

OFFICE OF THE PRINCIPAL, RAJDHANI COLLEGE, BHUBANESWAR  
NO. 567 //DATE. 03.02.2024

**QUOTATION CALL NOTICE**

(For Lab Equipment/Lab Furniture/Chemical & Glassware)

Sealed quotations are invited from registered Firms / Manufacturers / Authorized Dealers of reputed brands having valid GST Registration and Income Tax PAN for supply of **Lab Equipment, Lab Furniture, Chemical & Glassware** for the College Laboratories in different departments. The last date and time for submission of the quotation is dt. 25.02.2024 (2.00 pm)

For more details, please visit our college website: [www.rajdhanicollege.org.in](http://www.rajdhanicollege.org.in).

  
-Principal 03/02/24

Rajdhani College, Bhubaneswar

Memo No. 568 dt. 03.02.2024

Copy to College Notice Board/OIC, College Website / Accounts Bursar/Accountant/H.C for information and necessary action.

  
Principal 03/02/24

Rajdhani College, Bhubaneswar

**OFFICE OF THE PRINCIPAL, RAJDHANI COLLEGE,  
BHUBANESWAR**

**Quotation Call Notice**

**No. 567 //Date 03.02.2024**

Sealed Quotations are invited from intending Manufacturers / Authorized Dealers of reputed brands having valid GST Registration & Income tax PAN for supply of **Lab Equipment, Lab Furniture, Chemical & Glassware** for the College Laboratories of different departments with the following terms and Conditions.

1. The bidder must be a Manufacturer / Authorised Dealer of reputed brand. The Manufacturer/ Authorized Dealer must have experience of at least three years in the field of selling of **Lab Equipment, Lab Furniture, Chemical & Glassware**.
2. Any bidder who has been debarred / black listed/found guilty within the last three years are not eligible to participate in the Quotation Call Process. All bidders are required to furnish a certificate to the effect as per format specified at **Annexure - 2**.
3. The Technical Specifications of **Lab Equipment, Lab Furniture, Chemical & Glassware** in different departments of the College are given in **Annexure - 1**.
4. The successful bidder awarded with the supply order will be required to deposit Performance Security of 5% of the value of the order within 07 days from the date of issue of order in the form of account Payee bank draft issued by any of the Scheduled Commercial Banks in favour of The Principal, Rajdhani College, Bhubaneswar Payable at Bhubaneswar. EMD will be refunded to the successful Bidder on receipt of the Performance Security.
5. The Performance Security will be forfeited in case of non-compliance / non-performance/delay in performance as per the term and conditions of Quotation Call Notice and the Supply order along with taking necessary steps for blacklisting such bidder. The performance security will be released only after successful completion of the supply.
6. The selected bidders will be required to deliver all the Lab Items at Rajdhani College near fire Station Baramunda, Bhubaneswar and install the respective Labs of the College, wherever required.

The entire responsibility of safe and secure delivery and installation of the items in good condition shall lie with the selected bidders.

7. The price quoted by selected bidders should be all inclusive i.e. with GST, Transportation, Loading & unloading, Installation Charges, and other changes, if any.

8. **All the price quotations must be submitted with details of product, description, specification as per Annexure – 1, unit price inclusive of GST & all other charges, quantity, total amount, terms and conditions.** The following documents are to be enclosed with the Price quotation and must be submitted with seal and signature of the Authorized Signatories.

- i. GST Registration Certificate and GST Returns for the last two quarters. (self-attested)
- ii. The xerox copy of PAN CARD (self-attested)
- iii. Income Tax Returns for last 3 years. (self-attested)
- iv. Authorized Dealership Certificate. (self-attested)
- v. EMD of 2% (minimum) of the quoted value in the form of account payee DD issued by any scheduled commercial bank in favour of Principal, Rajdhani College, Bhubaneswar Payable at Bhubaneswar. EMD of unsuccessful bidders will be returned within 15 days after opening of the quotation.
- vi. Certificate to the effect that the bidder has not been black listed/debarred/not found guilty as mentioned in **Annexure – 2**.
- vii. Undertaking to comply with terms and conditions of the Quotation Call Notice and supply & install wherever necessary, within the stipulated time (**Annexure – 3**).
- viii. Product catalogue, wherever required.
- ix. Other required documents, if any.

9. **The Bidders are requested to submit price quotations Department-wise (separate page of price quotation for different departments).**

10. The time scheduled for the Quotation called will be as follows.

- i. Floating of advertisement for the Quotation Call Notice in newspaper; dt. 05.02.2024.
- ii. Last date of receipt of sealed quotations by Speed Post / Regd. Post/by Hand at the Office of the undersigned; dt. 26.02.2024, 2.00 PM.
- iii. Opening of sealed quotations dt. 26.02.2024, 2.00 PM at the Chamber of the Principal. The bidders / their authorized representatives are advised to remain present at the time of opening of sealed quotations.
- iv. Tentative Date of placing of supply order dt. 01.03.2024.
- v. Delivery and installation, wherever required to be completed by dt. 09.03.2024.

11. Quotations received after the scheduled date & time shall be out rightly rejected.

12. Incomplete / Conditional Quotations may be rejected by the undersigned.

13. Advance payment is not allowed in any case. 100% payment will be released after completion of the supply & successful installation.

14. In case of any confusion or interpretation of any point mentioned above, the decision of the undersigned shall be final and binding.
15. The undersigned reserves the right to accept / reject any / all quotations without assigning any reason thereof.
16. In case of any legal dispute, the same shall be dealt with in the Court of Law located in Bhubaneswar, Odisha.

Sd/- Principal  
Rajdhani College, Bhubaneswar

## UNDERTAKING

I/We \_\_\_\_\_ S/D/W/o  
\_\_\_\_\_ in the capacity of  
M/s \_\_\_\_\_ hereby declare that  
I/We will be abided by the terms and conditions of the Quotation Call  
Notice No. \_\_\_\_\_ Dt. \_\_\_\_\_ issued by Office of the  
Principal, Rajdhani College, Bhubaneswar and will supply and install  
the Lab Equipment / Furniture, whenever necessary, within the  
stipulated time, if selected and order is placed with us, failing which  
actions can be initiated against me/us.

*Signature with seal*

## CERTIFICATE

**“I Certify that I have not committed any offence”.**

- a) Under the Prevention of Corruption Act-1988 or
- b) the Indian Penal Code or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of execution of a public procurement contract.
- c) I have not been debarred by any Central / State Govt Organization/Bodies for the last 3 years.

Signature of the  
Authorized Signatory  
with Designation

# ANNEXURE – 1

THE DEPARTMENT-WISE SPECIFICATION OF LAB EQUIPMENTS, LAB FURNITURES, CHEMICALS & GLASSWARE GIVEN BELOW.

**RAJDHANI COLLEGE ,BBSR**  
**DEPARTMENT OF ANTHROPOLOGY**  
**EQUIPMENT LIST**

<b>SL. NO.</b>	<b>EQUIPMENT NAME(DESCRIPTION)</b>	<b>NO OF UNIT</b>
1	Anthropometer rod, brass C.P BAI-101-Anthropometer length 0-210cm for location of all height measurements of the wholebody.Nicely packed in box.	3
2	Sliding Caliper-BAI-102-Sliding Caliper (Martin type )length -0-200 mm.	5
3	Spreading Caliper-BAI-104-Spreading caliper with rounded end measuring pointed Range 0-300mm BTI	5
4	Spreading Caliper pointed ends brass C.P 0-300MM	5
5	Goniometer-BAI-108-Goniometer attachable (Mollision type ) range 0-180 degree	1
6	Skinfold caliper biotech analogue	5
7	Osteometric board Acrylic graduatd upto 18" extendable to 36" Biotech	1
8	Human skull size 19*15*21	5
9	G6PD Deficiency Test Kit	2
10	Digital personal weighing scale	1
11	Wall mount measuring tape	5
12	Education Projector MW560, DLP, 4000 Lumens High Brightness, 22000: 1 High Contrast Ratio, Dual HDMI, Upto 15000 hrs Extra- Long Lamp Life, 10W Speaker , 3D Capable.	1
13	HP 15s Intel Core i5 12 <sup>th</sup> Gen – ( 8 GB/512GB SSD /Windows 11 Home ) 15s-FQ5202TU Thin and Light Laptop(15.6 inch)	1

**HOD, Anthropology**



**RAJDHANI COLLEGE**

**ANTHROPOLOGY DEPARTMENT**

**CHEMICAL LIST**

No	Chemical Name (Description)	No. of Unit
1	Anticera Set - Bio lab diagnostics private limited. It is used for detection of blood group of human	2
2	Black Powder – Lightning Powder black latent finger print (Two ounce)	1
3	White Powder – Rivea remedies white fingerprint powder for latent fingerprint (30 ml per pack)	1
4	PTC Testing Kit – Paper strips – Genetic taste testing (Vial of 100) – 30g per strip	1
5	Isopropyl Alcohol 99.9% pure 300ml Rubbing Alcohol	1
6	Glass Slide 75mm*75mm	30
7	Glass Stirrer 150mm*6mm	30
8	Lancet – Stainless steel blood lancet	2

**HOD, Anthropology**

**RAJDHANI COLLEGE ,BBSR**  
**DEPARTMENT OF ANTHROPOLOGY**  
**EQUIPMENT LIST**

<b>SL. NO.</b>	<b>PRODUCT NAME(DESCRIPTION)</b>	<b>NO OF UNIT</b>
1	Steel Table with drawer ( practical purpose for students ) Dimensions (in cm)- WxHxB 80x75.4x45	1

**HOD, Anthropology**

# **BOTANY DEPT-INSTRUMENTS**

## **A. DUAL BEAM UV/VIS SPECTROPHOTOMETER**

1. Optical System : Double Beam (1200 Lines/mm Grating)
2. Wavelength Range : 190-1100 nm
3. Bandwidth : 0.5,1.0, 2.0, 4.0 nm
4. Wavelength Accuracy :  $\pm 0.1$  nm (D2 656.1) , $\pm 0.3$  nm @all
5. Wavelength Repeatability :  $\leq 0.1$  nm
6. Photometric Accuracy :  $\pm 0.005$  Abs
7. Photometric Repeatability :  $\pm 0.002$  Abs
8. Photometric Range : -0.3-3 A,-0-200% T,-0-9999C
9. Stability :  $\pm 0.0003$  A/h @ 500 nm
10. Baseline Flatness :  $\pm 0.0015$  Abs
11. Noise :  $\pm 0.0005$  Abs
12. Stray Light :  $\leq 0.03\%$  @ 220 nm,360 nm
13. Data Output Port : USB
14. Printer Port : Parallel Port
15. Display : 320\*240 Dots LCD
16. Lamps : D2 Lamp & W Lamp
17. Detector : Silicon Photodiode
18. Power Requirement : AC 220V/50Hz
19. Dimension : 625\*430\*206 mm
20. Cuvette : Quartz (2) and Glass (2)

## **B. WEIGHING BALANCE**

Maximum Capacity: 220 gm.

Readability : 0.1 mg.

Repeatability : 0.1 mg.

Linearity : 0.2 mg.

Response time : 2 sec.

AC Adapter 230 Volts.

Tare range full

Platform dimension : 90 mm.

Balance dimension : 347x204x345 mm (L X W X H)

Complete with glass wind shield and one touch function key having sliding door opening/closing system.

High overload Protection: Up to 100 kg

Leveling feet and Level indicator, Unit conversion facilities.

Diagnostics: Easy running of balance diagnostics test e.g. key pad test & repeatability test Other inbuilt application: Piece counting Percentage weighing, Dynamic weighing, Statistics weighing, Totaling, free factors, recall, High performance mono block weighing cell for fast and accurate result. Protective Covers.

**B1. Electronic Weighing Machine with steel top, glass cabinet, digital display (Max capacity 1kg capacity, heavy duty)**

## **C. BOD INCUBATOR**

Capacity: 6.1 cu. Ft. (171 ltrs.)

Size (W X D X H): 505 x 415 x 830 mm

Temp. Range: 5°C to 50°C; Temp. Accuracy:  $\pm 0.5^\circ\text{C}$ ; Uniformity:  $\pm 1^\circ$

Power Supply: Refrigeration 210-240V/50 Hz.

Shelves: 3 nos. of removable perforated shelves; Inner air circulation system is to achieve uniform temperature

Double walled construction: Inner wall must be stainless steel, Double wall door-magnetic gasket, lock and key arrangement. Inner door transparent, sheet for in section of material in the chamber without disturbing the temp. Heating arrangement within the chamber for higher temperature working. A control panel with various indicators, on-off switch, supplied with cord and plug etc. Temperature control-microprocessor

based digital temperature. CFC free Copeland compressor, **Door alarm: High low temp. Alarm**

#### **D. HOMOGENIZER**

Suitable for homogenizing of Plant tissues at high speed available.

Chuck to hold shaft up to 10 mm dia. fitted with Teflon grinding pestle (50 ml).

Glass homogenizing cup with rod supplied as standard, Stirring Shaft: 8 x 275.

Cups of 5ml/10/15/25/50/100 ml capacity

#### **E. OCCULAR MICROMETER**

#### **F. MICRO CENTRIFUGE**

##### **Technical Data**

Maximum Speed: 16000 RPM

Maximum RCF: 16600g

Maximum Capacity: 40 ml

Dimension: 280x350x290 mm

Angle head rotor: Capacity: 24x1.5 ml

- 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.

#### **G. VERTICAL ELECTROPHORESIS APPARATUS**

Material: Acrylic

Dimensions: 13x16x17cm

Gel size: 8 X 7 cm

Sample Capacity: 7

Combs: 7 Well Teflon Comb 0.5, 1, 1.5mm – 1 No Each

Spacers: 0.5, 1, 1.5mm – 2 No Each

Electrode: 1 Set – Detachable

Glass Plate : 2 Full Set with gaskets

Clamps & Screws : 1 Set , Connecting Cord : 1 Pair

Water Circulation : No Sprit Level : Yes

#### **G. HORIZONTAL ELECTROPHORESIS**

Material: Acrylic

Inner Dimensions: 27x`16x8cm  
Buffer Capacity: 600ml  
Sample Capacity: 26  
Gel Size: 13x13cm Gel Running  
Tray: 1 No  
Combs: 8 Well – 4 No Gel  
Casting Tray: 1 No  
Platinum Electrode: 1 Set – Fixed  
Connecting Cord: 1 Pair

#### **I. LECTRIC ELECTROPHORESIS POWER SUPPLY**

Material: MS Power Coated  
Inner Dimensions: 25x27x12cm  
Display: LED  
Output Voltage: 0-300V Increment by 1V  
Output Current: 0-300mA Increment by 1Ma  
Output Terminal: 3 Output  
Timer: 0-9.59 Hours  
Power Cord: Yes  
Input Rating: 200-260 Vac/50hz:

#### **J. SALINITY (TDS) METER MICROPROCESSOR BASED ALPHANUMERIC LCD DISPLAY**

#### **K. DISSECTING MICROSCOPE (GOOD QUALITY)**

**L. Monocular compound** Light microscope with adjustable LED lamp, double layer mechanical movable stage, Objective magnification (4X, 10X, 40X, 100X)

**O- Dissolved oxgen meter-** Microprocessor-based with Digital Display of a Reputed brand

**Q- Thermal recycler (PCR)**

**R- Potable digital pH meter**

**S- Double distillation unit**

**T- Autoclave-** 30 L capacity, stainless steel body with analog/digital display

U – Hot air oven – (24” x 24” x 24”), Stainless steel inner wall.

U- **Desktop Computer** – i5, 12<sup>th</sup> Generation. 8GB RAM. 512 x 2 GB SSD, windows 11, MS Office, Monitor, 23.8 inch; **UPS- 1KVA Line interactive**

## **FURNITURE and ACCESSORIES**

- 1. BOOKCASE : 4 cabinet with CRCA steel frame, transparent glass front. Powder coated body, Each door with scissor mechanism**
- 2. GLASS DOOR STOREWELL: Cabinet with CRCA steel frame powder-coated steel body with good finish, 4 adjustable shelves with a 3-way bolting device with six-lever lock, front glass door, (to be used a Herbareum Cabinet)**
- 3. REFRIGERATOR (single door, 180L/200L capacity)**
- 4. Gain Pro Locker Unit-** 4 slots with locker, doors-enveloped (Desirable Size- L195 cm/ W 45 cm/ 45 cm with individual unit with 47 cm), Powder coated body with ultra finish.
- 5. Steel Rack** (6') with 4 plates, flexible height adjustment, powder-coated, good finish
- 6. Autoclave-** 30 L capacity, stainless steel body with analog/digital display
- 7. Induction cooktop** - 130 to 270V, with digital display

### **CHEMICALS (SLR, MERCK, Hi-MEDIA or any brand with ultra purity)**

- Acrylamide/Agar/Agarose Gel
- Acetocarmine
- Ammonium hydroxide
- Ammonium molybdate
- Ammonium Nitrate
- Ammonium thiocyanate
- Ampicilin antibiotic/ Antibiotics strips
- Ascorbic acid
- Acridine orange
- Barium chloride

- Benomyl (Fungicide)
- Bis Acrylamide
- Blood group testing kit
- Bromophenol blue
- Bovine Serum Albumin
- BG11 Broth
- BG 11 Broth with minerals
- Buffer tablets (4.0, 7.0, 9.4)
- Calcium alginate
- Citric acid
- Cobalt (II)chloride hexahydrate
- Di-basic sodium phosphate
- Di-potassium Phosphate Trihydrate ( $K_2HPO_4 \cdot 3H_2O$ )
- Dimethyl amine
- Disodium hydrogen arsenate
- EDTA (disodium Magnesium salt)
- Ethidium Bromide
- Ferric ammonium citrate
- Folin & Ciocalteu's Phenol Reagent
- Geimsa stain
- Hydrogen peroxide
- Tissue Culture Media components: NAA /Kinetin/MS medium / Potato Dextrose Agar (PDA) /LB medium
- Magnesium carbonate
- Magnesium Sulphate. 7 H<sub>2</sub>O
- Manganese (II) choride. 4 H<sub>2</sub>O
- Mercury (II) chloride
- Methylene blue/ Methyl orange
- Molisch reagent
- Mono basic sodium phosphate/Mono potassium Phosphate ( $KH_2PO_4$ )
- N-Ferrous Ammonium sulphate
- Nicotinic acid
- Orchinol



- Paraffin wax
- Petroleum ether
- Phosphoric acid
- Potassium permanganate
- Potassium dichromate
- Protein molecular weight marker
- Proteinase K
- Proline / Glycine
- Pyridoxine HCL
- SDS
- Silver nitrate
- Sodium Carbonate, Sodium bi-carbonate, Sodium citrate, Sodium hypochloride, Sodium hypochlorite, **Sodium molybdate (Na<sub>2</sub>MoO<sub>4</sub>)**
- Sodium sulphate
- Sorbitol
- Starch /Sucrose
- TAB (Tris acetate -EDTA) buffer
- TAE (Tris acetate -EDTA) buffer
- Tetrazolium Chloride (TTC)
- Toluene
- **Triton-X-100**
- Tris Base
- Tris-Glycine Buffer (PH=8.3)

#### **PLANT SPECIMEN**

- Selaginella Stem/Selaginella Strobillus
- Equisetum stem/Equisetum cone
- Riccia Thallus/Marchantia Thallus/Anthoceros Thallus
- Gnetum Stem/Gnetum Female Cone
- Albugo/Saccharomyces
- Chlamydomonas/Diatom/ Oedogonium/Vaucheria/Fucus/Cleochaete

### **Permanent Slides**

- Psilotum synangium / Equisetum strobilus v.s/Pteris Prothallus with sex organ W.M/Fern Sorus with induecium V.S/Marchantia Anthrediphore L.S
- Marchantia Archegoniophore L.S/Marchantia Thallus v.s/Anthoceros Sporophyte v.s/Riccia thallus v.s/ Riccia sporophyte L.s/ Gnetum ovule v.s/ Gnetum male cone/ Gnetum stem T.S
- Oedogonium dwarfmale L.S/ Vaucheria Vegetative/ Vaucheria Zoosporangium/ Ectocarpus Unilocular/ Ectocarpus Plurilocular Fucus Receptacle/ Fucus Thallus T.S/ Polysiphonia cystocarp Polysiphonia trichoblast/ Albugo/Penicillium/ Saccharomyces
  
- Embryo sac/Dicot embryo developmental stages/Anatropus ovule/Orthotropus ovule/Amphitropus ovule/Campylotropus ovule/Circinotropus ovule
- Rhynia sporophyte
- Williamsonia Habit
- Cycadeoidea Flower

### **GLASSWARES/PLASTIC WARES and Lab accessories**

- Test tube stand (50ml capacity)
- Measuring cylinder (glass) - 10 ml, 50ml, 100ml
- Makeup flask (glass) -50 ml, 100ml capacity
- Double Distillation unit
- Ganong's Potometer (Borosilicate, good quality)
- Pipette 1 ml- glass, graduated
- Erlenmeyer Flask
- **Variable volume pipette** (10-100 ul, 2-200 ul, 100-1000 ul), tips with holder
- TLC Chamber
- TLC plate

- UV Transillumination
  - Micropipette stand (Horizontal & vertical)
  - Capped culture bottles (250 ml with marking) to tolerate 140°C
- 
- Aluminum foil
  - Apron
  - Lense cleaner satin cloth
  - Blotting paper
  - Chromatography paper (Whatman no 1, packet form)
  - Filter paper
  - Cork borer (good quality)
  - Herbarium press
  - Inoculation loop/needle
  - Pipetting bulb
  - Cork
  - Cleaning buds for microscopes

**HOD, Botany**

**Chemistry Laboratory  
Chemical Requirements  
(Brand: SRL/MEARK/HIMEDIA/SIGMA)  
Rajdhani College, Bhubaneswar  
Department of Chemistry  
January 2024**

<b>Sl. No</b>	<b>Chemical</b>	<b>Requirement</b>
1	Sulphanilic acid	500 G
2	Ethylene diamine	500 mL
3	Adipic acid	500 G
4	N,N-Dimethylformamide (DMF), Dried	500 mL
5	Ethyl acetate, AR ACS	2.5 L
6	Hexamethylene diamine	25 G
7	Phenolphthalein, AR ACS	100 G
8	Methyl Alcohol, AR ACS	2.5 L
9	Sodium Sulphate, Anhydrous, ACS, AR	5 Kg
10	Potassium iodide, AR ACS	100 G
11	Ceric ammonium nitrate, AR ACS	100 G
12	Acetone, AR ACS	2.5 L
13.	n-Hexane, AR ACS	2.5 L
14.	Dichloromethane, AR ACS	2.5 L
15.	Aluminium Sulphate AR ACS	500 G
16.	Rectified Spirit	500 mL

**HOD, Chemistry**

**Chemistry Laboratory  
Furniture Requirements  
Rajdhani College, Bhubaneswar  
Department of Chemistry  
January 2024**

<b>Sl. No</b>	<b>Furniture/Quantity</b>	<b>Specifications</b>
1	Working Table	Working Table/ L 2500 mm , W1000 mm, H 750 mm, with z black polish 20 mm thickness granite top, c frame base metal structure, powder quoted, with divider panel, end panel, foot support and modesty panel
2	Chair.	Chair/metallic frame/ cushioned seat and back/with arm rest/seating space 500mm+ standard height 450mm
3	Steel Almirah	Standard size steel Almirah, Two Door, Powder coated. Dimensions-W x H x D (cm): 90 x 195 x 50

**HOD, Chemistry**

**Chemistry Laboratory  
Glassware Requirements  
(Brand: BOROSIL/JSGW/OMSONS/TARSONS/AXIVA)  
Rajdhani College, Bhubaneswar  
Department of Chemistry  
January 2024**

Sl. No	Item	Requirement/Specification (All Borosilicate Glass)
1	Test Tubes	Test tube stand: 20 mm Dia
		Test Tubes with rim: 27 mL size, 18 mm Dia,
2	Stand for Burettes (Retort Base and Rod for Retort Base)	Retort Base: 8" x 5"
		Rod for Retort Base: Length- 600 mm
3	Retort Ring	Retort Ring with bosshead, 3 inches
4	Bunsen Burner	Bunsen burner, Zinc PDC base with 13 mm brass pipe for L.P.G
5	Wire Gauge	Wire Gauge with Ceramic centre 5" x 5"
6	Triangular Tripod	Triangular Tripod, SS, 200 x 125 mm
7	Spatulas	Both side Flat, 8 inch
8	Clamp	Three finger clamp, Aluminium pressure die casted
9	Glass Rods	9 mmx305 mm
10	Round bottomed flask (Narrow Mouth, Short Neck with I/C joint)	100 mL, (Neck size: 19/26)
		250 mL, (Neck size: 19/26)
		500 mL, (Neck size: 19/26)
		100 mL, two neck, Angular: (Neck size: 19/26, 14/23 (side)
		250 mL, two neck, Angular: (Neck size: 24/29, 14/23 (side)
		500 mL, two neck, Angular:(Neck size: 24/29, 14/23 (side)
		100 mL, three neck, Angular: (Neck size: 19/26, 14/23, 14/23)
		250 mL, three neck, Angular:(Neck size: 19/26, 19/26, 19/26)
11	Beaker	100 mL
		250 mL
		500 mL
12	Conical flask (Narrow mouth with Rim)	100 mL
		250 mL
		500 mL
13	Graduated cylinder (Class B, Hexagonal Base, Pour out)	10 mL
		50 mL
		100 mL

**Chemistry Laboratory  
Glassware Requirements  
(Brand: BOROSIL/JSGW/OMSONS/TARSONS/AXIVA)  
Rajdhani College, Bhubaneswar  
Department of Chemistry  
January 2024**

		250 mL:
		500 mL
14	Graduated Mohr Pipette (Class B)	10 mL
		25 mL
15	Volumetric pipette (Class B)	10 mL
		25 mL
16	Filter Funnel	50 mm dia
		75 mm dia
17	Burette	Burette with glass stopcock, Class B, 50 ml
18	Glass Stoppers (Penny Head, Clear)	19/26
		14/23
19	Chromatography Column (Plain, with Glass Stopcock)	Bore dia 10 mm, Length 500 mm
		Bore dia 18 mm, Length 500 mm
		Bore dia 30 mm, Length 500 mm
20	Water condenser	(Allihn type), 450 mm overall height, 24/29
21	Separating funnel, Pear Shape, with glass stopper	125 mL
		250 mL
		500 mL
22	Volumetric Flask, Class B, Narrow Mouth	100 mL
		250 mL.
		500 mL
23	Soxhlet extractor	100 mL
24	Ostwald's viscometer	
25	Stalagmometer	
26	Thermometer	-10 to 250°C.
27	Water Distillation Unit (Glass, Single)	Capacity Distilled Water Output 1.5 Litre per hour

**HOD, Chemistry**

**Chemistry Laboratory  
Instrument Requirements  
(Brand: EYELA/HEIDOLF/TARSONS/COLEPARMER/RADWAG/LABLINE)  
Rajdhani College, Bhubaneswar  
Department of Chemistry  
January 2024**

Sl. No	Equipment/ Apparatus/Quantity	Make/Model/Specifications
1	(I) Rotary Vacuum Evaporator (II) Aspirator Vacuum System (III) Re-circulating Chiller	<p><b>(I) Rotary Vacuum Evaporator:</b> Vertical Condenser Rotary Vacuum Evaporator with digital water bath Speed range : 10 to 310 rpm Evaporation capacity: Max. 23ml/min(Water evaporation) Rotation speed setting and display : Setting by dial Digital display Jack function: Manual jack function(Jack stroke 180mm, stepless) Motor: DC Brush less motor Clock wise and anti-clockwise motion available. Vacuum seal: Vacuum seal (Teflon® +Teflon®. Viton double seal) Sample Flask: 1 L Pear Style Ts 29/38 Receiving Flask: 1 L round style Condenser: Vertical double spiral glass coil Rotary Joint: Ts 29/38</p> <p><b>(II) Aspirator Vacuum System:</b> Displacement method: Pressured water jets Displacement: 16L/min. x 2 (at water temperature 6 °C) Ultimate vacuum: Max. Vacuum 7 mm of mercury Safety function: Check valve, thermal protection Motor: Induction motor output 150W Aspirator element: Metal aspirator x 2 Water bath capacity: 10L Bath material: Polypropylene Power: 220VAC, 50Hz.</p> <p><b>(III) Re-circulating Chiller:</b> Temp. Control range : -20 °C to Ambient Coolant: CFC Free Circulation method: Closed loop Temp. Control and display: Digital Cooling capacity: 450W @ 10 °C Safety features: Breaker for leakage and excess current, Overload relay maintaining Circuit, Circulating pump protection, Self check function for Temp. Controller Refrigeration unit : Air cooled, Output 400w, R404A Bath capacity : 4L Circulating pum: Max. Flow 9/10L/min., Max. Head 4.2m</p>
2	Potentiometer With Glass Electrodes	MV range- $\pm 1999$ MV resolution-1 MV Repeatability-1MV $\pm 1$ Digit. Display-3½ Digit LED With Auto Polarity & Decimal Electrode: Glass



**Chemistry Laboratory  
Instrument Requirements  
(Brand: EYELA/HEIDOLF/TARSONS/COLEPARMER/RADWAG/LABLINE)  
Rajdhani College, Bhubaneswar  
Department of Chemistry  
January 2024**

3	Copper Calorimeter	<u>General</u>
4	PH meter	pH range: 0 to 14. 00 MV range: 0 to +1999. 9, +1 mv Resolution : 0. 01 pH, in pH range 0. 1 mv in mv range Repeatability; 0. 01 pH 1 digit 1 mv1 digit Standardization range : 3 point (7. 00 pH, 4. 02 pH, 9. 20 pH) Temp compensation : 0- 100 °C automatic compensation with temp probe (pt 100) Display; 20 * 4 alpha numeric LCD
5	Colorimeter	With 8 filter Wavelength-400 nm to 700nm Light Source-6.3v 0.3A Lamp Display-2½ Digit Digital Panel Meter (DPM) Calibrated Directly in % Transmission & Optional Density Resolution-1% Transmission mode & 0.01 in optical density mode Power Consumption-220/230V AC ± 10%, AC Supply Single Phase 50 Hz Power Supply-230± 10% 50 HZ
6	Magnetic Stirrer with Hot Plate	Top Plate Size-18x18cm Top Plate material-Ceramic Heating Range-50-500 °C Max Load-11KG Speed Range-100-1200rpm Max Capacity-5L
7	Turbidity Meter	Range-0-1 NTU, 0-10 NTU 0-100 NTU, 0-1000 NTU Accuracy-±3% of FS in 0.1 & 0-1000 NTU range ( upto 500) (due to nature of samples readings may not be linear above 500) ±2% of FS in 0-10 & 0-100 NTU range Reproducibility-With in ±3% of FS
8	Conductivity Meter	Conductivity Range-0.1µ MHO or µS to 100m MHO or MS Measuring Accuracy-±1% of FS ±1 count Display-20*4 Digit LCD Conductivity Cell-0.1C.C & 1.0C.C Cell constant-Acceptable from 0.1 to 5.0 Temperature-0 to 100°C Auto temp Controller
9	Analytical Balance	Maximum capacity [Max]-220 g Readability [d]-0.1 mg Max repeatability (5% Max)*-0.07mg Linearity- ± 0.2 mg Display-LCD (backlit) Weighing pan dimensions- 100 mm

**Chemistry Laboratory  
Instrument Requirements  
(Brand: EYELA/HEIDOLF/TARSONS/COLEPARMER/RADWAG/LABLINE)  
Rajdhani College, Bhubaneswar  
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January 2024**

		Max repeatability-0.1mg
10	Hot air oven	Capacity-95ltr Interior (mm )-450x450x450 Heater Wattage "W"-1.5 KW. Shelves-2 Temperature Range-Ambient to 250°C Temperature Stability-± 0.5°C Power Consumption-220/230V AC ± 10%, AC Supply Single Phase 50 Hz
11	Vacuum Pump	Oil free Power: 220v/50hz Max Power (W): 80 Max Vacuum:-730 mm/Hg Max Flow Rate: 20l/min Motor Rotation:1450 RPM Horse Power: 1/6 HP Net Wt: 5.2 Kg Port Thread: 5/16 Noise Level: 52 dB
12	UV Inspection Cabinet	UV Cabinet with 2 long wave tube

**HOD, Chemistry**

**RAJDHANI COLLEGE,**  
**BARAMUNDA, BHUBANESWAR – 751003**

**DEPARTMENT OF GEOGRAPHY**

<b>SI NO.</b>	<b>DESCRIPTIONS OF ITEM</b>	<b>QTY</b>
1.	Topographical maps	32
2.	Geological maps	32
3.	Planimeter (Mechanical)	2
4.	Rotameter	10
5.	Pantographs	1
6.	Prismatic compass with Tripod	1
7.	GPS (Garmin e trex 10)	1
8.	Clinometer compass with tripod	1
9.	Tracing table without glass	5
10.	Political and Physical map of World	2
11.	Political and Physical map of Asia	2
12.	Political and Physical map of India and Odisha	2
13.	Anemometer digital handheld up to 30m/s	2
14.	Rain gauge	2

15.	Windvane	1
16.	Stevenson screen<with temperature and humidity sensors and display	1
17.	Scales (60-90 cm)	
18.	Weather Maps	
19.	Climographs	
20.	Hythergraphs	1
21.	Barometer Altimeter Digital	1
22.	Hygrometer Digital	1
23.	Thermometer Digital	2
24.	Graph paper (large size)	1

**HOD, Geography**

**DEPARTMENT OF GEOLOGY**  
**RAJDHANI COLLEGE, BHUBANESWAR**

**GEOLOGY LABORATORY REQUIREMENTS**

Sl. No.	Item	Specification	No. of Units
1	Polarizing Microscope with Camera	<p>Type: Upright Polarizing Microscope with Orthoscopic/Conoscopic</p> <p>Optical system: UIS2 Optical System/LED transmitted and reflected light illumination</p> <p>Bulb: 12 v 30w Halogen/LED</p> <p>Illumination system: 12V, 30W stabilized DC power transformer built in. 3 built in filter, Illumination adjustment, Light preset switch</p> <p>Focusing mechanism: Vertical movement of the stage by the roller guide, stroke per rotation: Fine ~0.1mm, Coarse: ~15mm Coaxial coarse and fine focusing handle, sensitivity 1 micrometer</p> <p>Observation tube: Binocular Pol Tube</p> <p>Polarized light: Built-in Bertrand lens for orthoscope/conoscopic observations. Bertrand Field Diaphragm</p> <p>Revolving nosepiece: Inward quadruple revolving nosepiece with centering mechanism</p>	6

		<p>Analyzer:</p> <p>Stage: Ball-bearing method, 360o horizontal rotation, lockable in any position 45o click stop function</p> <p>Rotation scale, Slider holder and cross travelling mechanical stages can be attached.</p> <p>Objective lenses: Strain free objectives 5X, 10X, 20X, 40X or equivalent</p> <p>Eyepiece: 10X/20 focusing eyepiece w/eye guard with cross line reticle</p> <p>Cross hair reticule; 2 object clamp; Dust cover; Power cord</p>	
2	Remote Sensing Desktop	<ul style="list-style-type: none"> <li>• Processor 11<sup>th</sup> Generation Intel® Core™ i7-11700K Processor (1.40 GHz up to 4.60 GHz)</li> <li>• Operating System Windows 11 Home 64 (English)</li> <li>• Display type 68.58cms (27) QHD (2560 x 1440), IPS, Anti-Glare, Non-Touch, 350 Nits</li> <li>• Memory 16 GB (2 x 8 GB) SO-DIMM DDR4 3200MHz</li> <li>• Hard Drive 1 TB M.2</li> </ul>	1

		2280 SSD PCIe Gen3 •Optical Drive None •Warranty 3 Years Onsite •Speaker 3Wx2 + 5W, JBL Brand •AC Adapter 170W •Software Preload Office Home and Student	
3	Polished Ore Mineral	Thin section of Fe, Cu, Pb & Zn	10
4	Black Board	Length – 2.39m Breadth – 1.15m	1
5	Computer Table	Godrej – Companion C9 Ind Computer table W*H*D – 90*75*50 cm	1
6	Geological map of world, India, Odisha		1 each

Ambika Pothal  
 Head of Department  
 Department of Geology

LABORATORY EQUIPMENT REQUIREMENTS 2024

DEPARTMENT OF PHYSICS  
RAJDHANI COLLEGE  
BHUBANESWAR

Sl no.	Name of apparatus	Specification	Quantity
1.	Cathode Ray Oscilloscope	30 MHz+70 Mhz dual channel with FFT function	2+1
2.	Function generator	1MHz	3
3.	Study of Multivibrator a. Astable b. Monostable c. Bistable	555 Timer IC	2
4.	RC Coupled amplifier	Signal input range: 1KHz	1
5.	Operational Amplifier: addition, subtraction, inverting and non-inverting	Expt Kit	2
6.	Hall effect apparatus a. . calibration of magnetic field b. Hall voltage and Hall coefficient c. Hall angle and mobility	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: $\pm$ 0.5%, Display: 3 ½ Digit, 7 Segment LED, Power: 220V, 50Hz Special Feature: Indicates	1



		the direction of the Magnetic field. Gauss Probe	
7.	Determination of magnetic susceptibility by Guoy balance	<p>ELECTROMAGNET- Made of soft iron, mounted on a woodenbase, polepieces: -75mm dia.</p> <p>Magnetic Field 20KG at 6mm air gap. Two energising coil 13W each (approx.)</p> <p>DIGITAL POWER SUPPLY FOR ELECTROMAGNET-0 –6 Amp, 30V digital display, , DIGITAL GAUSS METER-Range: 0-2 K Gauss &amp; 0-20 K Gauss, Resolution: 1Gauss at 0-2 K Gauss Range, Accuracy: <math>\pm</math> 0.5%, Display: 3 ½ Digit, 7 Segment LED, Power: 220V, 50Hz Special Feature: Indicates the direction of the Magnetic field, Digital Balance Capacity: 200g, Least Count: 0.001g, Display Type: LCD with Back-Light, Calibration, Type: External, Pan Diameter: 80 mm</p>	1
8.	Michelson Intereferometer	<ol style="list-style-type: none"> <li>1. HeNe Laser with Mount,</li> <li>2. Economy Beam Splitter,</li> <li>3. Protected Silver Mirror</li> <li>4. Post Holders</li> <li>5. Stainless Steel Posts</li> <li>6. Laser Mounting and Clamp</li> <li>7. Laser Clamping Arm</li> <li>8. Cage Mount for lens</li> <li>9. Lens Mount</li> <li>10. Kinematic Mirror Mounts</li> <li>11. Plano-Convex lens</li> <li>12. Plano-Convex lens</li> </ol>	1
9.	To determine the wavelength and velocity of ultrasonic Waves in a liquidby studying the diffraction through	<p>HIGH FREQUENCY GENERATOR: The frequency of oscillations is of the order of 3MHz.</p>	1

	ultrasonic grating	<p>SPECTROMETER</p> <p>The diameter of the brass scale is 7" Vernier constant: minute.</p> <p>Spectrometer is provided with 20" long telescope</p> <p>Magnification using 50mm dia acromatic objective lens.</p> <p>Collimator tube is provided with 1" diameter acromatic objective and a sharp adjustable slit.</p> <p>Telescope is factory adjusted for parallel rays a cut mark is made on the inner adjustable tube.</p> <p>Sodium light source</p> <p>Starting Voltage : 470 Volts, Input Voltage : 220V, 50Hz</p>	
10.	Poiseuilles method	<p>Manometer on wooden stand, L-shaped glass tubes:</p> <p>Material Borosilicate, Capillary glass tube of length 38cm borosilicate material, Constant water level reservoir,</p> <p>Base with Rod (MS chrome plated rod on with stand),</p> <p>Rubber Tube Size: 8mm, Length: 1meter, Measuring Cylinder (Graduated) :100ml Plastic, Pinch Cock:</p> <p>Material -Stainless Steel with Clamps Includes flap. Stop watch: Digital -1/100 Sec, Date/Time Function, Long Neck Slang</p>	1
11.	Platinum Resistance Thermometer Setup	<p>Trainer Kit, Platinum Resistance Thermometer, Steam Boiler with Heating Arrangement, DC Power Supply:</p> <p>2V/100mA, Callender and Griffith bridge with Jockey, Galvanometer 30-0-30, 22 ohm,</p>	1

		Display : Analog (MC), Thermometer -10°C to 150°C	
12.	Thermocouple trainer Kit	Copper-Iron Thermocouple, Potentiometer Type : 10 wire, Water containing Beaker : 250ml 2Nos, Heating Arrangement, DC Voltage : 2V & 4V/100mA, DC Voltmeter : 20V & 200mV (Switch Select), Ammeter : 0- 200mA, Resistance : 1Ω-10000Ω & 1KΩ -10KΩ, Thermometer : 10-100°C -2nos, Stand for Thermocouple	1
13.	Andersons bridge	DC Regulated Fixed Power Supply: 3V/150 mA , Standard Capacitor: 0.1μF & 0.2μF, F & 0.2μF & 0.2μF, F, Standard Resistance: 1000Ω, Fixed Resistance : 0.1Ω to 1Ω Decade Resistance: Range 1Ω to 1KΩ-3nos, Decade Resistance: Range 10Ω to 10KΩ- 3nos, AC Supply of Frequency : 1KHz, Digital Null Detector: Display 3½ 7 Segment LED, Interconnection: 4mm	1
14	Determination dB/dx Solenoid type	REGULATED POWER SUPPLY 0-16V, 5A-Voltage : 0- 16V DC continuously variable & stabilized, Voltage display : 3½ digit LED, 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, GAUSS METER WITH AXIAL PROBE-Range : 200 Gauss & 2 k Gauss, Resolution : 0.1 Gauss at 0 - 200	1

		<p>Gauss, Offset : By Potentiometer to set ZERO, Input Voltage : 220 V, <math>\pm 5</math> %, 50 Hz AC, Axial Hall Probe : InAs, Display : 3½ Digit LED, WOODEN SCALE, Length : 100cm, Accuracy : 1mm, LABORATORY JACK, Material : Aluminium, Top plate (LxW) : 200x200mm, Static load : 20kg, Vertical elevation : 65-260mm, CYLINDRICAL BASE, Material : Ferrous, Mount : Rod 10-14mm dia : Flat object up to 10mm, Groove (LxW) : Slide object, 30x10mm, CLAMP, Material : Cast iron, Paint : Black powder coating, Length : 75mm, Clamping : Threaded knob. INDUCTION COIL SET,- 40,75,165 Material : Copper</p>	
15.	Determination of specific heat by radiation correction method		1
16.	BH curve of iron using a solenoid and determine the energy loss	<p>A Step down Transformer On Board. One Solenoid Coil, One Search Coil. Output Brought Out Through BNC Connectors. Type Different Types of Controls Through 10 Turn Potentiometer Length of Sample 39mm, Diameter of Sample 1mm (Approx.) Sample Type: 1. SOFT IRON, 2. NICKLE, 3. HARD STEEL</p>	1
17	Susceptibility of Paramagnetic Solution (Quinck`s Tube Method) with Travelling Microscope & Digital Balance	<p>ELECTROMAGNET: Made of soft iron, specially design for Quinck`s tube experiments, mounted on a wooden base for stable performance, Pole pieces :- 50mm dia. tapered type Field :- 7.5kg at 10mm. air gap, Energizing</p>	1

<p>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 &amp; 0-20 K Gauss, Resolution: 1Gauss at 0-2 K Gauss Range, Accuracy: <math>\pm 0.5\%</math>, Display: 3 ½ Digit, 7 Segment LED, Power: 220V, 50Hz Special Feature: Indicates the direction of the Magnetic field.  QUINCK'S TUBE WITH STAND: A Glass Tube with wooden stand  SAMPLE: FeCl<sub>3</sub> Solution, Travelling Microscope</p>	
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18.	Traveling Microscope	Cast iron good quality with vertical and horizontal scale LC=0.01 mm	03
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### **LABORATORY FURNITURE**

Sl. No	Furniture/Quantity	Specifications
1	Working Table	Working Table/ L 2500 mm , W1000 mm, H 750 mm, with z black polish 20 mm thickness granite top, c frame base metal structure, powder coated, with divider panel, end panel, foot support and modesty panel
2	Chair.	Chair/metallic frame/ cushioned seat and back/with arm rest/seating space 500mm+ standard height 450mm
3	Godrej Steel Almirah	Standard size Godrej Steel Almirah, Two Door, Powder coated. Dimensions-W x H x D (cm): 90 x 195 x 50.7

**HOD, Physics**

<b>Department of Psychology</b>			
<b>Sl. no</b>	<b>Head</b>	<b>Description of Items</b>	<b>Qty</b>
1	Lab Furniture	Godrej Slimline 2 Door Steel Almirah Dimensions (cm)90 x 195 x 50.7	1
2	Equipment Head	Memory Apparatus (Hand operated) with Manual, NPC make	2
3		Table Screen, 15" x 18", NPC make Table Screen, 18" x 24", NPC make	2
4		Table Screen, 15" x 18", NPC make Table Screen, 18" x 24", NPC make	2
5		Aesthesiometer Calliper (Vernier Type) Two Points, NPC make	4
6		Stop watch, Digital, RACER	2
7		Weight Box (10 Weights) Progressive, NPC make	4
8		Thematic Apperception Test Indian Adaptation, NPC make	1

**HOD, Psychology**

**DEPARTMENT OF STATISTICS**  
**RAJDHANI COLLEGE, BHUBANESWAR**

<b>Sl.No.</b>	<b>Head</b>	<b>Item</b>	<b>Specification</b>	<b>No. of units</b>
1.	Lab Equipment	Scientific Calculator	CASIO-FX-99IES PLUS	5 nos.
2.	-	Graph Paper	ZASLAN SQUARE GRID A4 Size 5mm squared	1 pkt.
3.	Lab Furniture	Plastic chair with cushion	Supreme Ornet (Black & Red)	2 nos.

<b>CHEMICAL LIST, DEPARTMENT OF ZOOLOGY, RAJDHANI COLLEGE-2024</b>			
<b>All chemicals must be molecular biology grade and extrapure (&gt;98%) (Sigma, Gibco BRL, Merck, Himedia, SRL and equivalent standard)</b>			
<b>SL No.</b>	<b>Product name</b>	<b>Packing</b>	<b>Quantity</b>
<b>CHEMICALS AND OTHERS</b>			
1	Chromatographic paper(Whatman's Paper No1)	20X20 cm (100 pack)	1
2	Chloroform (molecular biology grade)	500ml	5
3	Blood grouping Kit (Anti ABD, Anti-sera test kit)	1	3
4	Bradford Reagent	500ml	5
5	Salmons' sperm/ Calf thymus DNA	1g	5
6	Bromophenol blue	5g	10
7	MGP (Methyl green pyronin)	5g	1
8	Feulgen	25g	1
9	Haematoxylin monohydrate (Natural black-I)	25g	1
10	Benzyl alcohol	250ml	1
11	ELISA test kit (for students)	1	1
12	Ethanol (for regular use)	500ml	20
13	Ethanol (for molecular grade)	500ml	5
14	Giemsa stain	100g	1
15	Ferric chloride	500g	2
16	Potassium dichromate powder	500g	2
17	Anthrone reagent	100g	1
18	Silver nitrate	25g	1
19	D-(+)-Glucose(anhydrous, powder, 99.9%GC)	100g	3
20	Potassium acetate (Molecular biology grade)	500g	2
21	RNAase A (10ug/ml)	25mg	
22	Ethanol (Molecular biology grade)	500 ml	1
23	Triclosan	5g	2
24	LB Agar (Powder)	500gm	2
25	LB Broth (Powder)	500gm	2
26	Folin Cioalteau reagent(liquid)	100 ml	5
27	Anthrone Powder	100gm	3
28	Diphenylamine	100gm	3
29	p-Nitrophenyl Phosphate	25g	4
30	p-Nitrophenol	100gm	1
31	Sucrose	100gm	2
32	SGOT Kit		3
33	SGPT Kit		3
34	Double distilled water	10 litre	10
35	De-ionized Double distilled water	10 litre	2
36	Formalin	5 litre	2
37	Wax for Microtomy	1kg	5
38	Agarose (Molecular biology grade)	1kg	5
39	Tris Base	2kg	2
40	NP 40	100ml	2
<b>Plastic Ware</b>			
1	Combi-lock Rack( Autoclavable, Holds 50ml, 15ml, 1.5ml and .5ml tubes)	1	1
2	Maagnetic stirrer beads	8mm X30mm	5
3	Micro tube box	2	2
4	Micropestle (Autoclavable)	4	4 pieces
5	Microfuge tips (1ml, 100 micro litre, 10 micro litre)		2000 pieces each
6	Microfuge tubes (1.5ml, 2ml & .5 ml)		2000 pieces each
7	Petri Plates (90mm) Autoclaveable		200 pieces
8	Petri Plates (30mm) Autoclaveable		200 pieces
9	Universal testtube holder (for 50ml, 15ml & 5ml tubes)		5
<b>Glassware</b>			
1	Borosil glass bottle-500ml	500 ml	10
2	Borosil glass bottle -250ml	250ml	10



3	Borosil glass bottle -250ml	100ml	10
4	Borosil glass spreader		10
	<b>Museum Specimen</b>		
1	Sycon		1
2	Physalia		1
3	Gorgonia		1
4	Tubipora		1
5	Aurelia		1
6	Pennatula		1
7	Fungia		1
8	Neadrina		1
9	Madrepora		1
10	Fasciola hepatica		1
11	Tenia solium		1
12	Aphordite		1
13	Nereis		1
14	Heteronereis		1
15	Pheretima		1
16	Hirudinaria		1
17	Palemon		1
18	Cancer		1
19	Eupagurus		1
20	Scolopendra		1
21	Julus		1
22	Bombyx		1
23	Periplaneta		1
24	Honey bee		1
25	Chiton		1
26	Pila		1
27	Unio		1
28	Sepia		1
29	Pinctada		1
30	Octopus		1
31	Pentaceros		1
32	Echinus		1
33	Antedon		1
34	Sphyrna		1
35	Pritis		1
36	Torpedo		1
37	Anabas		1
38	Hydrophis		1
39	Naja naja		1
40	Archaeopteryx(model)		1
	<b>PERMANENT SLIDES</b>		
1	Larval forms of Fasciola		2
2	Infecting stages of Entamoeba		2
3	Plasmodium		2
4	Stages of meiosis		2
5	Squamous epithelium		2
6	Striated muscle		2
7	Neuron		2
8	T.S. of pancreas		2
9	T.S. of ovary		2
10	T.S. of testis		2
11	T.S. of Adrenal		2
12	T.S. of Thyroid		2
13	T.S. of Parathyroid		2
14	T.S. of Oesophagous		2

15	T.S. of stomach		2
16	T.S. of Duodenum		2
17	T.S. of ileum		2
18	T.S. of rectum		2
19	T.S. of Liver		2
20	T.S. of Trachea		2
21	T.S. of lungs		2
22	T.S. of Kidney		2
23	T.S. of Thymus		2
24	T.S. of spleen		2
25	T.S. of lymph node		2
26	placoid scale		2
27	Cycloid scale		2
28	Ctenoid scale		2
29	Chick Embryo(13, 18, 21,24, 28, 33, 36, 48, 72, 96 hrs)		2 each
	<b>BONES</b>		
1	Disarticulated skull bones of Frog		2
2	Disarticulated skull bones of Varanus		2
3	Disarticulated skull bones of Fowl		2
4	Disarticulated Limb bones of Frog		2
5	Disarticulated Limb bones of Varanus		2
6	Disarticulated Limb bones of Fowl		2
7	Disarticulated Limb bones of Rabbit		2
8	Disarticulated Vertebrae and Girdle bones of Frog		2
9	Disarticulated Vertebrae and Girdle bones of Varanus		2
10	Disarticulated Vertebrae and Girdle bones of Fowl		2
11	Disarticulated Vertebrae and Girdle bones of Rabbit		2
12	Articulated skeleton of frog		2
13	Articulated skeleton of Varanus		2
14	Articulated skeleton of Fowl		2
15	Articulated skeleton of Rabblit		2

HOD, Zoology

Instrument list with specification and unit price. DEPARTMENT: Zoology			
Sl. No.	Item	Specification	Quantity
1	LAMINAR AIR FLOW (HORIZONTAL)	<p>SIZE OF THE WORKING TABLE: 4 X 2 X 2 FT.  Horizontal Laminar Air Flow  Microprocessor based switches and speed control.  CONSTRUCTION: Anti microbial powder coated (60 to 80 μ) galvanized iron sheet with epoxy polyester thermosetting sheet.  SIDE GLASS: 6 mm float glass encased in stainless steel channels  TABLE TOP: 1.2mm stainless steel 304 sheet.  FRONT DOOR: Frameless gas spring loaded swinging type made of polycarbonate 6mm thickness.  MOTOR BLOWER ASSEMBLY: Variable speed motor mounted on PU coated FRP blower with aluminium powder coated impellers.  CLEANLESS CLASS: ISO Standard 14644.1 Class 5(class 100)  VELOCITY: 100 FPM at 6" from face of the filter.  NOISE LEVEL: 60 db at 1 meter from face of the equipment along with anti vibrator.  PRESSURE GAUGE : Digital Minihelic gauge for monitoring the condition of all HEPA filters as well as work space with audio visual alarm.  WEELS AND LEVELLING LUGS: PU solid wheels with S.S. 304 brackets and 304 S.S. lugs.  DESIGN CLASSIFICATION: Angle front slope of 10° to reduce operator fatigue while working, as per IEST RP CC002.2.  STAGE FILTRATION:  I) Pre-filter-10μm with efficiency of 90% washable HDPE media PU coated with 304 S.S. frame.  II) Mini Pleat HEPA filter of 0.3 micron with an efficiency of of 99.995% (anti microbial treated media)  Fluorescence Light : 36 watt 2 nos.  UV Light : 3 feet length 30 watt 1 no  Work Area Dimension : 1180 x 610 x 572 mm  External dimension : 1315 x 780 x 1440 mmmm</p>	1
2	Double distillation Quartz unit	<p>Quartz boiler : Quartz condenser • Distilled water output in 2-3 minutes. • Pyrogen free, free of heavy metals. • Powder coated stand for rust free operation. • Safety cut off device is included. Distillate Quality • Conductivity: &lt; 1.0 μS/cm • Distillate Temperature: 65 to 75°C • Distilled Water Quality: Pyrogen Free</p>	1
3	AUTOCLAVE	<p>Double walled construction. Inner body is made of stainless steel and outer body made of mild steel with powder coated. Lid made of thick stainless steel. Wing knot type, Pressure of 10 to 20 psi. Complete with pressure gauge, safety valve, steam release valve. Temp.control by digital. Capacity: 40 ltrs. Inner Chamber Size: Height: 300 x 500mm, 3.0 kw</p>	1
4	QUARTZ CUVETTE- For	<p>Quartz, 2 polished windows, 200-2,500 nm spectral range, UV/Vis spectroscopy:  suitablephotometry: suitable, 45 mm × 12.5 mm × 12.5 mm, chamber volume-3,500 μL,  detection method-photometric</p>	1
5	ROTARY SENIOR MICROTOME	<p>The precise feed mechanism cuts sections from 1-50 microns in steps of 1 micron each. Feed adjustment: 1-50 microns. Total feed excursions 28 mm with opening of object clamps 37x27 mm. Overall dimensions 16x10x9". Complete with razors-120 mm. With back and handle, honing plate, object holders: set of four, oil can, honing stone, diamond engraving pencil for marking on slides, mould of brass 2 sets, leather strap and packed in wooden box. The micron setting is in front for quick and clear glance.</p>	1
6	Desktop for Spectrophotometer (This is needed for PC based spectrophotometer)	<p>i5 (Desktop)  "12th Gen, 8GB RAM, 512 SSD, 20" Monitor,  Windows 11, Office 2021"  HP or equivalent</p>	1
7	ORBITAL INCUBATOR SHAKER	<p>Stainless-steel chamber and platform easy to clean, Transparent plastic door, Microprocessor controller with large LCD screen for temperature and shaking speed with timing function, Self-check function easy to identify problems, Smooth start and stop system prevents liquid spillage, Auto-controller of fan speed to prevent damage to the samples, Safety door switch, auto pause operation when it is opened, Shaking Speed Range- 20-300rpm, Amplitude-20mm, Temperature Range-4-50°C ±0.5°C, Display Resolution-0.1°C, Timer Range-1hour 99h:59m, Platform Size (mm)-450 x 450, Maximum Shaking Capacity-4x2000ml, 8x1000ml, 11x500ml, (No. of flasks x Volume)- 12x250ml, 28x100ml, 42x50ml, Load in Tray-10 Kg, Power Consumption-1100w, With stabilizer.</p>	1

HOD, Zoology



<b>INFRASTRUCTURE DEPARTMENT OF ZOOLOGY-2023</b>			
<b>Sl. No.</b>	<b>ITEMS</b>	<b>SPECIFICATIONS</b>	<b>Quantity</b>
		Godrej, Featherlight, Methodox and equivalent.	
1	Storewell for chemical storage		4

<b>Sl. No</b>	<b>Furniture/Quantity</b>	<b>Specifications</b>
3	Godrej Steel Almirah	Standard size steel Almirah, Two Door, Powder coated. Dimensions-W x H x D (cm): 90 x 195 x 50.7

**HOD, Zoology**

# MATHEMATICS DEPARTMENT

## LIST OF EQUIPMENTS

Sl.No.	Type	Specification	Brand	Quantity
01.	i5 (Desktop)	12 <sup>th</sup> Gen, 8GB RAM, 512 SSD, 20" Monitor, Windows 11, Office 2021 with 3 years Antivirus.	HP or equivalent	3 (Math)
02.	UPS		APC or equivalent	3 (Math)
6.	Projector screen with stand	<b>Mounting Type</b> Tripod Mount <b>Product Dimensions</b> 2.44W x 1.83H Meters <b>Material</b> Imported Super High Gain Matt White Black Coated Fabric <b>Display Dimensions</b> 8 Ft.(Width) x 6 Ft.(Height)	Reputed Brand	1 (Math)

# COMPUTER SCIENCE DEPARTMENT

## LIST OF EQUIPMENTS

Sl.No.	Type	Specification	Brand	Quantity
01.	i5 (Desktop)	12 <sup>th</sup> Gen, 8GB RAM, 512 SSD, 20" Monitor, Windows 11, Office 2021 with 3 years Antivirus.	HP or equivalent	6 (Comp.Sc)
02.	UPS		APC or equivalent	6 (Comp.Sc)
03.	Laptop	Core i5, 12 <sup>th</sup> Gen, 8GB RAM, 512gb SSD, 15.6' Screen, Windows 11, Office 2021	HP or equivalent	2 (Comp.Sc)
04.	Projector	Education Projector MW560, DLP, 4000 Lumens High Brightness, 22000: 1 High Contrast Ratio, Dual HDMI, Upto 15000 hrs Extra- Long Lamp Life, 10W Speaker , 3D Capable.	Benq or equivalent	1 no. (Comp. Sc)
6.	Projector screen with stand	<b>Mounting Type</b> Tripod Mount <b>Product Dimensions</b> 2.44W x 1.83H Meters <b>Material</b> Imported Super High Gain Matt White Black Coated Fabric <b>Display Dimensions</b> 8 Ft.(Width) x 6 Ft.(Height)	Reputed Brand	1 (Comp. Sc)

**LIST OF INFRASTRUCTURE**  
**MATHEMATICS DEPARTMENT**

<b>INFRASTRUCTURE DEPARTMENT OF MATHEMATICS -2023</b>			
<b>Sl.No.</b>	<b>Type</b>	<b>Specification</b>	<b>No.</b>
01.	Computer Table	Good Quality Computer Table with provision for placing keyboard, CPU, UPS & Printer., Size/Dimension: 4 X 2 X 2.5 Feet	3 nos.
02.	Computer Chair	Good Quality Dimensions W x H x D (cm) 75.6 x 88.5 - 98.5 x 75.6  Seat Height (cm) 41 - 51	3 nos.



**LIST OF INFRASTRUCTURE**  
**COMPUTER SCIENCE DEPARTMENT**

<b>INFRASTRUCTURE DEPARTMENT OF MATHEMATICS -2023</b>			
<b>Sl.No.</b>	<b>Type</b>	<b>Specification</b>	<b>No.</b>
01.	Computer Table	Good Quality Computer Table with provision for placing keyboard, CPU, UPS & Printer., Size/Dimension: 4 X 2 X 2.5 Feet	6 nos.
02.	Computer Chair	Good Quality Dimensions W x H x D (cm) 75.6 x 88.5 - 98.5 x 75.6  Seat Height (cm) 41 - 51	6 nos.