

STANDARD BIDDING DOCUMENT

Supply of Science Lab Equipment, Items & Chemical items for 2024- 2025



Royal Government of Bhutan
Ministry of Finance
2023

| | | |
|---|-------------------------|---|
| 1 | Package | 6 |
| 2 | Quotation | Supply of Science Lab Equipment & Items for 2024-2025 |
| 3 | Last date of submission | 22 th July, 2024 at 12pm |
| 4 | Place of submission | Office of Store In-Charge |
| 5 | Date of opening | 22 th July, 2024 at 2.30pm |
| 6 | Place of opening | Conference Hall |
| 7 | EMD | Nu. 12000 (Twelve Thousand only) |

Supply of Science Lab Equipment, Items & chemical items for 2024-2025

TERMS AND CONDITIONS

1. The rates quoted shall be CIF Samtse College of Education for the **Supply of Science Lab Equipment, Items & Chemical items for 2024-2025**. Generally, the rates quoted shall be inclusive of all charges/levies/taxes which the suppliers shall bear.
2. The quotation should be accompanied by the valid trade license issued by the Ministry of Economic Affairs and the Tax Clearance Certificate issued by the Department of Revenue and Customs, Royal Government of Bhutan, as the enclosure. Quotation without a valid trade license and tax certificate as enclosure shall be rejected.
3. The tender shall be accompanied by an application to the **PRESIDENT**, Samtse College of Education.
4. Sealed envelopes containing the quotation shall be marked **Original** and **Duplicate** in separate envelopes. The quotation will be opened in the Conference Hall, Samtse College of Education on **22th July 2024 at 2.30 PM**.
5. The rates quoted shall be valid for a period of 12 months from the date of quotation.
6. Goods should be supplied within **30 days** from the date of issue of the purchase order.
7. Earnest money of **Nu.12000.00 (Twelve thousand)** only should be furnished in the form of Cash Warrant/Bank Draft/Unconditional bank guarantee in favor of the **PRESIDENT**, Samtse College of Education. Quotation without earnest money shall be rejected.
8. The College reserves the right to vary the quantity up to **10%** on the same terms and conditions.
9. All equipment supplied must be as per the specification and any fake item noticed shall be rejected, returned at the supplier's cost and shall be dealt with as per Clause 18 of the terms and conditions.
10. The College reserves the right to reject all or any tender without assigning any reason.

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11. If the supplier fails to supply the required quality and quantity of goods, the College Administration will forfeit the earnest money and terminate the contract without any explanation and the supply order will be given to the next evaluated lowest bidder.
12. Failing to submit the quotation within the submission dateline shall be declared as 'late' and rejected. The same would be returned unopened to the supplier.
13. The rules and regulations for the establishment and operation of Industrial and Commercial ventures must be adhered to with regard to the establishment of license ventures.
14. The rates should be quoted against the specification provided and failing to quote in conformity with the specification shall be disqualified for evaluation.
15. The purchaser shall not be responsible for any damage, loss or due incident that occurred during the transportation. The supplier will be fully responsible for making them good at his own cost.
16. The supplier should have a warranty of one year from the date of delivery.
17. The supplier should be able to supply the material immediately during the time of emergency and if the bidder fails to supply the required material the bidder shall bear the expenses to purchase from another supplier for the College, Samtse.
18. The committee will directly reject the tender if the supplier supplies duplicate/fake or compromised material and the College Administration will forfeit the earnest money and terminate the contract without any explanation and the supply order will be given to the next evaluated lowest bidder.
19. If the selected bidder fails to supply the goods within the stipulated time, the liquidated damages of **Nu.0.1%** per day of the bill amount will be imposed.
20. Pursuant to the condition above, the second-lowest bidder at his quoted rate shall be asked to supply the goods after submitting performance security to the College Administration.
21. The performance security retained with the College shall be refunded to the concerned supplier after the completion of the supply of goods.
22. The College will process the bills for payment only upon complete delivery of the goods to the College.
23. Decision taken by the College Tender Committee will be final and binding.

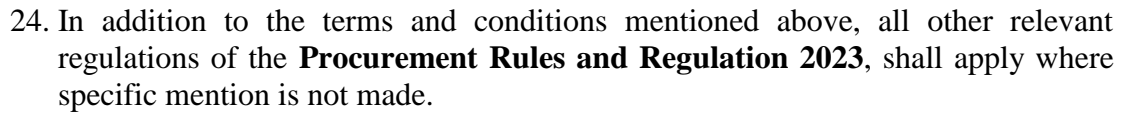
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|----|--|--|--------|--|
| 7 | Hot plate with Magnetic stirrer | 1.5 m of mains cable and one each coated magnetic stirring bars, 20 mm and 40 mm long with support rod | Sample | |
| 8 | Digital weighing Scale (for human body) | Strain gauge sensors system 1.5" (38mm) LCD digits, Auto zero – Auto off Low battery / over load indication Power: 1x CR 2032 3V Lithium batteries. Capacity : 200kg | | |
| | Consumables | | | |
| 1 | Cork | Rubber cork with different size in set | | |
| 2 | Gloves | Nitrile gloves with high resistant to chemicals | | |
| 3 | Hand lens | 75mm, 50mm | | |
| 4 | Beaker | 250ML, 500ML (Borosil) | | |
| 5 | Brain (Model) | well labeled in English | | |
| 6 | Animal Cell (Model) | well labeled in English | | |
| 7 | Human Ear (model) | well labeled in English | | |
| 8 | Eye Model | well labeled in English | | |
| 9 | Ice Bucket | 5 L | | |
| 10 | Watch Glass | 75mm, Borosil | | |
| 11 | Blotting paper | NICE | | |
| 12 | Test tube | 50ml Borosil | | |
| 13 | Forceps | Stainless steel with sharp point | | |
| 14 | Grid quadrat | one metre square | | |
| 15 | Kick Sampler Net/ Triangular dip net | Frame size of 25x25cm, Mesh size- 0.5µm | | |
| 16 | Water boots | King size, medium size | | |
| 17 | Lens Cleaning Tissues | Brand -Nice | | |
| 18 | Meter scale | Wooden, 100cm | | |
| 19 | Ice Tray | Durable rigid ice tray, 600ML | | |
| 20 | Soil testing Kit | For checking the pH, Nitrogen, Phosphorous & Potassium Availability in soil, (NICE). | | |







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|----|---|-------|--|--|
| 26 | Sulphur | MERCK | | |
| 27 | Barium chloride | MERCK | | |
| 28 | sodium Sulphate | MERCK | | |
| 29 | Copper sulphare crystal | MERCK | | |
| 30 | Iodine solution | MERCK | | |
| 31 | sulphur powder | MERCK | | |
| 32 | Hydrogen peroxide | MERCK | | |
| 33 | Ethanol | MERCK | | |
| 34 | Sodium Chloride | MERCK | | |
| 35 | Amonia solution | MERCK | | |
| 36 | Acetocarmine | MERCK | | |
| 37 | Giemsa stain solution | MERCK | | |
| 38 | Sudan III solution | MERCK | | |
| 39 | wright's stain powder | MERCK | | |
| 40 | Monoclonal Antibodies (Anti-A, B and D) | MERCK | | |
| 41 | Safranine | MERCK | | |
| 42 | Glycerine | MERCK | | |



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2. Chemistry Lab items For 2023-2024

| Sl.No s | Name | | Speciation | Rate | Remarks |
|------------------|------------------------------|-------|------------|------|---------|
| CONSUMABLE ITEMS | | | | | |
| 1 | Methyl red indicator | 500ml | MERCK | | |
| 2 | Brucine Sulfate | 500g | MERCK | | |
| 3 | Ethanol | 500ml | MERCK | | |
| 4 | Diphenyl indicator | 500ml | MERCK | | |
| 5 | Petroleum ether | 500ml | MERCK | | |
| 6 | Potassium chloroplatinate | 500g | MERCK | | |
| 7 | selenium powder | 500g | MERCK | | |
| 8 | zironyl chloride ocathydrate | 500g | MERCK | | |
| 9 | Ferric sulphate | 500g | MERCK | | |
| 10 | Ferrion indicator | 500ml | MERCK | | |
| 11 | LAS | 500g | MERCK | | |
| 12 | Macroeticular resign | 500g | MERCK | | |
| 13 | Ammonium solution | 500ml | MERCK | | |
| 14 | Aluminium Chloride | 500g | MERCK | | |
| 15 | Zinc Chloride | 500g | MERCK | | |
| 16 | Methyl acetate | 500g | MERCK | | |
| 17 | Propionic acid | 500ml | MERCK | | |
| 18 | Aniline | 500ml | MERCK | | |
| 19 | Dimethyl Pheylamine | 500ml | MERCK | | |
| 20 | M-Dinitro Benzene | 500g | MERCK | | |
| 21 | Ether | 500g | MERCK | | |
| 22 | Manganous Sulphate | 500g | MERCK | | |
| 23 | Potassium iodate | 500g | MERCK | | |
| 24 | Sodium sulphide | 500g | MERCK | | |
| 25 | Eolochrome Black T | 500ml | MERCK | | |
| 26 | Siliver Sulphate | 500g | MERCK | | |
| 27 | Siliver Nitrate | 500g | MERCK | | |
| 28 | Ammonium Thiocynate | 500g | MERCK | | |
| 29 | Ammoium dichromate | 500g | MERCK | | |

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|----|------------------------------|---------------|-------|--|--|
| 30 | Ammonium nitrate | 500g | MERCK | | |
| 31 | Ammonium chloride | 500g | MERCK | | |
| 32 | Aluminium nitrate | 500g | MERCK | | |
| 33 | Ammonium bicarbonate | 500g | MERCK | | |
| 34 | Ammonium chloride | 500g | MERCK | | |
| 35 | Copper sulphate | 500g | MERCK | | |
| 36 | Calcium powder | 500g | MERCK | | |
| 37 | Calcium nitrate | 500g | MERCK | | |
| 38 | Calcium chloride | 500g | MERCK | | |
| 39 | Magnesium Chloride | 500g | MERCK | | |
| 40 | Manganous chloride | 500g | MERCK | | |
| 41 | Zinc Sulphite | 500g | MERCK | | |
| 42 | Zinc Nitrate | 500g | MERCK | | |
| 43 | Felling solution B | 500ml | MERCK | | |
| 44 | Molish's Reagent | 500ml | MERCK | | |
| 45 | Nessler Reagent | 500ml | MERCK | | |
| 46 | Litmus solution red | 500ml | MERCK | | |
| 47 | Tollen's Reagent | 500ml | MERCK | | |
| 48 | Sodium thiosulphate | 500g | MERCK | | |
| 49 | Baurite ore | 500g | MERCK | | |
| 50 | Universal indicator solution | 500ml | MERCK | | |
| 51 | Iodine Solution | 500ml | MERCK | | |
| 52 | Nitric acid | 500ml | MERCK | | |
| 53 | Oxalic acid | 500ml | MERCK | | |
| 54 | Acetic acid | 500ml | MERCK | | |
| 55 | Methanol | 500ml | MERCK | | |
| 56 | Ferric sulphate | 500g | MERCK | | |
| 57 | Zinc Sulphate | 500g | MERCK | | |
| 58 | Zinc Nitrate | 500g | MERCK | | |
| 59 | Starch soluble | 500g | MERCK | | |
| 60 | Acetone | 250ml / 500ml | MERCK | | |
| 61 | Molish's reagent | 500g | MERCK | | |

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|----|---------------------------|------------|---------------------|--|--|
| 62 | Hydrogen Peroxide 30% | 500ml | MERCK | | |
| 63 | Sodium Hydroxide | 500g | MERCK | | |
| 64 | Phenol | 500ml | MERCK | | |
| 65 | Ammonium Hydroxide | 500g | MERCK | | |
| 66 | Litmus paper Red | | 100leaves per pack. | | |
| 67 | Litmus paper Blue | | 100leaves per pack. | | |
| 68 | Universal indicator paper | | 100leaves per pack. | | |
| 69 | Strach paper | | 100leaves per pack. | | |
| 70 | Hydrochloric acid | 500ml | MERCK | | |
| 71 | Iodine crystal | 500g | MERCK | | |
| 72 | Beryllium carbonate | 500g | MERCK | | |
| 73 | Potassium Iodide | 500g | MERCK | | |
| 74 | Copper sulphate | 500g | MERCK | | |
| 75 | Isoprophyl alcohol | 500ml | MERCK | | |
| 76 | 2-Methylpropan-2-ol | 500ml | MERCK | | |
| 77 | Zinc sulphate | 500g | MERCK | | |
| 78 | Propanol | 500ml | MERCK | | |
| 79 | Sodium Hydrogen Sulfite | 500g | MERCK | | |
| 80 | Schiff's Reagent | 500ml | MERCK | | |
| 81 | Zinc Chloride | 500g | MERCK | | |
| 82 | Benzaldehyde | 500ml | MERCK | | |
| 83 | Acetaldehyde | 500ml | MERCK | | |
| 84 | Butanol | 500g | MERCK | | |
| 85 | Chlorobenzene | 500ml | MERCK | | |
| 86 | Glucose | 500g | MERCK | | |
| 87 | Iodobenzene | 500g | MERCK | | |
| 88 | Acetophenone | 500ml | MERCK | | |
| 89 | Bromobenzene | 500ml | MERCK | | |
| 90 | Chloroform | 500ml | MERCK | | |
| 91 | Sulphuric acid | 500ml | MERCK | | |
| 92 | Potassium Iodide Paper | per number | 100leaves per pack. | | |

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|----|---|-----------|--------------------|---|--|--|
| 93 | Universal Chart | Indicator | per number | Good quality | | |
| 94 | U-Tube | | per number | Borosil for salt bridge | | |
| 95 | Stirring rod | | sets or per number | This Stirring rod is made of soft flint glass, with both ends fire-polished and rounded. Glass Stirring Rod 8". | | |
| 96 | Silica crucible with lid | | per number | Material: Silica, capacity: 50ml, Usage/Application: Chemical laboratory, Colour:White, Shape:Round, Packing type: Box, Weight:110g, Temperature: 700 to 1100 degree celcius, Height: 33mm. | | |
| 97 | Beaker(Brosil) | | per number | 50ml | | |
| | | | per number | 20ml | | |
| | | | per number | 1000ml | | |
| | | | per number | 100ml | | |
| 98 | Droppers(with graduation ,made of brosil) | | per number | 1ml | | |
| | | | per number | 10ml | | |
| | | | per number | 25ml | | |

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| | | per number | 5ml | | |
| 99 | Pipette Filler | per number | 10ml | | |
| | | per number | 25ml | | |
| 100 | Burette clamp | per number | <ul style="list-style-type: none"> • Practical holder for anchoring burettes vertically on the support stand. • The volume scale remains clearly readable. • Moulded in Polypropylene making it completely corrosion proof • The spring loaded jack in the middle provides a vice like grip to the Burette and prevents it from slipping • Two tapered wedges are provided to ensure firm grip on rods having dia 1/2" or 3/8" (Ø 9,6 - 12,7 mm) | | |
| 101 | Clamps | per number | EISCO CH0688 Labs Clamp Retort, 3 PVC Coated Prongs (opens to 90mm in dia.) with Boss Head | | |
| 102 | Volumetric flask | per number | 10ml | | |
| | | per number | 25ml | | |

| | | | | | |
|-----|-----------------------------------|------------|--|--|--|
| | | per number | 50ml | | |
| | | per number | 100ml | | |
| | | per number | 500ml | | |
| 103 | Nitrile Chemical Resistant Gloves | per number | Durable , Protection against chemicals, diesel fuel, petrol and oil, Good anatomical fit applied for maximum comfort, 3-4 times longer life-span than equivalent vinyl/PVC gloves. | | |
| 104 | Burette | per number | Polycarb(plastic burette) | | |
| 105 | Burette | per number | Brosil | | |
| 106 | Measuring cylinder(brosil) | per number | 5ml | | |
| | | per number | 1ml | | |
| | | per number | 50ml | | |
| | | per number | 25ml | | |
| 107 | Conical flask | number | 250ml | | |

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|-----|-------------------------|-------------|---|--|--|
| | | number | 100ml | | |
| | | number | 500ml | | |
| 108 | Copper Wire | rolls | Insulated with threat, 20mtrs length. | | |
| 109 | Nichrome wire with loop | per number | Alloys of nickel and chromium, 10 pcs per packet. | | |
| 110 | Digital Thermometer | per number | 0.01°C Sensitivity | | |
| 111 | Thermometer | per number | 0.01°C Sensitivity | | |
| 112 | Tygon tubing | per number | 12mm diameter and 10 meter length | | |
| 113 | Aspirator | per number | Borosil | | |
| 114 | Gloves | sets/pkt | Cut Resistant, Heat Resistant above 1500 degree celsius, Flame Resistant, Heat Preservation. Size : Free size and Wear type: full fingered. | | |
| 115 | Crucible tong | sets/number | Stainless steel(50cm long) | | |
| 116 | Kipps apparatus | per number | Kipps apparatus | | |
| 117 | Filter paper | rolls | Size 20cm | | |

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|-----|--|--------------------|---|--|--|
| 118 | Calorimeter cup | Number | These styrofoam calorimeter cups (7.5 cm inside diameter, 10 cm deep) have 1.3 cm thick walls for excellent thermal properties. The lids have a hole for a temperature probe. Includes set of six cups with lids. | | |
| 119 | Glass tough | Number | Borosil | | |
| 120 | Ammeter | Number | Range from 0-5 amper | | |
| 121 | Voltmeter | Number | Range from 0-5 volt | | |
| 122 | Fire safety jacket for operating Muffle furnace. | Per n or sets | Heat resistance, Fire resistance, Woolen linen attached, Easy to wash, Do not bleach and Shrink resistance | | |
| 123 | face shield for operating Muffle furnace. | per number | Size: 53-63cm, Color: White, Blue, Green, Yellow, Orange, Material: High impact resistance ABS and Visor Polycarbonate, 8" | | |
| 124 | Spatula | sets or per number | stainless steel (20cm long) | | |
| 125 | Sodium Metal | number | | | |
| 126 | Zinc Metal | number | | | |
| 127 | Potassium /metal | number | | | |
| | EQUIPMENTS | | | | |



| | | | | |
|----|-------------------------------------|---|--|--|
| 22 | Joule's Calorimeter | Dimension (L*W*H) Size: Outer vessel wooden box: 15cm Dia approx. Inner vessel calorimeter copper: 10cm Dia approx. | | |
| 23 | Galvanometers | 30-0-30 divisions. Sensitivity 2mA/division | | |
| 24 | Galvanometers | 10-0-10 divisions. Sensitivity 2mA/division | | |
| 25 | Junction diode characteristics app. | Box type with all accessories to study forward and reverse bias characteristics. | | |
| 26 | Zener diode characteristics app. | Box type with all accessories to study forward and reverse bias characteristics | | |
| 27 | Transistor characteristics app. | Box type with all accessories to study input, output and transfer characteristics of pnp and npn | | |
| 28 | Magnetic field along the axis | 0-16V DC continuously variable and stabilized | | |
| 29 | Resonance Column Apparatus | Resonance Column Apparatus with Complete Set with Rubber Tube and Vessel used for Laboratory Purposes. It consists of chrome plated brass resonance tube 100 cm long, a reservoir 250 ml, a meter scale mounted on a stand and rubber tubing. | | |
| 30 | Assorted screw driver cum | Good Quality | | |
| 31 | assorted pliers | Good Quality | | |
| 32 | Glass slab | Rectangular glass slab. Dimensions: 75x50*12mm. | | |
| 33 | Right angle prism | Right angle prism with a cross section of 90°45°45° | | |
| 34 | Spherometer | Brass disc and scale with stainless steel. Least count 0.1mm | | |
| 35 | Micro ammeter | Dc-0-250μA | | |
| 36 | Milli ammeter | DC 0-15mA. | | |
| 37 | Voltmeters | Dc 0-10V | | |
| 38 | first aid box | contains all necessary items. Contents are: cotton crepe bandage, cotton wool, bandage, surgical tape, Dettol, clinical thermometer, scissors, burnol, cipladine ointment, band-aid. | | |
| 39 | Battery Eliminator | current: 2A, Voltage: 0-12 V. | | |
| 40 | Ammeter | DC 0-3 A | | |

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|----|--|--|--|--|
| 47 | DPDT Switch | 6 metallic terminal in two rows mounted on rectangular base | | |
| 48 | Diode | IN 4001, | | |
| 49 | | IN 4002, | | |
| 50 | | 6A4 MIC | | |
| 51 | Optical Bench | The optical bench is a long steel pipe with a linear scale applied to it. It consists of holders for light sources, lenses and screens are placed on the apparatus so that image formation can be observed. An object is put on one side and corresponding image distance can be measured. | | |
| 52 | Parallelogram Apparatus | Parallelogram apparatus is used in measuring forces acting on a single point. It consists of a black board of around 650x500mm with 2 aluminium pulleys clamped at the top. A spool of thread passes through these pulleys. Three hangers are connected to the spool and carry different slotted weights. | | |
| 53 | Spring constant apparatus | Spring Constant Apparatus is used to measure force by using Hook's law. It consists of a Retort stand on which a spring is clamped. The other end of the spring has a hook on which variable slotted weight of 100gm, 200gm, 300gm, 400gm and 500gm are attached. A vertically placed ruler then measures the extension of the spring. | | |
| 54 | Calorimeter copper with wooden box and stirrer | Made of copper 90 x 80 mm dia. Resting on a felt pad inside wooden box with sliding cover, provided with Thermometer holder with stirrer. | | |
| | Consumable items. | | | |



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|----|---------------------------------|--|--|--|
| 1 | Crooke's Radiometer/light mill. | Consists of an airtight glass bulb containing a partial vacuum, with a set of vanes which are mounted on a spindle inside. The vanes rotate when exposed to light, with faster rotation for more intense light, providing a quantitative measurement of electromagnetic radiation intensity. good quality. | | |
| 2 | concave mirror | focal length 15 cm | | |
| 3 | concave mirror | focal length 20 cm | | |
| 4 | concave mirror | focal length 25 cm | | |
| 5 | convex mirror | focal length 15cm | | |
| 6 | convex mirror | focal length 12cm | | |
| 7 | convex lens | focal length 10cm | | |
| 8 | convex lens | focal length 10cm | | |
| 9 | concave lens | focal length 15cm | | |
| 10 | concave lens | focal length 20cm | | |
| 11 | Spiral spring | The experiment involves measuring the extension of a spiral spring under different loads and using the results to calculate the spring constant. | | |
| 12 | Torch bulb holder | | | |
| 13 | Meter scale | 50cm hard wood. | | |
| 14 | Meter scale | 100cm hard wood. | | |

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