construction (under bench modules) as per specified drawing (a) Modules must have 20 SWG pre-coated electro-galvanised sheet (TATA/Jindal/SAIL/JSW or any steel of good quality) to with stand a load of 200-300kg per sqm with 70-80 micron thickness EPOXY PU/Poly Carbonate/Polyester Powder Coating of good international quality. (b) Must have top lockable drawers (1 no-150mm H, bottom cup boards (1 nos) with horizontal removable inner partition & One lockable doors (two shutters each) with self close hydraulic hinges. ➢ Hardware Fittings (a) Drawer Runner: Godrej / EBCO Make/ or any other make of good quality (b) Hinges: Godrej / EBCO Make/ or any other make of good quality (c) Handle: Godrej / EBCO Make/ or any other make of good quality (d) Lock: Godrej / EBCO Make/ or any other make of good quality Colour of the module: Ivory & Dark Blue		
03	Office Chair		
04	Cooling Machine (Double Door)		
05	Laptop *Technical Specification* ➢ Intel Core I5, 12/13th Gen., 8GB RAM, 512 SSD, Display: 15.6", Windows-11, MS Office		
06	Laser Printer		
07	Projector		
08	Flooring and walling up to 5ft with tiles of the laboratory (2 rooms-2200 sq ft)		
09	Copper Calorimeter 4x3		
10	Digital Potentiometer		
11	Beckmann thermometer		
12	Test tube holder		
13	Wide mouth thermo flask		
14	Micro burette		
15	Buchner funnel with suction		
16	Gloves		
17	Laboratory Spectacles		

H.O.D.
Department of Chemistry

12.5.23

Principal
Principal, Siddheswar College,
Amarda Road

Principal
Siddheswar Degree College
Amarda Road, Balasore

9/5/23

DEPARTMENT OF BOTANY

LIST OF APPARATUS FOR

Brand :Mettler Toledo/Shimadzu/ Biolinkk/Spancotek/Prime/Br Biochem/Spectronics/HP/Epson/Tata Green

Sl No.	Apparatus Name & Technical Specification	Vendor Specification	Deviation if any
01	**Laminar Air Flow** Technical Specification: Air flow direction: Vertical, Working Size: 2'x2'x2', Air cleanliness: Class 100 , Outer Construction: Powder coated MS sheet, Inner Construction: Steeliness Steel, Air flow direction: Vertical, Sash (front door): Manual sliding type (Acrylic transparent), Side panels: Acrylic , Air velocity: 0.45 m/s to 0.65 m/s, Illumination: Fluorescent or LED light (2x20watts with UV light), Noise level: 65 ±5 db, Power supply: 220 volts / 50 Hz, Air filtration: Pre-Filter - 10 microns, HEPA filter: (0.3 Microns), HEPA filter Size: 2ft x 2ft x 6inch, Standard fittings: Air / gas cock, Mains on/off switch, Light on/off switch and UV Light on/off switch Blower on/off switch		
02	**Inverter Battery 150AH/12V Dc**		
03	**Computer with CPU** Technical Specification: Intel Core I3/I5, 12th Gen., 8GB RAM, 512 SSD, Display: 19.5", Windows-11, MS Office, Keyboard & Mouse		
04	**Vortex** Technical Specification:Type of Movement: Orbital, Orbital diameter: 6mm, Speed range: 0-3000rpm, Speed range: Scale, Permissible ambient temp.: 5-40 deg C, Permissible relative humidity: 80%, Protection class according to DIN EN 60529: IP 21, Voltage: 200-240/115/100 V compatible, Frequency: 50/60 Hz, Power: 36W, Motor rating input: 30W, Motor rating output: 15W, Dimensions: 107x146x166mm, Weight: 3kg		
05	**Colony Counter** Technical Specification: DIGITAL DISPLAY: 4 digit, 0 - 9999 Maximum Count, MEMORY: Microprocessor based with facility of Counting control memory against Power Failure, DISH SIZE: 110 mm, MAGNIFICATION: X 1.7, DIMENSIONS: L 265X B 230 X H 130 mm (Approx.), WEIGHT: 2 Kg. (Approx.), POWER: 230V ± 10% AC, 50Hz, 40W, ACCESSORIES: Marking Pen –(1 No.), Magnifier Lens– (1 No.) & Dust Cover		
06	**Spinner (Centrifuge Machine 3000 to 10000 R.P.M)** Technical Specification: Speed: 3000-10000 rpm, Max. RCF (g): 500-5400g, Input: 100-240 VAC, 50/60Hz, Timing: 0-99m59s, Display: LED, Driving Motor: DC Motor, Rotor Capacity: 8 x 2.0ml/1.5ml/0.5ml/0.2ml centrifuge tube (0.5ml and 0.2ml adapter) 2 x 8 x 0.2ml PCR tube strip (Speed<6k) , Noise: ≤50 Db, Dimension: 176x160x121 (mm), Net Weight: 1.5kg, Power: 220V/110V 50-60HZ		
07	**HOT AIR OVEN – 14x14X14 Outer MS & Inner SS** Technical Specification: Size: 14"x14"x14", Temperature upto 250, Accuracy ± 1, C double walled inner chamber of anodized Aluminum/ Stainless Steel, Elements on three sides		
08	**Tissue Culture Rack**		
09	**Laser Printer**		
10	**Spectrophotometer (UV-Visible) -Single beam** Technical Specification - Optical System: Single beam, grating 1200 lines/mm, Wavelength Range: 190-1000nm, Bandwidth:2nm, Wavelength Accuracy: ±1nm , Wavelength Repeatability: 0.5nm, Wavelength Setting: Auto, Photometric Accuracy: ±0.5%T, Photometric Repeatability: 0.3%T, Photometric Range: -0.3-3A, 0-200%T, Stray Light: ≤0.3%T, Stability: ±0.002A/h@500nm, Display: 128*64 Dots LCD, Detector: Silicon Photodiode, Standard cell holder: 4-position 10mm cell changer, Light Source: Tungsten & Deuterium Lamp, Output: USB port & Parallel Port (printer), Power: AC 85-250V, Dimension: 420x280x180mm, Weight: 12kg, USB Cable, 4 Glass Cell (1cm), 2 Quartz Cell (1cm), Operating Manual, Dust Cover, Software CD, Software Key, Software Manual, Power Cable with Computer		

Rita Mazumder
H.O.D. 12.5.23
Department of Botany

Principal
Principal, Siddheswar College,
Amarda Road

8/7/23

Principal
Siddheswar Degree College
Amarda Road, Balasore

DEPARTMENT OF PHYSICS

List of Experiment & Equipments

SL NO	Name of the Article
1	**Computer system with UPS, Table** Technical Specification : Intel Core I5, 12th Gen., 8GB RAM, 1TB HDD with SSD, Display: 19.5", Windows-11, MS Office, Keyboard & Mouse (MAKE: HP)
2	**Inverter**
3	**Chair**
4	**To verify the law of Malus for plane polarized light - Complete System** Technical Specification : OPTICAL BENCH, - Must have Black Ionised Material : Aluminium Coating, Type : Circular section, Scale : 0-150cm, Least count : 1mm, Length :1mtr, POLARIZER / ANALYZER, Angle : Adjustable (0°-90°), Aperture : 21mm dia.Frame : 130mm dia., Rod : 10 mm dia. DETECTOR: Detector : Terminals : 4mm safety socket, Aperture : 1 mm , Rod : 10 mm diameter, Voltmeter : 0-20V (Make: INDOSAW, SPANCO TEK, AELAB)
5	**To determine the specific rotation of sugar solution using Polarimeter. Complete System .** Technical Specification: POLARIMETER TUBE:Length :200mm with central bulb, metallic cap & cover glasses packed in a velvet case , LAURENT'S HALF SHADE: Circular scale :0°-360°, Least count :1° Vernier Reading :6 min, Dimensions : Dia 12mm, length 200mm OPTIONAL ESSENTIAL ACCESSORIES: Sodium light source ,Starting Voltage : 470 Volts, Input Voltage : 220V,50Hz,Lamp House ; 300x85mm(Lx□), Aperture dia :25mm, Sodium Light Transformer (Make: INDOSAW, SPANCO TEK, AELAB)
6	**To verify the Stefan`s law of radiation and to determine Stefan's constant. (Heat Radiation Method)** Technical Specification: Stefan's Constant radiation Apparatus on stand with black & silver disc Cu-Cn-Cu thermocouple on a rigid insulated board with two junctions in cotton wool.Oil bath with mustard oil, capacity 100 ml.Fuel for spirit lamp 2 x 100 ml. Spirit lamp on adjustable stand.Cotton wool in a cylindrical copper enclosure on the stand for junctions of cu-cn thermocouple. water bath copper, Super sensitive micrometer as galvanometer fixed on board. Steam boiler2 liter. Capacity with plastic tubing with pinch cock. Hot plate thermostatic controlled single phase (8").Two mercury thermometer 110 ' C for black body appt.One mercury thermometer 360 ' C for oil both.One 250 ml glass beaker , one plastic funnel.Two spiral connecting wires with connectors.Steam boiler2 liter. Capacity with plastic tubing with pinch cock.Hot plate thermostatic controlled single phase (8").Two mercury thermometer 110 ' C for black body appt. One mercury thermometer 360 ' C for oil both.One 250 ml glass beaker , one plastic funnel.Two spiral connecting wires with connectors (Make: INDOSAW, SPANCO TEK, AELAB)
7	**To determine value of Boltzmann constant using V-I characteristic of PN diode. - Complete** Technical Specification: Digital DC Voltmeter to measure the voltage across the diode.Highly stabilized variable D.C. power supply (0 - 2Volts).Digital Milliammeter to measure forward bias current in diode. Silicon Diode mounted inside the cabinet.Temperature controlled oven 70 degree C to heat the diode for different set of readings.Digital temperature indicator to measure temperature directly. (Make: INDOSAW, SPANCO TEK, AELAB)
8	**To Analyze elliptically polarized light by using a Babinet's Compensator** Techanical Speification : Babinet Compensator,White light source (Lamp),Quater wave plate,Polarizer,Analyzer,Eye Piece with light source (Make: INDOSAW, SPANCO TEK, AELAB)
9	**To determine the wavelength and velocity of ultrasonic Waves in a liquid (Kerosene Oil, Xylene, etc.) by studying the diffraction through ultrasonic grating.** Technical Specification HIGH FREQUENCY GENERATOR: 3MHz. The liquid is set into longitudinal vibrations mechanically using a crystal and RF oscillator. SPECTROMETER- The diameter of the brass scale is 7"

	Vernier constant: 1 minute. Spectrometer is provided with 20" long telescope Magnification using 50mm dia acromatic objective lens. Collimator tube is provided with 1" diameter acromatic objective Sodium light source Starting Voltage : 470 Volts, Input Voltage : 220V,50Hz Lamp House ; 300x85mm(Lx□), Aperture dia :25mm Sodium Light Transformer (Make: INDOSAW, SPANCO TEK, AELAB)
10	**To Measure the Dielectric Constant of a Dielectric Materials with frequency (Resonance Method)** Technical Specification: Actual capacitor :18pf,13pf,10pf,8pf Test capacitor without dielectric : 80pf,88pf,91pf,94pf, Test capacitor with dielectric :25pf,46pf,60pf,70pf, High Frequency Oscillator :100KHz Gang Condenser :0 to180°, The unit is compiled on a Hylem Board (Make: INDOSAW, SPANCO TEK, AELAB)
11	**Cathode Ray Oscilloscope** Technical Specification: 50MHz Dual Trace Dual Channel 1mv Sensitivity, CRT Type: 6-inch rectangular with internal graticule 8x10div (1div=1cm).Bandwidth :X1 - DC (AC 10Hz) ~20MHz (-3dB) Mode:Ch1,Ch2,Dual(Alt/Chop)Add,Ch2 INV with 1:10 x probe 1 Pair. (Make: INDOSAW, SPANCO TEK, AELAB)
12	**To measure the resistivity of a semiconductor (Ge) crystal with temperature by Four-probe method** Technical Specification: FOUR PROBE ARRANGEMENT , Oven (up to 200°C), Thermocouple Sensor (With Probe), Sample : Ge Crystal mounted, Thermometer (0-200°C), Four Probe Setup, Output Brought Out Through 4mm Banana Plugs.Constant Current Power Supply 20mA, OPTIONAL ESSENTIAL ACCESSORIES Digital Temperature Meter & Digital Multimeter (Make: INDOSAW, SPANCO TEK, AELAB)
13	**To determine the Hall coefficient of a semiconductor sample. (Compact Model)** Technical Specifications : ELECTROMAGNET - Made of soft iron, specially design for Hall Effect experiments, mounted on a wooden base for stable performance, Pole pieces :- 50mm dia. tapered type Field :- 7.5kg at 10mm. air gap, Energizing Coils :- Two coils each with total resistance of 9 ohms (approx).DIGITAL POWER SUPPLY FOR ELECTROMAGNET - 0 - 6Amp, 60V digital display, It is a constant current power supply, with long time operation and continuously variable current. DIGITAL GAUSS METER: Range: 0-2 K Gauss & 0-20 K Gauss, Resolution: 1Gauss at 0-2 K Gauss Range, Accuracy: ± 0.5%, Display: 3 ½ Digit, 7 Segment LED, Power: 220V, 50Hz Special Feature: Indicates the direction of the Magnetic field. Gauss Probe CONSTANT CURRENT POWER SUPPLY: (i) Digital Mill voltmeter Range: 0-200mV/2000mV (100µV minimum) Accuracy : ±0.1% of reading ±1 digit,(ii) Digital Mill Ammeter Range : 0-10mA/20mA Accuracy : ±0.1% of reading ±1 digit, (iii) Constant Current Power Supply Current : 0-20mA Resolution : 10µA Accuracy : ±0.2% of the reading ±1 digit, Load regulation : 0.03% for 0 to full load Line regulation : 0.05% for 10% variation. (Make: INDOSAW, SPANCO TEK, AELAB)
14	**To Test diode & Transistor Using Multimeter** Technical Specification : Display :3 ¾ Big LCD Display, DCV : 6V to 600V, ACV : 600mV to 600V, Resistance : 400 Ω to 40MΩ, Capacitance : 50nF to 100µF, Frequency : 50 Hz to 100Khz, Temperature : 0°C to 400 °C , Continuity Test , Auto Power Off (Make: METRAVI , FLUKE, HTC)
15	**Half Adder, Full Adder and 4-bit binary Adder & Half Subtractor, Full Subtractor, Adder-Subtractor using Full Adder I.C** Technical Specification : DC Supply :+5V/250mA (Fixed) ,Data Switch : 0-5V-8nos, LED Indication : 8nos, Quad 4 IC7846 : 3nos, Quad 4 IC7404 : 2nos, Quad 4 IC7432 : 1no, Quad 4 IC7483: 1no (Make: INDOSAW, SPANCO TEK, AELAB)
16	**To build Flip-Flop (RS, Clocked RS, D-type and JK) circuits using NAND gates** Technical Specification : DC Supply : +5V/250mA (Fixed) Data Switch : 0-5V-4nos , LED Indication : 2nos, Clock Pulse : High & Low Quad 4 IC7846 : 3nos, Quad 4 IC7404 : 2nos, Quad 4 IC7432 : 1no, Quad 4 IC7483: 1no (Make: INDOSAW, SPANCO TEK, AELAB)
17	**To design an astable & monostable multivibrator of given specifications using 555 Timer** Technical Specification : DC Supply : 5V, IC : NE555, Led Indicator : 2nos,Resistor : 100KΩ-2nos,10KΩ-2nos,1KΩ,Capacitor :1µF,0.1µF-2nos,0.01µF-2nos,10µF, Variable Resistor : 5KΩ, Optional essential accessories: 20MHz Dual Channel Analog Oscilloscope. (Make: INDOSAW, SPANCO TEK, AELAB)

18	**To determine the Planck's constant using LEDs of at least 4 different colours.** Technical Specification: DC Supply :0-5V/150mA, DC Voltmeter : 0-5V DC Ammeter: 0-2000μA,LED : RED-630nM,YELLOW-578nM, BLUE-436nM, GREEN-546nM (Make: INDOSAW, SPANCO TEK, AELAB)
19	**To determine the value of e/m by (a) Magnetic focusing** Technical Specification: To study charge of an electron by using Magnetic Focusing method.Kit comprises of High voltage Power Supply with intensity, focus X, Y deflection & Solenoid current controls.Two meters provided for acceleration voltage & for solenoid current controls. One 3"CRT mounted on Teak Wood Stand & a Ring Type Solenoid slides over the CRT.Dimension 11"x7"x4". (Make: INDOSAW, SPANCO TEK, AELAB)
20	**Tunneling effect in tunnel diode using I-V characteristics-Digital** Technical Specification: Inbuilt Fixed DC regulated power supply DC Voltmeter : 0-600mV, DC Ammeter : 0-50mA, Tunnel Diode : IN 3717 (Make: INDOSAW, SPANCO TEK, AELAB)
21	**To design an inverting amplifier using Op-amp (741,351) for dc voltage of given gain & its Frequency responce.** Technical Specification: Signal Oscillator, DC Supply :+12V & -12V Fixed, DC Supply : 0-5V Variable, Resistor : 1KΩ-2nos,10KΩ, OpAmp-IC741, DC Voltmeter : 0-5V-2nos, Display : 3 ½ Digit Optional Essential Accessories Cathode Ray Oscilloscope , Signal Generator (Make: INDOSAW, SPANCO TEK, AELAB)
22	**To study the zero-crossing detector and comparator** Technical Specification: DC Supply :+15V & -15V Fixed, DC Supply : 0-10V Variable, Resistor : 10KΩ-2nos, Diode :1N4007-2nos, OpAmp-IC741-2nos, Optional Essential Accessories: Cathode Ray Oscilloscope Signal Generator (Already Quoted Above) (Make: INDOSAW, SPANCO TEK, AELAB)
23	**To investigate the use of an op-amp as an Integrator & Differentiator.** Technical Specification: DC Supply: +12V &-12V Fixed, AC Signal: 10KHz, AC Voltage:1V, OPAMP-IC741, Resistor : 1KΩ,10KΩ-2nos,100KΩ-2nos,1MΩ,10MΩ, Capacitor:0.01μF-2nos,100pF Optional Essential Accessories: Cathode Ray Oscilloscope , Signal Generator (Already Quoted Above) (Make: INDOSAW, SPANCO TEK, AELAB)
24	**To study Lissajous Figures** Technical Specification: Function Generator-2nos,Function: Sine ,Square, Triangle, Frequency range :0.1Hz to 100KHz, Amplitude :20Vpp, Frequency Multiplier :.1 to 10K in decade step, Opamp-IC 741 , Optional Essential Accessories: Digital Oscilloscope (Already Quoted Above) (Make: INDOSAW, SPANCO TEK, AELAB)
25	**To determine wavelength of sodium light using Newton's Rings** *Technical Specification* 3 ways Motion Microscope: Magnification -30X Eyepiece : Ramsden 10x, Objective : 3x, Scale length : 110 mm, Least count : 0.01 mm, Rotatable Cross line Sodium Vapour Lamp 35W , Sodium Lamp Transformer Sodium Lamp Housing with Metal Box (Make: INDOSAW, SPANCO TEK, AELAB)
26	**To determine the coefficient of thermal conductivity of Cu by Searle's Apparatus.** Technical Specification: Searle's Thermal Conductivity Apparatus Thermometers (1/10°C) - 4nos, Constant Level Tank, Steam Boiler with Heating Arrangement, Rubber Tubing, Measuring Flask (Make: INDOSAW, SPANCO TEK, AELAB)
27	**To determine mechanical equivalent of heat J by callender and barne's constant flow method. - Complete System in all Respect.** Technical Specification : Calendar and Barn's continuous flow calorimeter, AC Ammeter : 0- 3A (Moving Coil), AC Voltmeter : 0-10V (Moving Coil), Thermometers : 10°C to 100°C -2nos, Measuring cylinder : 0 to 100mg, DC Supply : 2V to 12V/3A, Three Flow Water containg Beaker - 1 no, Rubber tubing : 8mm - 2Meter, Digital Stop-watch. (Make: INDOSAW, SPANCO TEK, AELAB)
28	**To determine the Moment of Inertia of a Flywheel** Technical Specification: Flywheel-Flywheel consists of a Steel disc 250mm old x 30mm wide, Which is integral with a shaft running in ball bearings, A peg fixed in the shaft acts as an anchor for the end of a pulling cord which is wound round the shaft, The periphery f the disc is an engraved mark which passes a pointer as the flywheel revolves, The bracket carrying the flywheel should be bolted to vertical surface , At least 1 m above the ground, This will allow the pulling cord and its load hanger, Sufficient free fall to drive the flywheel for up to 10 revolutions, Weights: (9 x 100gm slotted weights), Meter Scale 1 meter (Wood), Digital Stopwatch , Count: 1/100 Second, Time Display: Hour, Minute, Seconds (Make: INDOSAW, SPANCO TEK, AELAB)
29	**To determine the Modulus of Rigidity of a Wire by Maxwell's Needle** Technical Specification: Hollow cylindrical brass tube of length 40cm, Maxwell's needle, Wall Bracket, Wire, **Screw Gauge: Material**: Stainless Steel, **Range**: 0-25mm, **Finish**: Metallic, Meter Scale- 1 meter

	(wood), **Digital Weighing Balance**: **Body**: Plastic, **Capacity**: 700g, **Least Count**: 0.1g, **Stopwatch**: **Count**: 1/100 second, **Time display**: Hour, Minute, Seconds (Optional) (Make: INDOSAW, SPANCO TEK, AELAB)
30	**To study the characteristics of a series RC Circuit** Technical Specification: Built in DC Regulated Power Supply: 0-12V (Variable), Voltmeter: 0-12V (Moving Coil), Galvanometer: 1-0-1 (Moving Coil), Resistance: 10KΩ, 15KΩ & 18KΩ, Capacitors: 1000µf, 2200µf and 4700µf, Toggle Switch: 2way, Dump Switch: 1no, Components are mounted on board, Front panel built with high class insulated sheet, Circuit & Symbol diagram printed on front panel, Interconnection: 4mm banana patch cord, Mains Power: 230V/50Hz (Make: INDOSAW, SPANCO TEK, AELAB)
31	**To determine self inductance of a coil by Andersons bridge** Technical Specification: Variable resistance 0-100 ohm's, Resistance dials 10x10, 10x100 & 10x1000 ohm's, Standard capacitor 0.1µf and 0.2µf, Resistance 1000 ohm P and Q, Unknown inductance L, Digital NULL Detector or Head phone (Make: INDOSAW, SPANCO TEK, AELAB)
32	**To determine the Temperature Coefficient of Resistance by Platinum Resistance Thermometer (PRT)** Technical Specification: Platinum Resistance Thermometer, Three in one (Callender & Griffth bridge, Carry Foster bridge and potentiometer), Galvanometer , Hypsometer Copper, Power supply 2V DC 100mA, Connecting leads red & black 50cm (pair), Hot plate, Banana lead socket with U clip, Thermometer -10º to 150º c x 1ºc, Connecting lead red & black 100cm(pair), Instruction manual (Make: INDOSAW, SPANCO TEK, AELAB)
33	**To study the V-I characteristics of a Zener diode and its use as voltage regulator** Technical Specification: Variable DC supply: 0-15V , Voltmeter Range: 0-15V , Ammeter Range: 0-15mA, Ammeter Display: 3 ½ Digit LCD, Voltmeter Display: 3 ½ Digit LCD, Variable pot: 500K-1n, Interconnection: 4mm patch cord, Resistance: 1KΩ-3nos, Zener Diode: 6V, 9V & 12V, Mains Power: 230V/50Hz (Make: INDOSAW, SPANCO TEK, AELAB)
34	**Study of V-I & power curves of solar cells, and find maximum power point & efficiency** Technical Specification: DC Ammeter Range: 0-200mA, DC Voltmeter Range: 0-500mV, Ammeter Display: Analog Moving Coil, Voltmeter Display: Analog Moving Coil, Solar Cell, Light Source: 100W with intensity control , Range Selector Restive Load: 10Ω, 22Ω, 47Ω, 56Ω, 68Ω, 82Ω, 100Ω, 150Ω, 180Ω, 1KΩ (Make: INDOSAW, SPANCO TEK, AELAB)
35	**To determine an unknown Low Resistance using Carey Fosters Bridge** Technical Specification: Carey-Foster-bridge with jockey, Resistance module 10 ohm, Resistance modules 0.5,1,1.5 & 2.5Ω (each), Sensitive Galvanometer 20µA/ Div., Thick brass strip, Power Supply 2V/100mA, Connecting leads (red & black) 50cm (pair), Connecting leads black 25cm. Unknown low resistance (approx. 0.22 & 2Ω) (Make: INDOSAW, SPANCO TEK, AELAB)
36	**To compare capacitances using DeSautys bridge** Technical Specification: Decade resistance dials value 10x1000Ω, 10x100Ω and 10x10Ω, Decade resistance dial value 10x100Ω, Unknown Capacitor, Fixed standard capacitors value 0.01µF & 0.1µF (loss free), Connecting lead Red & Black (Make: INDOSAW, SPANCO TEK, AELAB)
37	**To verify the Thevenin and Norton Theorems** **To verify the Superposition Theorems** **To verify the Maximum Power Transfer Theorems** Technical Specification: Power Supply Unit: 9V DC & 5V DC, Plug in Board, Digital Voltmeter, Digital Ammeter, Connecting Leads red & black (each), Variable resistance module, Resistance modules: 10,22,50,75,100,150,220,560Ω (Make: INDOSAW, SPANCO TEK, AELAB)
38	**To study response curve of a Series LCR circuit and determine its (a) Reso- nant frequency, (b) Impedance at resonance, (c) Quality factor Q, and (d) Band width** **To study the response curve of a parallel LCR circuit and determine its (a) Anti resonance frequency and (b) Quality factor Q** Technical Specification: Signal Generator 10Hz to 110Khz 20V pp, Plug Board, Digital AC Ammeter, Resistance Module 1KΩ, 2KΩ, 3.3KΩ (each), Inductor 225mH, Capacitor 0.01µf, 0.1µf, Connecting leads (red & black) 50cm pair (Make: INDOSAW, SPANCO TEK, AELAB)
39	**Familiarization with Schuster`s focussing; determination of angle of prism** **To plot the I-D curve and to determine the refractive index of a prism** **To determine refractive index of the Material of a prism using sodium source** **To determine the dispersive power and Cauchy constants of the material of a prism using mercury source** **To determine dispersive power and resolving power of a plane diffraction grating** Technical Specification: **SPETROMETR**- Scale: **Brass (Strictly),** Base Dia:170mm , Objective: Achromatic lens, f = 178mm,Aperature 32mm, Slit : Brass with micrometer (German Silver with knurled screw), Reticle : 90 cross etched on glass, Eyepiece : 15X, Ramsden eyepiece, inbuilt magnifier, Base: 190mm Triangular, Cast Iron, **PRISM** - Size: 38x38mm, Height: 38mm, Material: EDF, **PLANE**

	DIFFRACTION GRATTING- Diffraction Grating: 15000 lines/ 6000 lines , **SODIUM LIGHT SOURCE (Optional)-** Sodium light Lamp: 35 watt., Transformer with metal Box, Lamp house: 300x85mm(Lxdia), Aperture dia: 25mm, **MERCURY LIGHT SOURCE (Optional)-** Mercury Vapour Lamp: 125 watt., Transformer with metal Box, Lamp house: 250x100mm(Lxdia), Aperture dia: 25mm (Make: INDOSAW, SPANCO TEK, AELAB)
40	**To determine the wavelength of laser source using diffraction of single slit** **To determine the wavelength of laser source using diffraction of double slits** Technical Specification: **OPTICAL BENCH-** Material: Black Aluminum alloy, Type: Hexagonal section, Scale: 0-100cm, Least count: 1mm, **DIODE LASER-** Peak wavelength: 635nm, Operating voltage: 5V DC, Operating current: 250mA, Optical power: 0.40-0.8mW, Laser product: Class II, Operating temp. : 0-40°C, Storage temp. : -10 to 50 °C, **PIN HOLE PHOTO DETECTOR-** Detector: Silicon photocell, Terminals: 4mm safety socket, Aperture: 1mm, Rod: 10mm diameter, **SLIT HOLDER-** Clear Aperture: 45x45mm, Object holder: Clip type, Mounting Rod: 10mm diameter, **SADDLE WITH MICROMETER-** Material: Aluminium, Transverse Motion: 10-0-10mm, Least count: 0.02mm, Locking: Spring loaded, Motion: X-Y axis, Holder: 10mm dia, **SINGLE WIRE-** Frame Size: 50mm x 50mm, Clear aperture: 15mm dia. (approx.), Wire thickness: 0.5mm (approx.), **CROSS WIRE-** Frame Size: 50mm x 50mm, Clear aperture: 15mm dia. (approx.), Wire thickness: 0.5mm (approx.), **TRANSVERSE SADDLE-** Material: Aluminium, Locking: Spring loaded, Motion: X-Y axis, Holder: 10mm dia, **DIGITAL MULTIMETER-** Resistance: 200W, 2000W, 20k, 200k & 2000k W., D.C. Voltage: 200 & 2000, mV: 20, 200 & 600V, AC Voltage: 200 & 600V, D.C. Current: 200 & 2000mA, 10A, Testing: Diode & transistor, Battery: 9V, **DIFFRACTION SLIDE-** Frame Size: 50mm x 50mm, Slit: Width=0.06mm & Separation=0.20mm (Single, Double), Diffraction grating: 80 lines /mm, Diffraction grating: 300 lines /mm, Single slit: Tapered, Double slit: Tapered, Metal gauze: 300 mesh, All individually mounted in slide frames and protected by two Glass plates (Make: INDOSAW, SPANCO TEK, AELAB)
41	**Measurement of susceptibility of paramagnetic solution (Quinck's Tube-Method)** Technical Specification: **POWER SUPPLY-** Voltage : 0-16V DC continuously variable & stabilized, Voltage display : 3½ digit LED, Ripple : Less than 25Mv, Overload : Current limiting protection, Current : 5 A continuously variable, 10% to full rating, Current display : 3½ digit LED, Working voltage : 230V AC, 50 Hz single phase, **DIGITAL GAUSS METER-** Range : 200 G & 2 kG, Resolution : 1G at 0 - 200G, Power : 220 V, 50 Hz AC, Hall probe : InAs, **TRAVELING MICROSCOPE-** Travel : Horizontal 170mm, Vertical 110mm, Least Count : 0.01mm, Working distance : 50mm, Eyepiece Ramsden : 8x, Reticle : 90° cross on glass, The vertical carriage slides on a brass pillar. In the vertical and horizontal at carriages a locking arrangement is provided to arrest coarse motion when slow motion screw is used. By successively locking and unlocking, motion in the total travers can be provided by the slow motion screw., **DIGITAL WEIGHING SCALE-** Capacity : 700g., Display :Digital, Least count : 0.1g., Body : Plastic, **ELECTROMAGNET-** Coils: 400 Turns. Coil Current: 4.5Amp (Max.), Connection: 4mm safety socket, U Core: 150x130mm (LxH), 40x40mm cross section, I Core : Length=150mm, 40x40mm cross section, Core material: Ferromagnetic (Make: INDOSAW, SPANCO TEK, AELAB)
42	**To determine the Boltzmann constant using V-I characteristics of PN junction diode** Technical Specification: Plug in Board, Diode Module 1N4007, Resistance Module 100Ω, 2W, Variable Resistance Module 1KΩ (0-3600°C), Connecting Lads Red & Black L=50cm, Digital Voltmeter: 19.99V DC, Digital Ammeter: 19mV DC, Power Supply: 5V D, Acrylic sheet with clip (Make: INDOSAW, SPANCO TEK, AELAB)

Bataakrushna Santara

H.O.D.
Department of Physics

8/7/23

Principal
Principal, Siddheswar College,
Amarda Road

Principal
Siddheswar Degree College
Amarda Road, Balasore

DEPARTMENT OF ZOOLOGY

LIST OF APPARATUS FOR

Brand :BH/BM/ Dbios/Jyoti/HP/ Dell/ Kent/ Omega India/Spancotek/Elraado Lab

Sl No.	Apparatus Name & Technical Specification	Qty	Vendor Specification	Deviation if any
01	Slide Cabinet 1000 capacity	01		
02	PH Paper	10		
03	Projector Screen	01		
04	Laptop	01		
05	Aquaguard	01		
06	Demonstration Table 6 1/2' x 3'	02		
07	Demonstration Table 5' x 3'	02		
08	Sphygmomanometer (mercury)	05		
09	Sphygmomanometer (Digital)	05		
10	Sahli's Haemoglobinometer	05		
10	Haemocytometer	05		
11	PH Paper (Narrow Range)	10		
12	Model- Eye	01		
13	Model- Ear	01		
14	Model- DNA	01		
15	Model- RNA	01		
16	Model- Fossils	01		
17	Model- Erinaceous	01		
18	Permanent Slide- Euglena w.m, Amoeba w.m, Paramecium w.m, Binary fission in paramecium w.m, Conjucation in paramecium w.m, T.s of Branchio genital regions of Balanoglossus, Herdmania Spicules, T.s of Adrenal gland of mammal, T.s of Thyriod of mammal, T.s of Parathyriod of mammal, Different Bacteria, Different Virus, Duodenum, Ileum, Rectum, Trachea, Cleavage, Blastula, Gastula, Neurula, Tail-Bud, Tadpole External, Tadpole Internal, Chick Embryo- 13,18,21,24,28,33,36,48,72 & 96 hours, Different type of scales, Bipinnaria larva w.m, Pleteus Lava w.m, Different stored grain pests, Stophilus oryzae w.m, Trogoderma Granarium w.m, Tribolium Castaneum	01 Each		
19	Museum Specimen- Three Specimen of any Ctenophore, Salamander, Alytes, Millepora, Obelia, Aurelia, Tubipora, Chaetopterus, Gambusia, Pinctada, Ostrea, Daphnia	01 Each		
20	Raxine Chart- Ascaris life stage, Fasciola life stage, Taenia life stage, Digestive System of Earthworm, Nephridia of Earthworm, Mouth part of Cockroach, Digestive System of Cockroach, Nervous system of Cockroach,	01 Each		
21	Steel Almirah (Glass fitting)	02		
22	Steel Almirah (Without Glass fitting)	02		

H.O.D.
Department of Zoology

Jayanta Kr. Mohapatra
DEMONSTRATOR
in
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Principal, Siddheswar College,
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4/2/23

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Siddheswar Degree College
Amarda Road, Balasore

Annexure-III

FINANCIAL BID

SL No	Name of theItems	Make & Model	Qty	Taxable price Per unit	GST@%	Total Price IncludingGST
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

Price: - Total price should be inclusive of all taxes. Items quoted must be as per thespecifications given in enclosed Annexure-II

Signature& Seal of

the supplierPlace:

Date:

Annexure-IV

SELF DECLARATION CUM UNDERTAKING

It is certified that my Farm/ Agency/ Company has never been **black listed** by any of the Departments/ Autonomous Institutions/ Universities/ Public Sector Undertakings of the Government of India or Government of Odisha or any other State Government or reputed educational institutions and no criminal case is pending against the said Farm/ Agency/ Company as on date_____.

Signature of the Bidder:

Name of the Authorized

Signatory: Name of the

Farm/Agency/Company:

Seal of the

Farm/Agency/Company:

Annexure-V

GUARANTEE / WARRANTY

I/We hereby declare that the equipments and other articles supplied to the purchaser under this contract shall be of the best quality and workmanship and are strictly in accordance with the specification and particulars contained/mentioned in the clause hereof and I/we hereby guarantee thatthe said equipment and other articles confirm to the description and quality aforesaid.

The purchaser will be entitled to reject the said equipment and other articles as maybe discovered not to confirm to the said description and quality. On such rejection the equipment and other articles will be returned in own risk and all the provision herein contained relating to rejection thereof shall apply. I/we shall, if called upon to do so, replace within a period of 14 days or such further period that be extended from time to time by the purchase at his discretion, and an applicationmade thereof by us, the equipment and other articles as are rejected by the purchaser and in such anevent the above mentioned Warranty shall apply to the equipment and/or other articles replaced fromthe date of replacement thereof, otherwise the tenderer shall pay to the purchaser such damages as may arise by reason of therein contained without prejudice to any other right of the purchaser in that behalf.

The equipment being offered is latest model and that spares for the equipmentswill be available for a period of at least five years after its supply to the purchaser.

The Guarantee/ Warranty shall be for a period of at least 12 months from the date of satisfactory installation and handing over the equipment and of works conducted there with covered under the contract in working order. During the guarantee period the replacement of any part(s) of the equipment or rectification of defect due to manufacturing of works will be free of cost. If the down time exceeds seven consecutive days at any one time, the guarantee period will be extended beyondaforesaid 12 months by duration equal to the total down time during the period of warranty.

Signature with seal of

the tendererDate:

Place:

Annexure-VI

LETTER OF WILLINGNESS

To
The Principal,
Siddheswar College
Amarda Road, Balasore

Sub: Submission of willingness certificate to supply/ install (name of the item/Dept,) at yourcollege premise.

Sir,

I am to inform you that my farm (name of the farm with address) is ready to **supply/ install (name of the items/Dept.)** within the specified period of receipt of work order from thecollege, if my farm is selected as eligible bidder during the selection of tender. I am willing to accept all the clauses of Bid evaluation criteria, general terms and compliance to the scope of work requirement as mentioned in the Tender form. If my farm fails to supply and install the required items in the quoted price.

Yours faithfully,

Authorized Signatory of the

farm with SealDate:

Place:

Annexure-VII

PAST WORK EXPERIENCES

Work of Similar nature (of value not less than 2 Lakhs) over the last 5 years

Sl. No	Name & Address of College	PO No & Date	Total Value of items supplied	Date of Supply	Contact no for College
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Authorized Signatory of the

farm with SealDate:

Place: