

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF BOTANY

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

Quotation are invited for purchase of the following apparatus and laboratory components for Dept. of Botany , Government General Degree College Kharagpur-II, Madpur, Paschim Medinipur for the academic year 2017-18. All items should be branded and good quality.

Kindly quote the price including all taxes, delivery and installation charges and others.

[Items must be quoted in the same sequence as they are mentioned below]

Group – A [Instruments]

Microscopes:

- Compound Student Microscope – eyepiece 10x, 15x achromatic objective 10x, 40x/45x, with mechanical stage. With good build quality, LED illumination source preferred.
- Compound Student Microscope – eyepiece 10x, 15x , achromatic objective 10x, 40x/45x, 100x , with mechanical stage. With good build quality, substage LED illumination source
- Trinocular upright microscope for demonstration (high quality) such as Magnus MLX TR plus or equivalent– 10x, 40x, 100x oil immersion, complete with substage illumination source, condenser, mechanical stage etc. dust cover
- Magnus MagCam DC and MagVision Software
- Phase contrast attachment for Magnus MLX TR Plus
- Binocular upright microscope for demonstration (high quality) such as Magnus MLX TR plus or equivalent– 10x, 40x, 100x oil immersion, complete with substage illumination source, condenser, Mechanical movable stage etc. dust cover
- Inverted microscope with 10x eyepiece, 10x, 20x, 40x objective, illumination source.
- Imaging accessories with CMOS sensor compatible with Magnus MLX TR plus, software with measurements.
- Simple microscope
- Dissecting Microscope
- Binocular Stereoscopic Microscope with turret mounted/sliding objectives, up to 40x magnification, with incident and transmitted light
- Binocular Stereo zoom microscope, upto 40x magnification, with incident and transmitted light
- High quality microscope with achromatic objective 10x, 40x, 100x with camera and other accessories [Research Grade]

Refrigerators/freezers

- Refrigerator 4C, ~150L
- Refrigerator 4C, ~200L
- Refrigerator 4C, ~300L

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- Refrigerator -20C, ~150L
- Refrigerator -20C, ~200L
- Refrigerator -20C, ~300L

Centrifuges:

- Small mini centrifuge – for 1.5 ml , 2ml tubes
- Table top centrifuge with digital speed regulator, timer, imbalance detector, brake, safety lid – for 15ml , 50 ml tubes with swing out rotors and complete accessories
- Refrigerated centrifuge

Digital balance:

- Coarse balance – 0.1 gm to 600 gm
- Coarse balance –0.5 gm to 3000 gm
- Coarse balance –0.1 gm to 3 kg
- Fine balance – 0.001 to 200 gm
- Fine balance – 0.001 to 100 gm
- Fine balance – 0.01 gm to 300 gm

Digital spectrophotometer:

- Microprocessor controlled Digital Photo Colorimeter 8 filters. Range400-700 nm
- Digital spectrophotometer (visible) – Range : 340 - 960 nm
- Digital spectrophotometer UV-VIS single beam
- Digital spectrophotometer UV-VIS double beam

Digital pH meter

- pH meter with probe – with temperature compensation

Laminar Air flow

Horizontal Laminar Airflow Benches

Working Area Size In Feet (W x D x H)	Overall Equipment Size in MM (W x D x H)	Top Cabinet Size in MM (W x D x H)	Support Stand Size in MM (W x D x H)
2' x 2' x 2'	680 x 850 x 1760	680 x 850 x 1000	680 x 850 x 760
3' x 2' x 2'	980 x 850 x 1760	980 x 850 x 1000	980 x 850 x 760

Micropipettes:

- 0.1-10ul
- 2-20ul
- 20-200ul
- 100-1000ul

Molecular biology instruments:

- Vertical gel apparatus (SDS-PAGE) with accessories
- Powerpack
- Blotting apparatus
- UV trans illuminator

Other laboratory equipments:

- Hot air oven
- Magnetic stirrer with magnetic flees
- Heater
- Microwave oven
- Pipette controller (battery operated)
- Water treatment plant
- Temperature regulated water bath
- Vortex mixer
- Glass Homogenizer
- Plankton net
- Spirit lamp
- Temperature controlled water bath
- Double distillation water plant (Quartz)
- Double distillation water plant (Glass)
- Table lamp
- Hot plate
- BOD Incubator
- Orbital shaking Incubator
- Bacteriological Incubator(chamber size 18x18x18 inches, temperature range- 5°C to 60°C, power- 230 volts, 50 Hz)
- Reusable Bottle Top Filter (Autoclavable)-500 ml.
- Vacuum pump (RockyvacTM 300)

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- Desiccator plain (PP/PC)- 300 mm. Diameter
- Autoclave (with timer and auto power cut)
- Pen p^H meter
- Conductivity meter
- Colorimeter
- Round table (Slide preparation)
- Seed Germinator
- UV- Chamber (Portable)
- Orbital shaker (body material is MS painted with Epoxy powder, tray material is SS, tray size is 425 x 425 mm, Shaking speed: 20-200 orbital strokes per min., permanent magnet geared DC motor with 25 mm dia.)
- Water Bath double walled (Thermostatic controlled, provided with indicating lamps and on/off switch, Temp range is above ambient to 99°C, operation on 240 volts AC, size 17 x 13 x 4 inches)
- Micro plate shaker (body material is MS painted with Epoxy powder, tray material is SS, size of tray 180 x 150 mm, Shaking speed: 100-1500 strokes per min., permanent magnet geared DC motor with 1 mm dia.)
- Heating mantles & extraction (Kjeldahl) apparatus (Descently painted Aluminium metal body up to 20 Ltrs., with energy regulator, switch and indicating lamp)- capacity: 50 ml. (60 watts, 230 volts.), 250 ml. (85 watts, 230 volts.), 500 ml. (150 watts, 230 volts.), 2000 ml. (300 watts, 230 volts.)
- Camera Lucida
- Stage Micrometer
- Ocular Micrometer
- Eye piece- 5x, 10x with & without pointer
- Motor and pestle

Camera/binoculars:

- Digital camera with high zoom
- Digital SLR/SLT camera with lens
- Binoculars – minimum 12x magnification

Group- B [Projectors, computers, peripherals]

Projectors/screens:

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- LCD Projector with XGA (1024x768) resolution, HDMI connectivity
- LCD Projector with WXGA (1200x800) resolution, HDMI connectivity
- Short throw LCD projector, HDMI connectivity
- Ultra short throw LCD projector, HDMI connectivity
- Projector screen – non motorised
- Projector screen - motorized
- Projector mounting accessories.
- Overhead projector

Computers/peripherals:

- Desktop computer – with 4 GB RAM, Core i3 6th gen & above processor, with genuine windows 10 OS, MS Office
- Desktop computer – with 8 GB RAM, Core i5 6th gen & above processor, with genuine windows 10 OS, MS Office
- Desktop computer – low cost, with genuine windows 10 OS, MS Office
- Laptop - with 4 GB RAM, Core i3 6th gen & above processor, with genuine windows 10 OS, MS Office
- Laptop - with 8GB RAM, Core i5 6th gen & above processor, minimum 2GB graphics, with genuine windows 10 OS, MS Office
- UPS
- Flatbed scanner
- Laser printer – black
- Laser printer – colour
- Multi-function printer with scanner
- Anti-virus software
- Microsoft office suit, 2016

Group – C [Glass wares, Plastic wares, dissection items etc.]

All glasswares should be of Borosil or equivalent quality and should be autoclavable.

Glasswares:

1. Haemocytometer
2. Pipette Graduated Capacity 1 ml
3. Pipette Graduated Capacity 2 ml
4. Pipette Graduated Capacity 5 ml
5. Pipette Graduated Capacity 10 ml

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6. Pipette Graduated Capacity 25 ml
7. Burettes, Boroflo, Blue screw thread stopcockmade form borosil glass capacity 50 ml
8. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 25 ml
9. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 50 ml
10. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 100 ml
11. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 150 ml
12. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 250 ml
13. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 500 ml
14. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 1000 ml
15. Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 2000 ml
16. BOD bottle – 125ml with interchangeable stopper
17. BOD bottle – 300ml with interchangeable stopper
18. Couplin jar (ordinary glass) 5 /10 slides
19. Measuring Cylinder Hexagonal Base With spout Capacity 25 ml
20. Measuring Cylinder Hexagonal Base With spout Capacity 50 ml
21. Measuring Cylinder Hexagonal Base With spout Capacity 100 ml
22. Measuring Cylinder Hexagonal Base With spout Capacity 250 ml
23. Measuring Cylinder Hexagonal Base With spout Capacity 500 ml
24. Measuring Cylinder Hexagonal Base With spout Capacity 1000 ml
25. Beaker with Spout And Graduated Capacity 100 ml
26. Beaker with Spout And Graduated Capacity 150 ml
27. Beaker with Spout And Graduated Capacity 250 ml
28. Beaker with Spout And Graduated Capacity 500ml
29. Beaker with Spout And Graduated Capacity 1000 ml
30. Beaker with Spout And Graduated Capacity 2000ml [borosil]
31. Reagents Bottle Plain Narrow mouth With Flat Head Interchangeable stopper – 125ml
32. Reagents Bottle Plain Narrow mouth With Flat Head Interchangeable stopper – 250ml
33. Reagents Bottle Plain Narrow mouth With Flat Head Interchangeable stopper – 500ml
34. Reagents Bottle with wide mouth screw cap – 125ml
35. Reagents Bottle with wide mouth screw cap – 250 ml
36. Reagents Bottle with wide mouth screw cap – 500ml
37. Reagents Bottle with wide mouth screw cap – 100ml
38. Dropping bottle with rubber tit – 30ml
39. Dropping bottle with rubber tit – 60ml
40. Dropping bottle with rubber tit – 125ml
41. Test Tube Thick wall 15 x 125 mm
42. Test Tube Thick wall 18 x 150 mm

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43. Test Tube Thick wall 15 x 125 Made Of Soda Glass Pyrex type
44. Dropper Made Of Neutral Glass 8" long 5C.C Rubber Tit
45. Watch Glass With All Side Edge polished Dia -----50 mm
46. Watch Glass With All Side Edge polished Dia -----75mm
47. Watch Glass With All Side Edge polished Dia -----100 mm
48. Glass slides
49. Glass slides with concavity
50. Cover Glass Square 18x 18mm
51. CoverGlassSquare22x 22mm
52. CoverGlassSquare22x40mm
53. Petri dishes – 50mm with lid
54. Petri dishes – 100mm with lid
55. L- Shaped spreader
56. Glass beads
57. Bell Jars with Knob, clear glass (Height x Dia- 200 x 150 mm, 250 x 150 mm)
58. Separating funnels (With glass stopcock & I/C stopper, made from heat resistant, low expansion Borosilicate glass)- capacity- 100 ml., stopper size-B19; 250 ml., stopper size- B19; 500 ml., stopper size- B24.
59. Flasks, flat bottom, narrow neck, with beaded rim- capacity- 250 ml., 500 ml., 1000 ml.
60. Flasks, pear shaped- capacity- 250 ml. 500 ml. 1000 ml.
61. Petri dishes, autoclavable, bottom dish and lid inside and outside absolutely flat- O.D. X Height in mm - 60 x 15; 80 x 15, 100 x 20
62. Respiroscope
63. Screw cap vial Flat bottom 50 ml.
64. Screw cap vial Flat bottom 100 ml.

Plasticwares and other items:

1. Beakers ,propelyene – 50ml
2. Beakers ,propelyene – 100ml
3. Beakers ,propelyene – 250ml
4. Beakers ,propelyene – 500ml
5. Beakers ,propelyene – 1000ml
6. Burettes, with transparent acrylic body and leak proof stop cock – 25ml
7. Burettes, with transparent acrylic body and leak proof stop cock – 50ml
8. Burettes, with transparent acrylic body and leak proof stop cock – 100ml
9. Retort Stand With Clamp Made Of Polythene
10. Pipette Stand Vertical

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11. Test tube racks
12. Multi stand for 5ml, 15 ml, 50 ml tubes
13. Disposable petridish -35mm
14. Disposable petridish – 60mm
15. Disposable petridish – 100mm
16. 15ml conical tubes with screw cap
17. 50ml conical tubes with screw cap
18. 1.5ml microcentrifuge tubes
19. 2ml microcentrifuge tubes
20. Carboy with stop cock – 10ltr
21. Carboy with stop cock – 20ltr
22. Pipette controller/pump – 2ml
23. Pipette controller/pump – 10ml
24. Pipette controller/pump – 25 ml
25. Slide box
26. Staining Bottle 85 x 28mm with screw cap
27. Plastic coupling jars
28. Spatula – made of stainless steel 8 inch
29. Spatula – made of stainless steel 6inch
30. Spatula – made of stainless steel 4 inch
31. Spatula – made of horn 8 inch
32. Spatula – made of horn 6inch
33. Spatula – made of horn 4 inch
34. Weighing boats
35. Parafilm
36. Microtips with tip box – 10ul
37. Microtips with tip box – 200ul
38. Microtips with tip box – 1000ul
39. Biohazard bags
40. Nitrile gloves – medium
41. Nitrile gloves – small
42. Nitrile gloves – large
43. Thick acid resistant gloves
44. Test Tube Holder Made Of Brass Clip Type With Wooden Handle
45. Autoclavable plastic bag
46. Slant Rack
47. Pipettor stand (PMMA) 5 place
48. L- Shaped spreader, serial
49. Narrow Mouth Bottle (Medical Grade PP confirming, autoclavable)-
125 ml., 250 ml., 500 ml., 1000 ml.

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50. Wide Mouth Bottle (Medical Grade PP confirming, autoclavable)- 125 ml., 250 ml., 500 ml., 1000 ml.
51. Amber Narrow Mouth Bottle (Medical Grade HDPE confirming)- 125 ml., 250 ml., 500 ml., 1000 ml.
52. Amber Wide Mouth Bottle (Medical Grade HDPE confirming)- 125 ml., 250 ml., 500 ml., 1000 ml.
53. Aspirator Bottle With Stopcock (Medical Grade PP confirming, autoclavable)-10 Lts., 20 Lts.
54. Jerrican (Medical Grade HDPE confirming)- 5 Lts., 10 Lts.
55. Wash Bottle- 125 ml., 250 ml., 500 ml.
56. Utility Tray (PP, Autoclavable)-(Lxwxh) mm. 360x310x130
57. Pipette Rack horizontal (PP, Autoclavable, 12 place)
58. Handypette pipette Aid (PP/ Silicon) - 10 ml.,25 ml.
59. Micro Pestle (PP)
60. Micro Centrifuge Tube (PP, Autoclavable)-0.5 ml., 1.5 ml., 2.0 ml.
61. Centrifuge Tube conical bottom- 15 ml., 50 ml.
62. Test tube stand (PC) 40 place, tube diameter-13 mm.,25 mm.
63. Test tube stand (RPP)- 31 place, tube diameter – 13mm., 32 mm.
64. Ice tray- 1 Lts.
65. Pasteur pipette (LDPE)- 1 ml., 3 ml.
66. Sample container (PP/ HDPE)- 100ml.
67. Vacuum tubing (Autoclavable)-IDxOD mm. 4.8x14- 3 mts.
68. Specimen container (PP)- 125 ml;., 250 ml., 500 ml., 1000 ml.
69. Storage Vial (sterial, PP, Autoclavable)- 5 ml., 10 ml.

Group – D[Chemicals, reagent, teaching kits]

List of Chemicals/reagents/dyes: [Brands – E Merck, NICE, Qualigens etc.]

If possible quote the price of E Merck, HiMedia, SRL/others both

1. Absolute Alcohol (Ethanol, Methanol)
2. Acetic acid glacial
3. Aceto Carmine
4. AcetoOrcine
5. Activated Charcoal
6. Agar-Agar (Bacteriological)
7. Alkali-iodide-azide
8. Ammonia solution 25% AR
9. Ammonium Chloride

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10. Ammonium Hydrogen phosphate, NH_4HPO_4
11. Ammonium di-Hydrogen phosphate
12. Ammonium Hydroxide (NH_4OH)
13. Ammonium oxalate
14. Ammonium methyl (Saturated)
15. 1-Butanol GR
16. Beef extract
17. Benedict's reagent
18. Bismark Brown
19. Bouin's fixative
20. BSA
21. Buffer capsul (P^{H} 9.0, 7.0, 5.0)
22. Calcium Chloride, CaCl_2
23. Calcium Nitrate hydrated purified
24. Carbon Tetrachloride, GR
25. Chloform
26. Citric Acid
27. Copper sulphate
28. Cotton blue
29. Crystal violet-Iodine Solution (Gram staining)
30. Dextrose
31. Di-phenyl Amine indicator
32. Di-potassium hydrogen phosphate
33. Di-sodium hydrogen phosphste
34. Dichlorobenzene
35. Dichloromethane, GR
36. Diethyl ether
37. DNA marker
38. Double Distilled water
39. DPX
40. Dragendroff 's reagent
41. Eosin
42. Ethanol
43. Ethidium bromide
44. Exrant
45. Felling's solution (A & B)
46. Ferric chloride, FeCl_3
47. Ferrous Ammonium Sulphate, $[\text{Fe} (\text{NH}_4)_2(\text{SO}_4)_2]$
48. Ferric Sulphate
49. Ferrous Sulphate(Crystalline)
50. FolinCiocalteau phenol reagent

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51. Formaline
52. Fructose
53. Geimsa Stain
54. Gel loading dye
55. Gelatine
56. Glacial acetic acid
57. Globulin
58. Glucose
59. Glycerine
60. Gram Stain Kit
61. HEPES
62. Hydrochloric Acid
63. Hydrogen per oxide (H_2O_2)
64. Iodin solution
65. Lactophenol
66. Light Green
67. Magnesium Chloride, $MgCl_2$
68. Magnesium Sulphate, $MgSO_4 \cdot 7H_2O$
69. Maltose
70. Manganesesulphate
71. Manganous sulphate
72. Mayer's reagent
73. Mercuric chloride
74. Methanol
75. Methylene Blue
76. Millon's reagent
77. Molisch's reagent
78. Nessler's reagent
79. Neutral Sand
80. Nitric Acid
81. Nutrient Agar
82. Oil immersion
83. Orcein
84. Oxalic Acid, purified
85. PBS tablet/powder
86. Peptone
87. Peptone
88. Periodic acid-Schiff stain
89. pH Buffer Solution
90. Phenolphthalin Solution
91. Phenylarsine oxide

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92. Phosphoric acid (H_3PO_4)
93. Picric acid
94. Potassium bi-iodate
95. Potassium chloride
96. Potassium di-chromate
97. Potassium di-hydrogen phosphate
98. Potassium Ferricyanide
99. Potassium Hydroxide Pellets
100. Potassium iodide
101. Protein marker
102. 2- propionic Acid, GR
103. Rectified sprit
104. Safranin
105. Saturated aqueous mercuric chloride
106. Silver Nitrate
107. Silver Nitrate solution ($AgNO_3$)
108. Sodium Acetate crystal, pure
109. Sodium bicarbonate
110. Sodium Chloride
111. Sodium di-hydrogen phosphate
112. Sodium Hydroxide Pellets
113. Sodium hypochloride
114. Sodium thiosulfate
115. Sodium thiosulphate
116. Staining buffer for Giemsa stain
117. Starch
118. Sucrose
119. Sudan Black B
120. Sudan III Dye
121. Sulphuric Acid
122. TTC
123. Wagner's reagent
124. Xylene
125. Yeast extract

Teaching kits:

- Agarose Gel Electrophoresis Teaching Kit
- Bacterial Growth Curve Teaching Kit
- SDS-PAGE Teaching Kit
- Protein Silver Staining Teaching Kit

Group – E [Specimens – prepared slides, models]

Class worked out material

ALGAE: *Anabaena* sp., *Oedogonium* sp., *Oedogonium* sp., *Chara* sp., *Vaucheria* sp., *Ectocarpus* sp., *Polysiphonia* sp. (100 unit each)

FUNGI: *Rhizopus* sp., *Penicillium* sp., *Ascobolus* sp., *Agaricus* sp. (100 unit each)

BRYOPHYTA: *Riccia* sp., *Marchantia* sp., *Anthoceros* sp., *Funaria* sp. (100 unit each)

PTERIDOPHYTA: Stem and strobilus of following specimens *Lycopodium* sp., *Selaginella* sp., *Equisetum* sp., *Marsilea* sp. (Sporocarp), (100 unit each)

PLANT PATHOLOGY: Black stem rust of Wheat (Uredospore, teleutospore), Brown spot of Rice, Tikka disease of Ground Nut. (100 unit each)

PHARMACOGNOSY: Powder of the bark of *Alstonia* sp. (Chatim), Powder of *Zingiber* sp. rhizome (Aada), Powder of the leaf of *Adhatoda* sp. (Bashak), Powder of the seed of *Strychnos* sp. (100 gm. each)

ANATOMY: Stem of *Tecoma* sp., Stem of *Boerhaavia* sp., Stem of *Dracaena* sp., Stem of *Bignonia* sp., Stem of *Cucurbita* sp., Leaf of *Bambusa* sp., Leaf of *Nerium* sp., Root of *Vanda* sp., Root of *Tinospora* sp. (100 unit each)

GYMNOSPERMS: Needle leaf of *Pinus* sp., Male cone of *Pinus* sp., Stem of *Pinus* sp., Microsporophylls of *Cycas* sp., Leaf of *Cycas* sp. (100 unit each)

Permanent slides of PALAEOBOTANY: *Lygnopteris* T.S., *Calamites* stem T.S. (One each)

Permanent slides of Genetics: Mitosis- All normal stage, Early separation, late separation, sticky bridge, Meiosis- Diplotene, Diakinesis, Metaphase-I, Anaphase- I, Metaphase-II, Anaphase-II, Telophase- II, Ring chromosomes and Chains, laggard, anaphase bridge. (One each)

Permanent slides of Gymnosperms: T.S. of leaflet of *Cycas* sp.; T.S. of needle leaf of *Pinus* sp.; T.S., T.L.S, R.L.S of stem of *Pinus* sp.; L.S. of ovule of *Gnetum* sp. (One each)

Permanent slides of Anatomy: T.S. of monocot root, stem and leaf; T.S. of Dicot root, stem and leaf; T.S., T.L.S., & R.L.S. of wood of *Tectona* sp., *Mangifera* sp., *Azadirachta* sp. (One each)

Permanent slides of Palynology: Pollen of *Hibiscus* sp.; *Tridax* sp. (One each)

Museum Specimens

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1. Palaeobotany: *Vertebraria* sp. *Lepidocarpon* sp. and *Ptilophyllum* sp. .(One each)
2. Gymnosperms: *Cycass* sp.- Male cone, Microsporophyll, Megasporophyll;
Pinus sp. – Male Cone, Female cone. .(One each)

Group – F [Laboratory safety equipments]

- Fire extinguisher
- Fire blanket
- Safety goggles/UV goggles
- Apron
- First aid kit
- Liquid soap
- Hand sanitizer
- Hand sanitizer dispenser
- Paper towel
- Paper towel dispenser
- Absorbent cotton
- Non-absorbent cotton
- Tissue paper
- Butter Paper

Head of The Department

Officer In-Charge

Botany
Ambigeria, Madpur

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Quotation are invited for purchase of the following apparatus and laboratory components for Dept. of Chemistry , Government General Degree College Kharagpur-II, Madpur, Paschim Medinipur for the academic year 2017-18. All items should be branded and good quality.

Kindly quote the price including all taxes, delivery and installation charges and others.

List of Instruments

1. Magnetic Stirrer with Hot plate
2. Magnetic Stirrer without Hot plate
3. Magnetic Bar
4. Hot Air Oven
5. Top loading Digital Balance
6. Heating Mantle
7. Auto Clave
8. Melting point apparatus
9. Spectrophotometer
10. Ultra high vacuum pump
11. Polari meter
12. Dryer
13. Computer, Printer, Hard drive, Pen drive, Modem
14. LCD home Cinema projector
15. Water Bath Rectangular
16. UV Chamber
17. Fire Extinguisher
18. Digital pH Meter with electrode
19. Digital Conductivity Meter
20. Digital potentiometer

List of Glass goods

1. Air Condenser Liebig with sealed inner tube& B-24, B-19 and B-14 standard joint
2. Water Condenser
3. Adopter B-24, B-19 and B-14 standard joint
4. Glass Stopper (B-24, B-19 and B-14 standard joint)
5. Beaker (25 ml, 50 ml, 100 ml, 250 ml, 500 ml and 1000 ml)
6. Reagents Bottle Plain Narrow mouth (125 ml, 250 ml and 500 ml)
7. Round Bottom Flask Cap-25 ml (B-14 standard joint)
8. Round Bottom Flask Cap-50 ml (B-14 and B-19 standard joint)
9. Round Bottom Flask Cap-100 ml (B-14, B-19 and B-24 standard joint)
10. Round Bottom Flask Cap-250 ml (B-19 and B-24 standard joint)

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11. Erlenmeyer, Graduated Narrow Mouth Conical Flask (50 ml, 100 ml, 250ml and 500 ml)
12. Filtration Flask with side neck for preparation
13. Volumetric Flask With Glass Stopper Cap (10 ml, 25ml, 50ml and 100 ml)
14. Measuring Cylinder (5 ml, 10ml, 25ml, 50ml, 100ml, 250ml, 500ml, 1000ml)
15. Weighing Bottles With Stopper (5ml, 10ml, 15ml)
16. Kipp's apparatus
17. Vacuum Desiccators
18. Funnel (50mm, 65mm, 75mm)
19. Separating Funnels (50mm, 65mm, 75mm)
20. Pipette Volumetric Cap (1ml, 5ml, 10ml, 25ml)
21. T.L.C Jar
22. Glass Rod
23. Glass tube
24. Fusion Tube
25. Test Tube
26. Layer Tube
27. Dropping bottle
28. Watch glass
29. Porcelain mortar and pestle
30. Reagent bottle (polylab)
31. Test tube stand and holder
32. Capillary tube
33. Desiccators
34. Bunsen burner
35. Spatula
36. Teflon tap roll
37. Vacuum grease
38. Velvet cork
39. Cork borer
40. Filter paper round
41. Test tube brush
42. First aid box
43. Dettol liquid soap
44. Naphthalene ball
45. Hand glove
46. Apron
47. Volini spray
48. Burette
49. Wash bottle
50. Filter paper (Whatman-41)

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51. Pinch cork
52. Charcoal block
53. Cu-turning
54. TLC Plate
55. Distillation head and tail
56. Bent tube

List of Chemicals

Chemicals (Organic, Inorganic) required as per the syllabus of Vidyasagar University

**Department of Chemistry
List of Items with Specification**

Sl. No.	Items	Details	Specification
1	Instruments	Magnetic Stirrer with Hot plate	Remi (capacity 1 lt, 2 lt and 5 lt)
		Magnetic Stirrer without Hot plate	Remi (capacity 1 lt, 2 it and 5 lt)
		Magnetic Bar	Tarson (Teflon coated polygon)
		Hot Air Oven	Double walled units with outer chamber made of thick M.S. Sheet duly powder coated paint. Inner chamber and adjustable perforated Shelves made of thick anodised Stainless steel Sheet. Beaded heating elements are placed in ribs at bottom and sides, for uniform heat distribution. Temperature is control digital indicator cum controller. Temperature range from ambient to 250 ⁰ C. Air ventilators are also provided on the top of the unit. To work on 220/230Volts A.C. supply.
		Top loading Digital Balance	Whenser, Metler (capacity 0.0001 gm)
		Heating Mantle	Capacity 1000 ml, and 2000 ml
		Auto Clave	50lts capacity. To work on 220/230 Volts A.C. Supply. Working size 330 mm diameters x 550 mm height. Load capacity 3.0 K.W.
		Melting point apparatus	For Determination Of Melting

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			Points Up To 350 ⁰ C. Three Capillary Tubes and Mercury Thermometer. The Temperature is Regulated By Energy Regulator Fitted. The Lamp Provides Uniform And Shadowles Regulator.
		Spectrophotometer	Double beam
		Ultra high vacuum pump	Ultra high vacuum pump beltless : A direct drive vacuum pump is driven at a high rotational speed of 1425 revs/min compared to belt drive pump of 600revs/min. High speed for large displacement, close tolerances for better vacuum must be supported by forced oil lubrication. Oil is pump into the mechanism by a simple but reliable oil pump, via the distributor and anti suck back valve (non-return valve) Oil enters the mechanism in the bearing between the stages. Motor,end bearing and external shafts seal are lubricated by filtered Oil pump region. Oil for the high vacuum stage is degassed in the centre bearing between the two stages. This also ensures better vacuum. Pump motor is cooled by its own blower.
		Polari meter	Angular Scale from 0-360 degrees is subdivided to 1 degree. The dugar scale from 30 degree to 120 degree ISS units enables direct reading to 0.01 and estimating of 0.05 degrees. With sodium vapour lamp transformer and 100mm and 200mm
		Dryer	
		Computer, Printer, Hard drive, Pen drive, Modem	
		LCD home Cinema projector	
		Water Bath Rectangular	For continuous heating up to 3700C. Body is made of specially designed C.R.C.Sheet duly powder coated. Top made of cast iron for longer. Life and temperature uniformity. (8

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			holes)
		UV Chamber	
		Fire Extinguisher	Fire Shield" Brand ISI Marked ABC type fireextingui-sher 2 Kg and 5 kg capacity
		Digital pH Meter with electrode model 335	
		Digital Conductivity Meter with conductivity cell	
		Digital potentio Meter with glass, silver, platinum and reference electrode	
		Distillation Apparatus operated on 220/230 volts AC Supply capacity 4.5 lts capacity with plug and chord.	
		Fume Chamber to work on 220/230 volts AC supply. Working size 3'x2'x2' (height 7')	
		Inverter with battery (heavy duty load)	
2	Glass goods	Air Condenser Liebig with sealed inner tube& B-24, B-19 and B-14 standard joint, Water Condensers, Adopter B-24, B-19 and B-14 standard joint, Glass Stopper (B-24, B-19 and B-14 standard joint), Beaker (25 ml, 50 ml, 100 ml, 250 ml, 500 ml and 1000 ml), Reagents Bottle Plain Narrow mouth (125 ml, 250 ml and 500 ml), Round Bottom Flask Cap-25 ml (B-14 standard joint), Round Bottom Flask Cap-50 ml (B-14 and B-19 standard joint), Round Bottom Flask Cap-100 ml (B-14, B-19 and B-24 standard joint), Round Bottom Flask Cap-250 ml (B-19 and B-24 standard joint), Erlenmeyer, Graduated Narrow Mouth Conical Flask (50 ml, 100 ml, 250ml and 500 ml), Filtration Flask with side neck for preparation, Volumetric Flask With Glass Stopper Cap (10 ml, 25ml, 50ml and 100 ml), Measuring Cylinder (5 ml, 10ml,	Borosil® (Glass Goods) Borosil® (Glass Goods)--S-Line product. Tarsons. Soda Glass.

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		25ml, 50ml, 100ml, 250ml, 500ml, 1000ml), Weighing Bottles With Stopper (5ml, 10ml, 15ml), Kipps apparatus, Vacuum Dedicators, Funnel (50mm, 65mm, 75mm), Separating Funnels (50mm, 65mm, 75mm), Pipette Volumetric Cap (1ml, 5ml, 10ml, 25ml), T.L.C Jar, Glass Rod, Glass tube, Fusion Tube, Test Tube, Layer Tube, Dropping bottle, Watch glass, Porcelain mortar and pestle, Reagent bottle (polylab), Test tube stand and holder, Capillary tube, Burette ETC	
3	Chemicals	Chemicals (Organic, Inorganic) required as per the syllabus of Vidyasagar University	EM, Nice, Merck – Indian, Spectrochem. Sigma-Aldrich. Himedia. SRL
4	Other lab items	Bunsen burner, Spatula, Teflon tap roll, Vacuum grease, Velvet cork, Cork borer, Filter paper round, Test tube brush, First aid box, Dettol liquid soap, Naphthalene ball, Hand glove, Apron, Volini spray, Wash bottle, Filter paper (Whatman-41), Pinch cork, Charcoal block, Cu-turning, TLC Plate, Distillation head and tail, Bent tube, etc	-

Sd/-

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Annexure

List of Chemicals, glass wares, Instruments

SL. No.	DESCRIPTION
1.	Aluminum Borate
2.	Aluminum Chloride
3.	Aluminum Fluoride
4.	Aluminum Nitrate
5.	Aluminum Oxide
6.	Aluminum Sulphate
7.	Ammonium Acetate
8.	Ammonium Bifluoride
9.	Ammonium Bromide
10.	Ammonium Carbonate
11.	Ammonium Chloride
12.	Ammonium Dichromate
13.	Ammonium Di Hydrogen Phosphate
14.	Ammonium Ferric Sulphate
15.	Ammonium Molybdate
16.	Ammonium nitrate.
17.	Ammonium Oxalate.
18.	Ammonium Persulphate
19.	Ammonium Sulphate
20.	Ammonium thiocyanate

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21.	Antimony (II) Sulphate
22.	Arsenic Chloride
23.	Arsenic Sulphate
24.	Acetic Acid Glacial
25.	Barium Carbonate
26.	Barium Hydroxide
27.	Barium Nitrate
28.	Barium Hydroxide
29.	Barium Nitrate
30.	Barium Peroxide
31.	Barium Phosphate
32.	Barium Sulphate
33.	Bismuth Oxy chloride
34.	Bismuth Oxy nitrate
35.	Bismuth Sulphate
36.	Blue Litmus Solution (Powder)
37.	Bromine.
38.	Cadmium Carbonate
39.	Cadmium Chloride
40.	Cadmium Iodide
41.	Cadmium Oxide
42.	Cadmium Sulphate
43.	Cadmium Sulphide
44.	Calcium phosphate (Di-basic) Calcium hydrogen phosphate
45.	Calcium Carbonate
46.	Calcium Chloride Fused
47.	Calcium Chloride dehydrate
48.	Calcium Fluoride
49.	Calcium Hydroxide
50.	Calcium Nitrate
51.	Calcium Oxide
52.	Calcium Phosphate
53.	Calcium Sulphate
54.	Chromium Potassium Sulphate
55.	Chromium Chloride
56.	Chromium Oxide
57.	Chromium Phosphate
58.	Chromium Sulphate
59.	Cobalt Chloride
60.	Cobalt Nitrate
61.	Cobalt Phosphate
62.	Cobalt Sulphate
63.	Cobalt Sulphide

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64.	Copper Arsenate
65.	Copper Acetate
66.	Copper carbonate
67.	Copper chloride
68.	Copper Phosphate
69.	Copper sulfate
70.	Copper turning
71.	Cupric oxide
72.	Di-ammonium hydrogen Phosphate
73.	Di-ammonium oxalate
74.	DMSO
75.	d ₆ -DMSO
76.	D ₂ O
77.	Di-sodium hydrogen phosphate
78.	Distilled water
79.	Erichrome black T
80.	EDTA Di-sodium salt
81.	Ferric chloride
82.	Ferric oxide
83.	Ferric Phosphate
84.	Ferrous sulphate
85.	Ferrous sulphide Stick
86.	Hydrochloric acid- concentrated
87.	Iodine
88.	Iron fallings
89.	Liquor ammonia/ Ammonium solution
90.	Lead acetate
91.	Lead bromide
92.	Lead carbonate
93.	Lead chloride
94.	Lead chromate
95.	Lead oxide
96.	Lead phosphate
97.	Litmus blue paper
98.	Litmus red paper
99.	Magnesium borate
100.	Magnesium Metal
101.	Magnesium Nitrate
102.	Magnesium Oxide
103.	Maganous Chloride
104.	Maganous Sulphate
105.	Manganese Di-oxide
106.	Marbel Chips

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107.	Mercuric Chloride
108.	Mercuric Iodide
109.	Mercuric Nitrate
110.	Mercuric Oxide Red
	Mercuric Oxide Yellow
111.	Methanol
112.	Methyl Iodide
113.	Mercurous Chloride
114.	Mohr Salt Ammonium ferrous sulfate
115.	Nickel Acetate
116.	Nickel Borate
117.	Nickel Carbonate
118.	Nickel Chloride
119.	Nickel Hydroxide
120.	Nickel Oxide
121.	Nickel Nitrate
122.	Nickel Phosphate
123.	Nitric Acid Concentrated
124.	Potassium Acetate
125.	Potassium Bromate
126.	Potassium Bromide
127.	Potassium Carbonate
128.	Potassium Chloride
129.	Potassium Chromate
130.	Potassium Dichromate
131.	Potassium Ferricyanide
132.	Potassium Fluoride
133.	Potassium Hydroxide Pellets
134.	Potassium Hydrogen Tartrate
135.	Potassium Iodate
136.	Potassium Iodide
137.	Potassium Nitrate
138.	Potassium Nitrite
139.	Potassium Permanganate
140.	Potassium Sulphate
141.	Potassium Thiocyanate
142.	Phosphoric Acid Syrupy
143.	Potassium Peroxi disulphate
144.	Palladium Chloride
145.	Sepharose-6B
146.	Silver Nitrate
147.	Silver Nitrate
148.	Sodium Metal

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149.	Soda Lime
150.	Sodamide
151.	Sodium Acetate
152.	Sodium Arsenite
153.	Sodium Bi-carbonate
154.	Sodium Bismuthate
155.	Sodium Bismuthate
156.	Sodium Bromide
157.	Sodium Carbonate
158.	Sodium Cobaltinitrite
159.	Sodium Di-hydrogen Phosphate
160.	Sodium Fluoride
161.	Sodium Hydrogen Sulphate
162.	Sodium Hydroxide Pellets
163.	Sodium Iodate
164.	Sodium Iodide
165.	Sodium Nitrate
166.	Sodium Nitrite
167.	Sodium Nitroprusside
168.	Sodium Potassium Tartarate
169.	Silver Nitrate
170.	Sodium Silicate
171.	Sodium Sulphate
172.	Sodium Sulphide
173.	Sodium Sulphite
174.	Sodium Thiosulphate
175.	Stannic Oxide
176.	Strontium Carbonate
177.	Strontium Chloride
178.	Strontium Nitrate
179.	Strontium Phosphate
180.	Strontium Sulphate
181.	Sulphur Powder
182.	Sulphuric Acid Concentrated
183.	Tin Chloride
184.	Tin Metal Granulated
185.	Zinc Acetate
186.	Zinc Borate
187.	Zinc Carbonate
188.	Zinc Chloride.
189.	Zinc Filings
190.	Zinc Metal Dust
191.	Zinc Nitrate

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192.	Zinc Phosphate
193.	Zinc Powder
194.	Zinc Sulphate
195.	Zinc Sulphide
Organic Chemicals	
1.	Acetamide
2.	Acetanilide
3.	Acetone
4.	Acrylic acid
5.	Adipic Acid
6.	Aniline
7.	Aniline Hydrochloride
8.	Anthranilic Acid
9.	P-Anisic Acid
10.	Para Anisidine
11.	Para Chloroaniline
12.	Para Nitroaniline
13.	L-Ascorbic Acid
14.	Benzoic Acid
15.	Benzophenone
16.	p-Chlorobenzoic Acid
17.	o-Chlorobenzoic Acid
18.	Benzyl Chloride
19.	Benzoin
20.	Benzamide
21.	p-Aminobenzoic Acid
22.	p-Chloro benzaldehyde
23.	p-Hydroxybenzaldehyde – 144088 – 50g
24.	m-Nitrobenzoic Acid
25.	Benzoyl Chloride
26.	m-Dinitrobenzene
27.	Chloro acetic Acid
28.	Cinnamic Acid
29.	Carbon Tetra chloride
30.	Cadmium nitrate
31.	Calcium Chloride
32.	Chloroform
33.	Camphor
34.	DPPH
35.	Diphenylamine
36.	Ethylene Glycol
37.	Ethyl Acetate

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38.	Formaldehyde Solution
39.	Formamide
40.	Formic Acid
41.	Hydroxylamine Hydrochloride
42.	Hydroquinone
43.	Hexamethyl Tetramine
44.	Isoamyl Alcohol
45.	Mercury nitrate (II)
46.	Mannitol
47.	Methanol
48.	2-Naphthol
49.	N-Methyl acrylamide
50.	o-Naphthylamine
51.	Ninhydrine
52.	Oxalic Acid
53.	Phenylacetic Acid
54.	Phthalimide
55.	m-Aminophenol
56.	m-Nitrophenol
57.	o-Nitrophenol
58.	Pyrocatechol
59.	Phenol
60.	Pepsin
61.	p-Amino Phenol
62.	Palladium acetate
63.	Resorcinol
64.	Salicylic Acid
65.	Succinic Acid
66.	3,5-Dinitrosalicylic Acid
67.	Semicarbazyl Hydrochloride
68.	Sulphosalicylic Acid
69.	Silica Gel
70.	Starch
71.	L-Tartaric Acid
72.	Toluene
73.	Phosphorus Pentoxide
74.	p-Toluidine
75.	Phthalic Acid
76.	Trifluoro Acetic acid
77.	Thiourea
78.	Trypsin
79.	Urea
80.	1 Vinyl Imidazol

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81.	Vanillin	
Instruments		
1.	Air Condenser Lebig with sealed inner tube and B-24 standard joint and cone length 300 mm made of borosilicate glass	
	Air Condenser Lebig with sealed inner tube and B-14 standard joint and cone length 300 mm made of borosilicate glass	
2.	Water Condenser	
3.	Chromatography column i.d=1.2 cm stopcock made of teflon	
4.	Chromatography column i.d=1.8 cm stopcock made of teflon	
5.	Adopter(BentTubeWithB24StandardJointMadeOfBorosilGlass	
6.	Adopter(BentTubeWithB19StandardJointMadeOfBorosilGlass	
7.	Adopter(BentTubeWithB14StandardJointMadeOfBorosilGlass	
8.	GlassStopperB24StandardJointmadeFormBorosilglass	
9.	GlassStopperB24StandardJointmadeFormBorosilglass	
10.	Beaker with spout & graduated capacity--25ml.	
11.	Beaker with spout & graduated capacity--50 ml.	
12.	Beaker with spout & graduated capacity--100 ml.	
13.	Beaker with spout & graduated capacity--150 ml.	
14.	Beaker with spout & graduated capacity--250 ml.	
15.	Beaker with spout & graduated capacity--500 ml.	
16.	Beaker with spout & graduated capacity---1000 ml.	
17.	Beaker with spout & graduated capacity---2000 ml.	
18.	Reagent bottles plain narrow mouth made of glass---125ml	
19.	Reagent bottles plain narrow mouth made of glass---250ml	
20.	Reagent bottles plain narrow mouth made of glass---500ml	
	Reagent bottles plain narrow mouth made of glass---60ml	
21.	Round bottom flask---cap---- 25ml.	Interchangeable joint
22.	Round bottom flask---cap---50 ml	Interchangeable joint
23.	Round bottom flask---cap----100 ml	Interchangeable joint
24.	Round bottom flask---cap----250 ml	Interchangeable joint
25.	Round bottom flask---cap---500 ml	Interchangeable joint
26.	Round bottom flask---cap---1000 ml	Interchangeable joint
27.	Round bottom flask with- B19 joint fitted mouth two neck -cap-100ml	
28.	Round bottom flask with- B-14 joint fitted mouth two neck -cap-50ml	
29.	Round bottom flask with- B-19 joint fitted mouth two neck -cap-50ml	
30.	Erlenmeyer graduated narrow mouth conical flask cap-25ml.	
31.	Erlenmeyer graduated narrow mouth conical flask cap-50ml	
32.	Erlenmeyer graduated narrow mouth conical flask cap--100 ml	
33.	Erlenmeyer graduated narrow mouth conical flask cap--150 ml	
34.	Erlenmeyer graduated narrow mouth conical flask cap---250ml.	
35.	Erlenmeyer graduated narrow mouth conical flask cap---500ml.	

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36.	Erlenmeyer graduated narrow mouth conical flask cap---1000 ml
37.	Filtration Flask with B-24 joint capacity 250ml & Sintred disc fitted with B-24 joint fitted Buchner funnel capacity 125ml
38.	Volumetric flask with glass stopper cap---10ml.
39.	Volumetric flask with glass stopper cap – 25ml.
40.	Volumetric flask with glass stopper cap---50ml.
41.	Volumetric flask with glass stopper cap---100ml.
42.	Volumetric flask with glass stopper cap---250ml.
43.	Volumetric flask with glass stopper cap---500ml.
44.	Volumetric flask with glass stopper cap--1000 ml.
45.	Volumetric flask with glass stopper amber colour cap --250 ml.
46.	Volumetric flask with glass stopper amber colour cap -- 500 ml
47.	Measuring cylinder hexagonal base with spout cap -----5ml.
48.	Measuring cylinder hexagonal base with spout cap -----10ml.
49.	Measuring cylinder hexagonal base with spout cap -----25ml.
50.	Measuring cylinder hexagonal base with spout cap -----50ml.
51.	Measuring cylinder hexagonal base with spout cap -----100ml.
52.	Measuring cylinder hexagonal base with spout cap -----250ml.
53.	Measuring cylinder hexagonal base with spout cap -----500ml.
54.	Measuring cylinder hexagonal base with spout cap -----1000ml.
55.	Relative density bottles with capillary bore with Teflon stopper cap--10ml.
56.	Relative density bottles with capillary bore with Teflon stopper cap---25 ml.
57.	Relative density bottles with capillary bore with Teflon stopper cap----50 ml.
58.	Weighing Bottles With Stopper Cap 5ml (20x40mm)
59.	Weighing Bottles With Stopper Cap 25ml (30x65mm)
60.	Vacuum desiccators---dia--- 150mm.
61.	Vacuum desiccators---dia--- 200 mm.
62.	Vacuum desiccators---dia--- 250 mm.
63.	Vacuum desiccators---dia--- 300 mm
64.	Kipps Apparatus -----Cap 1000ml
65.	Separating Funnel Pear Shape, With Stopcock Cap--- 60ml.
66.	Separating Funnel Pear Shape, With Stopcock Cap--- 125 ml.
67.	Separating Funnel Pear Shape, With Stopcock Cap--- 250 ml.
68.	Separating Funnel Pear Shape, With Stopcock Cap--- 500 ml.
69.	Separating Funnel Pear Shape, With Stopcock Cap---1000 ml.
70.	Funnels, Plain ,60 ⁰ Angle Long stem Dia----50mm.
71.	Funnels, Plain ,60 ⁰ Angle Long stem Dia---- 65 mm.
72.	Funnels, Plain ,60 ⁰ Angle Long stem Dia----75 mm.
73.	Burettes, Boroflo, Blue screw thred stopcock made form borosil glass

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	cap--25ml.
74.	Burettes, Boroflo, Blue screw thred stopcock made form borosil glass cap-- 50 ml
75.	Micro burettes Straight Bore With Cap--1ml.
76.	Micro burettes Straight Bore With Cap---2ml.
77.	Micro burettes Straight Bore With Cap---5ml.
78.	Micro burettes Straight Bore With Cap---10ml.
79.	Pipette Volumetric Cap-----1. ml
80.	Pipette Volumetric Cap-----2. ml
81.	Pipette Volumetric Cap----- 5. ml
82.	Pipette Volumetric Cap-----10 ml
83.	Pipette Volumetric Cap-----25ml
84.	Pipette Volumetric Cap-----50 ml
85.	Pipette Graduated Cap----1 ml.
86.	Pipette Graduated Cap----2 ml.
87.	Pipette Graduated Cap---- 5 ml
88.	Pipette Graduated Cap----10 ml
89.	Pipette Graduated Cap---- 25 ml
90.	T.L.C Jar With Lid---(225X225X125)mm
91.	T.L.C Jar With Lid---(200X200X120)mm
92.	Capillary Tube 75mm long uniform bore100nos in a tube
93.	Glass Rod Made of Soda Glass As sorted diameter
94.	Dropper Made of Neutral Glass 8"long 5C.CRubberTit
95.	Fusion Tube Made of Neutral Glass1gross in a box packing
96.	Test Tube Thick wall15x125mm (100 Nos in a box)
97.	TestTube Thick wall18x150mm
98.	TestTube Thick wall15x125 Made of Soda Glass Pyrex type72 nos in a hard corogated box
99.	Sintred Crucible With G-4 Cap30ml
100.	Calcium chloride tower (ordinary glass) 250ml
101.	Thistle funnel 30 cm long
102.	Dropping bottle T.K. Pattern (ordinary glass)
103.	Dropping bottle T.K. Pattern (ordinary glass) Cap.--30 ml.
104.	Dropping bottle T.K. Pattern (ordinary glass) Cap.-- 60 ml.
105.	Dropping bottle T.K. Pattern (ordinary glass) Cap.--125 ml.
106.	Blue Glass 50 x 50 x 3mm
107.	Watch Glass With All Side Edge polished Dia---50 mm.
108.	Watch Glass With All Side Edge polished Dia---- 75mm.
109.	Watch Glass With All Side Edge polished Dia---100 mm

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110.	Porcelain Basin With Spout Dia--- 75 mm.
111.	Porcelain Basin With Spout Dia---- 100 mm
112.	Porcelain crucible with lid Cap.30 ml
113.	Porcelain mortar & pastle dia 3"
114.	Porcelain clay pipe triangle 75 mm
115.	Porcelain beehive shelf Dia 75 mm
116.	Porcelain Buchner funnel dia ----75 mm.
117.	Porcelain Buchner funnel dia---- 100 mm.
118.	Spot Plate Made of Porcelain 6 sp
119.	Spot Plate Made of Porcelain 12 sp
120.	Reagent bottles Wide Mouth with screw Cap Made of Plastic Capacity 8 ml.
121.	Reagent bottles Narrow Mouth with screw Cap Made of Plastic Capacity 125 ml.
122.	Reagent bottles Narrow Mouth with screw Cap Made of Plastic Capacity 250 ml
123.	Reagent bottles Narrow Mouth with screw Cap Made of Plastic Capacity-500ml
124.	Dropping Bottle made of polythene capacity--- 60ml.
125.	Dropping Bottle made of polythene capacity---125 ml.
126.	Wash Bottle made of polythene capacity 500ml
127.	Retort Stand With Clamp Made of Polythene
128.	Iron Stand Made Of Heavy Duty Cast Iron Spray Painted Base Plate 8" x 5" With #0" x 1/2" Dia Zinc Coated Rod With Brass Casting Two Finger Clamp And Spare Bosshead
129.	Pipette Stand Vertical For 28 Pipette Holding
130.	Test Tube Stand For 12 Holes x18 mm dia wooden
	Test Tube Stand For 12 Holes x18 mm dia Round Type Made of Plastic
131.	Measuring Cylinder With Spout Made of Polythene cap 25 ml.
132.	Measuring Cylinder With Spout Made of Polythene cap-50ml
133.	Measuring Cylinder With Spout Made of Polythene cap-100ml
134.	Measuring Cylinder With Spout Made of Polythene cap -250 ml
135.	Measuring Cylinder With Spout Made of Polythene cap -500 ml
136.	Vacuum Desiccators All Clear Made of Polythene Dia 150 mm.
137.	Vacuum Desiccators All Clear Made of Polythene Dia - 200mm
138.	Vacuum Desiccators All Clear Made of Polythene Dia - 250mm
139.	Vacuum Desiccators All Clear Made of Polythene Dia- 300 mm.
140.	Pipette Shaker Capacity 25ml
141.	Micropipette Variable Volume Variable Volume Range 10 - 100 μ l Model---T-100 Accupipet
142.	Micropipette Variable Volume Variable Volume Range 100 -1000 μ l Model Model---T-1000 Accupipet

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143.	Micropipette Variable Volume Range 1000 - 10000 μ l T-10ml
144.	Micro Tip 1000-10000 μ l
145.	Two Finger Brass Casting Clamp with spare bosshead for retort Stand
146.	Bunsen burner screw type with stopcock for L.P.G. use.
147.	Asbestos Board with four side metal frame binding 150 x 150 mm
148.	Asbestosh Thred 1/8" Thick
149.	Wire Gauge with four side metal frame binding and asbestos centre 150 x 150 mm
150.	Tripod Stand 8" x 5" dia Made of Cast Iron With Spray Painted
151.	Test Tube Holder Made of Brass Clip Type With Wooden Handle
152.	Blow Pipe Brass Nickel Plated 10.5"
153.	Crucible Tongs Made Of Stainless---- 6".
154.	Crucible Tongs Made Of Stainless---- 8".
155.	Cork Borer Brass N.P Set of 6
156.	Traingular file 6"
157.	Spetula One Side Spoon Made of S/S Length---- 4."
158.	Spetula One Side Spoon Made of S/S Length---6"
159.	Spetula One Side Spoon Made of S/S Length----8"
160.	Spetula One Side Spoon Made of Horn Lenth – 4."
161.	Spetula One Side Spoon Made of Horn Lenth – 6"
162.	Spetula One Side Spoon Made of Horn Lenth – 8"
163.	Magnetic Stirring Bar Polygon--- *6 mm dia x 10 mm.
164.	Magnetic Stirring Bar Polygon---- *8 mm dia x 14 mm.
165.	Magnetic Stirring Bar Polygon----- *8 mm dia x 22 mm.
166.	JUMO Contact Thermometer ----300 ^o C with Relay
167.	Thermometer mercury Field 110 ^o C
168.	Thermometer mercury Field 360 ^o C
169.	Glass Wool Synthetic (low in Lead).
	Glass Wool Synthetic Large, medium and small
170.	Rubber Bulb For Pipette Sucker (Large)
171.	Rubber Bulb For Pipette Sucker (Medium)
172.	Rubber Bulb For Pipette Sucker (Small)
173.	Rubber tube supper quality 10 mt. in a coil Dia--- 5mm.
174.	Rubber tube supper quality 10 mt. in a coil Dia--- 6mm.
175.	Rubber tube supper quality 10 mt. in a coil Dia--- 7 mm.
176.	Rubber tube supper quality 10 mt. in a coil Dia---8 mm.
177.	Rubber tube supper quality 10 mt. in a coil Dia---9 mm.
178.	Pressure Tube For Vacuum Oven – ID 6 mm x OD 10 mm.
179.	Pressure Tube For Vacuum Oven – ID 7 mm x OD 14mm.
180.	Pressure Tube For Vacuum Oven – ID 8 mm x OD 16mm.
181.	Pressure Tube For Vacuum Oven – ID 9mm x OD 19mm.
182.	Pressure Tube For Vacuum Oven- ID 10 mm x OD 17mm

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183.	Latex Tube For Viscometer & Stalogometer
184.	Reducer For Vacuum Pump
185.	V – Velt For Vacuum Pump
186.	Rubber Cork N0 5
187.	Rubber Cork N0 6
188.	Rubber Cork N0 7
189.	Rubber Cork N0 8
190.	Rubber Cork N0 9
191.	Rubber Cork N0 10
192.	Rubber Cork N0 11
193.	Rubber Cork N0 12
194.	Rubber Cork N0 13
195.	Rubber Cork N0 14
196.	MicaFoil
197.	Platinum Wire Fushed In Glass Rod
198.	NichromeWire22SWG
199.	Calomel Electrode/glass electrode
200.	Silver Electrode
201.	Platinium Electrode
202.	Combind glass Electrode
203.	Parafilim4"x125'
204.	Para filim2"x250'
205.	Teflon tape roll
206.	Vacuum Grease
207.	Vacuum Oil/Silicon oil
208.	Velvet cork No---- 5.
209.	Velvet cork No---- 6.
210.	Velvet cork No---- 7.
211.	Velvet cork No---- 8.
212.	Velvet cork No---- 9.
213.	Velvet cork No---- 10
214.	Velvet cork No---- 11.
215.	Velvet cork No---- 12.
216.	Velvet cork No---- 13
217.	Velvet cork No---- 14.
218.	Filter paper sheet – 56x46cm ordinary – 303
219.	Filter paper sheet---45x45cm ordinary303
220.	Filter paper circle---18.5mm dia ordinary
221.	Filter paper circle----15mm dia ordinary
222.	Filter paper circle12.5mm dia ord
223.	Filter paper circle12.5mmdiaNo----40----Whatman
224.	Filter paper circle12.5mmdiaNo----41----Whatman

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225.	Filter paper circle 12.5mm dia No---42-----Whatman
226.	Scissor made of steel---10".
227.	Knife made of high carbon---10".
228.	Test tube brush nylon
229.	Burette brush nylon
230.	Pipette brush nylon (Washer)
231.	Carboy With Stop Cock Adding in line of Aspirators These polypropylene carboys are auto- clavable, dependable & durable These are also equipped with a leak proof spigot screw to the body These are an excellent replacement for glass carboy standard used for string and dispensing distilled water and other laboratory solutions--- 10 lit
	Carboy With Stop Cock Adding in line of Aspirators These polypropylene carboys are auto- clavable, dependable & durable These are also equipped with a leak proof spigot screw to the body These are an excellent replacement for glass carboy standard used for string and dispensing distilled water and other laboratory solutions--- 20 lit
232.	Apron cotton Full Size.
233.	Cloth Duster 2' x 2'
234.	Acid proof hand gloves standard
235.	Dettol Liquid Soap Spray Type
236.	Life Boy Soap
237.	Naphthalein Ball BC
238.	Bandage washable – 100nos box.
239.	Cotton – Absorbent.
240.	Silver ointment – 22gm.
241.	First aid spray four spray box.
1.	Magnetic stirrer with hot plate digitally controlled – 1MLH
	Magnetic stirrer - digitally controlled – 1ML
	Magnetic stirrer with hot plate digitally controlled – 2MLH
	Magnetic stirrer digitally controlled – 2ML
	Micro magnetic stirrer digitally controlled – 1MLH
2.	Hot air oven – (18X18X24)" ---SS
	Hot air oven – (18X18X24)" ---Aluminium
	Digital temperature indicator for above
	Mechanical convection (Air circulation) for above
3.	Ultrasonic bath – Cap-1.8Lit Model – LMUC-2
	Ultrasonic bath – Cap-4Lit Model – LMUC-4
4.	Digital Centrifuge Model-R8C+R83-8X15ml angle head
5.	Mixer Grinder (Bajaj)
6.	Immersion Pump
7.	Heating Mantle, It Withstands High Temperature Up To 350°C, work on 220 / 230 Volts A.C, Capacity-----100 ml.
	Heating Mantle, It Withstands High Temperature Up To 350°C, work on 220 / 230 Volts A.C, Capacity-----250 ml.

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	Heating Mantle, It Withstands High Temperature Up To 350°C, work on 220 / 230 Volts A.C, Capacity-----500 ml
	Heating Mantle, It Withstands High Temperature Up To 350°C, work on 220 / 230 Volts A.C, Capacity -----1000 ml
8.	Magnetic bar with Teflon coated
	Magnetic Stirring Bar Polygon--- *6 mm dia x 10 mm.
	Magnetic Stirring Bar Polygon---- *8 mm dia x 14 mm.
	Magnetic Stirring Bar Polygon----- *8 mm dia x 22 mm.
9.	Auto clamp (Hydroelectric bomb)---50ml
10.	Melting point apparatus For Determination Of Melting Points Up To 350°C, The Mounted Block Is Illuminated from Below By A Lamp Fixed In Housing. *The Aluminium Block accepts. Three Capillary Tubes And Mercury Thermometer. *The Temperature Is Regulated By Energy Regulator Fitted To The Unit *The Lamp Provides Uniform And Shadowless Regulator Fitted To The Unit
11.	UV Spectrophotometer
	IR Spectrophotometer
12.	Vacuum Pump Rotary Type Double stage with all accessories
	Vacuum Pump -Rocker -300
	Vacuum Pump -Rocker -400
	Vacuum Pump -Rocker -600
13.	Top loading Digital Balance working on 220 volts. Accuracy 0.01.
	Top loading Digital Balance working on 220 volts. Accuracy 0.01.
	Top loading Digital Balance working on 220 volts. Accuracy ----- 0.001
	Top loading Digital Balance working on 220 volts. Accuracy ----- 0.001
	Top loading Digital Balance working on 220 volts. Accuracy ----- 0.001
	Top loading Digital Balance working on 220 volts. Accuracy----- 0.0001
	Top loading Digital Balance working on 220 volts. Accuracy----0.0001
14.	Demineralisation Plant Double Bed With Buffer Control Unit Capacity --- 25liter/hour
15.	Magnetic Stirring Bar Polygon---- *8 mm dia x 14 mm.
	Magnetic Stirring Bar Polygon----- *8 mm dia x 22 mm.
	Magnetic Stirring Bar Polygon---- *8 mm dia x 30 mm.
	Magnetic Stirring Bar Polygon----- *8 mm dia x 40 mm.
16.	Water Bath Rectangular Single Wall, work on 220/230 volts AC Supply, Working – Size14" x12"X4" (9Holes 75mm Dia)
17.	Water Bath rectangular (Double Walled)
18.	Digital Conductivity Meter 3.1/2 digit LED display with facility temperature compensation and digital cell constant adjustment along with conductivity cell and temperature probe
19.	Digital potentiometer with 3.1/2 LED Display along with glass, silver,

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	platinum and reference electrode
20.	Digital pH Meter with auto temperature compensation, Gel filled Epoxy body combination pH electrode & RTD probe, 3,1/2 digit LED display; Digital pH Meter with electrode,
21.	Viscometer Made Form Borosil Glass College Type
22.	Stalagmometer set of three.
23.	Color printer model (Scan print copy all in one).
24.	External hard disc---1 TB
25.	LCD Projector
26.	Teflon coated autoclave with steel body, capacity 25ml, 50ml, 100ml, 250ml, 500ml, 1l
27.	Centrifuge
28.	Cyclomixture
29.	Fraction collector
30.	Rotary evaporator
31.	Lyophilizer

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GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF MATHEMATICS

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

Quotation are invited for purchase of the following apparatus and laboratory components for Dept. of Mathematics , Government General Degree College Kharagpur-II, Madpur, Paschim Medinipur for the academic year 2017-18.

All items should be branded and good quality.

Kindly quote the price including all taxes, delivery and installation charges and others.

Item Name	Specifications
COMPUTER [DELL/HP]	<ol style="list-style-type: none"> 1.Processor: 6th Generation Intel@Core™ i5/i7-6400 processor (6M Cache, upto 3.30 GHz) 2. RAM: 8 GB/4GB 3.HDD: 1TB/500GB 4.OS: Win10 5.Screen Size: 18.5” HD 6.Graphics : NVIDIA@GeForce@705 2GB/4GB DDR3 7.ODD: YES 8.WiFi: YES 9.KB AND MOUSE: WIRED/UNWIRED 10.MCR:8.1 11.Antivirus: Yes
LAPTOP	Core i7/i5, 1TB/500GB HDD, 2GB Graphics
UPS	
EXTERNAL HDD	1 TB/2TB
PEN DRIVE	16GB/32 GB
24 PORT SWITCH WITH LAN PORTS	
ROUTER	
INTERACTIVE SMART BOARD (FULL SET UP)	
WHITE BOARD	
LCD PROJECTOR WITH SCREEN WITH MOUNTING ACCESSORIES	WXGA (1200x800) resolution, HDMI connectivity
COLOUR LASER PRINTER	<ol style="list-style-type: none"> 1.3 IN 1 (PRINT, COPY, SCAN) 2. USB SUPPORT 3.Printing method : Laser 4.Media Tray support: A3, A4, B5, A5, C5, DL 5.Input/output tray capacity: 250/1000 (minimum) 6. Optical Scanning resolution at least 1200 dpi 7. WiFi Support, WLAN

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Tender No. T-I/G/GGDC/KGP-II/2017-18

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Type	Specifications
FLATBED SCANNER	
MICROPHONE , SPEAKER WITH FULL SET UP	
ANTI-VIRUS SOFTWARE	Kaspersky/Eset-NOD 32/Quick Heal (10 user/5 user/2 user)
DVD	8 GB
MATLAB	2009/10
MATHEMATICA	
MAPLE 16	2015
MICROSOFT OFFICE SUIT	2016 (10 user/5 user/2 user)
MULTIPURPOSE LASER POINTER PEN	

Head
Dept. of Mathematics
Government General Degree College KGP-II
Ambigeria, Madpur, Paschim Medinipur-721149

Sd/-
Officer-in- Charge
Government General Degree College KGP-II
Ambigeria, Madpur, Paschim Medinipur-721149

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSICS

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

Quotation are invited for purchase of the following apparatus and laboratory components for Dept. of Physics , Government General Degree College Kharagpur-II, Madpur, Paschim Medinipur for the academic year 2017-18. All items should be branded and good quality.

Kindly quote the price including all taxes, delivery and installation charges and others.

Equipments:

Sl. No.	Apparatus	Specification
I. Physics General Course		
1	Determination of moment of inertia of heavy cylinder by torsional oscillation method	Moment of inertia apparatus (a) stand type and (b) disc type and other accessories
2	Determination rigidity modulus of a material by dynamical method	Apparatus with heavy metallic stand, heavy solid cylinder and other accessories
3	Determination rigidity modulus of a material by statical method	Apparatus with heavy metallic stand, fly wheel, heavy metallic load, graduated weights and other accessories
4	Determination of Young's modulus by Flexure method	Heavy metallic apparatus, steel and brass rectangular bar 1m length, 6 pc 500gm weights,
5	Cathetometer	Heavy metallic graduated stand
6	Determination of coefficient of viscosity by capillary flow method	Water vessel with rubber cork and glass tube, capillary tube, manometer, graduated beaker and other accessories
7	Determination of surface tension of liquid by capillary tube method	Apparatus with capillary tubes of 5 different diameters, stand to hold the tubes, tray and other accessories
8	Determination of coefficient of linear expansion by optical lever method	Complete apparatus with 1m long metal rod, optical lever set up and other accessories
9	Determination of thermal conductivity of bad conductor by Lees and Chorlton method	Complete apparatus with 5 different bad conductor sheets
10	Determination of Stefan's constant	Complete apparatus with metallic hemisphere, thermocouple and other accessories
11	Determination of horizontal component of Earth's magnetic field by vibration and deflection magnetometer	Complete set up with both vibration and deflection magnetometer, bar magnets and other accessories
12	Determination of focal length of concave lens by combination method	Complete set up with all the accessories
13	Determination of focal length of convex lens by displacement method	Complete set up with all the accessories
14	Determination of refractive index of the (a) material of lens and (b) a liquid by lens and plane mirror	Complete set up with all the accessories
15	Determination of refractive index of material by prism spectrometer	Spectrometer, prism and other accessories
16	Determination of wavelength of monochromatic light by Newton's ring method	Compact Newton's ring apparatus with movement in X-Y-Z directions, Na lamp and its power supply and other accessories
17	Determination of resistance of suspended coil galvanometer by half deflection method	Complete set up with all the accessories
18	Determination of unknown resistance and temperature coefficient of resistance by Carey Foster's bridge	Complete set up with all the accessories (Bridge made of CP Teak, coil, hot bath, galvanometer)
19	Determination of current through resistance by potentiometer	Complete set up with all the accessories (potentiometer made of CP Teak)
20	Determination of EMF of cell by milliammeter and potentiometer	Complete set up with all the accessories (potentiometer made of CP Teak)
21	Study of I-V characteristics of p/n junction diode	Complete trainer kit with variable bread board, power supply, panel meter, components and other accessories
22	Study of bridge rectifier and its load regulation with and without filter	Complete trainer kit with bread board, variable power supply, panel meter, components and other accessories, 5 different

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		capacitors and inductors
23	Study of I-V characteristics of zener diode and its regulation	Complete trainer kit with bread board, variable power supply, panel meter, components and other accessories
24	Study of static input and output characteristics of transistors in CE, CB, CC configurations	Complete trainer kit with bread board, variable power supply, panel meter, components and other accessories
25	To construct two input OR, AND, NOT, NAND gates and verification of truth tables	Complete trainer kit with bread board, variable power supply, panel meter, components and other accessories
26	To use OPAMP as inverting, non-inverting, differential amplifier, Integrator, differentiator, adder	Complete trainer kit with bread board, variable power supply, panel meter, components and other accessories
27	Multipurpose bread board trainer kit	Complete trainer kit with bread board, variable power supply, panel meter, components and other accessories for design of analog and digital circuits
28	Conversion of ammeter to voltmeter and vice versa	Complete set up with all the accessories
29	To measure internal resistance of analog voltmeter and to increase its internal resistance by using OPAMP	Complete set up with all the accessories
30	Construction of regulated dc power supply using IC (LM317) and to study its regulation	Complete trainer kit with bread board, panel meters, components and other accessories
II. Physics Honours Course		
31	Determination of wavelength of light by prism spectrometer	Complete set with spectrometer, prism, grating, Na light source with power supply, H, He, Hg discharge tube with power supply and other accessories (Spectrometer large diameter LC 20", EDF prism 38x38mm, grating 7500 lines per inch Hilgers)
32	Determination of dispersive power of the material of prism by spectrometer	Complete set with spectrometer, prism, grating, Na light source with power supply, H, He, Hg discharge tube with power supply and other accessories (Spectrometer large diameter LC 20", EDF prism 38x38mm, grating 7500 lines per inch Hilgers)
33	Determination of wavelength of light by single slit and double slit experiment	Complete set with spectrometer fitted with mirror, prism, grating, Na light source with power supply, lamp and scale arrangement and other accessories (Spectrometer large diameter LC 20", EDF prism 38x38mm, single slit and double slit)
34	Study of interference and diffraction in case of wire using Laser	Complete set up 1.5m stainless steel optical bench, 5mW laser source and power supply, single slit with wire and other accessories
35	Study of optical rotation in liquid using polarimeter	Complete set with Bi-quartz polarimeter, table lamp and other accessories
36	Verification of Thevenin, Norton, superposition and maximum power transfer theorems	Complete trainer kit with bread board, two variable power supply, panel meters, components and other accessories
37	Determination of thermoelectric power	Complete set with potentiometer (CP Teak), galvanometer with lamp and scale arrangement, thermostat oven, Cu-constantan thermocouple power supply and resistance box (1-50K Ω , 1-10000 Ω) and other accessories
38	Determination of boiling point of liquid by platinum resistance thermometer	Complete set with platinum resistance thermometer, PO box, hypsometer, galvanometer with lamp and scale arrangement, meter bridge (CP Teak), aniline (1Litre), and other accessories
39	Study of mutual inductance of a coaxial coil	Complete set with ballistic galvanometer having lamp and scale arrangement, variable mutual induction coil, power supply, resistance box and other accessories
40	Study of strength of magnetic field using search coil	Complete set with ballistic galvanometer having lamp and scale arrangement, standard solenoid, power supply (30V, 5A), electromagnet, search coil, pohl's commutator, power supply, resistance box and other accessories
41	Study of B-H loop and hysteresis loss of specimen in the form of anchor ring	Complete set with ballistic galvanometer having lamp and scale arrangement, standard solenoid, anchor ring, rheostat, pohl's commutator, power supply, resistance box and other accessories
42	Study of capacitance of capacitor and inductance of inductor in series and parallel combination by ac bridge	Complete set with standard resistors, standard capacitors, standard inductors, power supply, resistance box, variable capacitor box, audio oscillator with frequency counter, null

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		detector and other accessories
43	Study of response of LCR series resonance	Complete trainer kit with audio oscillator with frequency counter, high impedance ac voltmeter, ac ammeter, standard components and other accessories
44	Construction of regulated dc power supply using power transistor	Complete trainer kit with bread board, step down transformer, rectifier, filter, panel meters, requisite components and other accessories
45	Study of frequency response of CE amplifier	Complete trainer kit with audio oscillator with frequency counter, panel meters, CRO (30MHz, dual trace), power supply, standard components and other accessories
46	Study of frequency response of RC coupled amplifier	Complete trainer kit with audio oscillator with frequency counter, panel meters, CRO (30MHz, dual trace), power supply, standard components and other accessories
47	Construction of phase shift oscillator	Complete trainer kit with function generator, frequency counter, panel meters, CRO (30MHz, dual trace), power supply, standard components and other accessories
48	Construction of Wien bridge oscillator	Complete trainer kit with function generator with frequency counter, panel meters, CRO (30MHz, dual trace), power supply, standard components and other accessories
49	Construction of multivibrator using transistor and IC555	Complete trainer kit with bread board, panel meters, CRO (30MHz, dual trace), power supply, standard components and other accessories
50	Determination of wavelength using Bi-prism	Research grade optical bench, bi-prism, Na lamp with power supply and other accessories
51	Study of Fourier spectrum of different signals	Complete set with bread board, function generator, CRO (30MHz, dual trace), standard inductor, standard components and other accessories
52	Measurement of Hall effect	Complete set up with electromagnet, constant current source, Hall probe, digital Gauss meter and other accessories
53	Measurement of Planck's constant using photocell	Complete setup with vacuum photo cell, potentiometer (CP Teak), lamp, filters, power supply, sensitive galvanometer and other accessories
54	Measurement of band gap using p/n junction diode	Complete set up with power supply, digitally controlled thermostat oven and other accessories
55	Study of intensity distribution of grating using LASER and LDR	Complete set with spectrometer (large diameter, LC 20"), 5mW Laser with power supply, LDR, power factor meter, Grating (Hilgers) and other accessories
56	Measurement of magnetic susceptibility of FeCl ₃	Complete setup with Quinck's tube, FeCl ₃ solution, electromagnet, constant current power supply, digital gauss meter and other accessories

III. Components and equipments

1	Fortin's barometer	Good quality
2	Travelling microscope	Adjustable in X-Y-Z directions, Good quality
3	Reading telescope with vertical and horizontal scale	V.C.=0.001cm
4	Spirit Level	Good quality
5	Screw Gauge	L.C.= 0.001cm, L.C.= 0.0005cm, total brass body
6	Slide Callipers	V.C.= 0.01cm, total brass body
7	Stop Watch – Analog	Accuracy- 0.1sec
8	Stop Watch – Digital	Accuracy- 0.01sec
9	Thermometer (- 10 ⁰ C to 110 ⁰ C)	(1/10) deg accuracy
10	Steel wire for rigidity modulus	Dia 1.0mm
11	Slotted weigh-1/2kg, 1kg	set of 6 with hanger
12	Wooden scale 1/2m, 1m	1mm accuracy
13	Spherometer	Total Brass Body, L.C=0.001cm
14	Boiler 4 Litre	Made of Copper (18 gauge sheet) with rubber cock
15	Hypsometer	Long neck (20 cm long), Made of Copper (18 gauge sheet)
16	Cathetometer	Brass Scale: v.c. =0.001cm

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17	Constant water level tank	Heavy base, Stand type
18	Electric Heater	1000 watt with connecting wire
19	Chemical Balance (with rider)	50 divisions(25-0-25) with 0 at the centre(Sensitivity- 1 mg)
20	Weight Box (Chemical)	10 mg – 200 gm with Rider
21	Semi Transparent Scale	Used for reading telescope and Lamp and Scale arrangement (25-0-25 cm)
22	Meter Bridge: Two Gap	CP Teak and jockey
23	Meter Bridge: Four Gap (Carey Foster Bridge)	CP Teak and jockey
24	Potentiometer (10wire)	CP Teak and jockey
25	Resistance Box – Dial Type	0.1 – 10 K ohm , step
26	Resistance Box – plug Type (0.01 – 10 ohm, 0.1 – 10 ohm, 1 – 10 ohm, 1 – 100 ohm, 1 – 1000 ohm, 1 – 10000 ohm)	Pure Manganin Coil : 0.5 inch thick block: ebonite top and wood box(1% accuracy),
27	Fixed Resistance Box (0.001Ω, 0.01Ω, 0.05Ω, 0.1Ω, 0.5Ω, 1Ω)	With four terminals (PP and CC terminals),
28	Solenoid	Standard – Long: Primary length 100cm, turn – 500/1000, Secondary length 70cm turn 250 and 500 turns
29	Phosphor Bronze Wire	Length – 1 meter
30	Resistance coil for temp co-efficient expt. With Hypsometer	Copper coil (Resistance <10 Ω at room temperature)
31	Rheostat	Resistance ≈ 100Ω, Current capacity 5 amp
32	Cotton coated wire – 500 gm coil	For electrical expt.: soft single wire coated with cotton: Gauge-18/20
33	Constantan wire – 500g	Wire for meter bridge
34	50 pcs Transistor	CL 100
35	50 pcs Zener Diode (0.5W) of each category	Zener voltage (3V, 5V, 7V)
36	50 pcs Diode of each category	IN4007, BY 125
37	50 pcs Carbon Resistance- 0.5W of each category	10Ω, 22Ω, 33Ω, 47Ω, 100Ω, 2.2KΩ, 3.3KΩ, 4.7KΩ, 10 KΩ, 1 MΩ
38	50 pcs Ceramic Capacitor of each category	1μF, 2μF, 5μF, with voltage rating 10 V
39	10 turn Potentiometer (Pot), carbon and wire wound	100Ω, 1KΩ, 10KΩ
40	Extension Board/ Spider Buster	5 pin plug with Switch- 5 A- 3 pcs, 5 pin plug with Switch – 15A- 3 pcs on heavy wooden box (12" x 9") with 10 m long power cord(1.5mm wire)
41	Hook Up Wire (Single stand wire)	For bread board connection
42	Flexible wire(Two wire wound)	90 Meter coil
43	Copper wire-1.5mm(For house connection)	90 Meter coil
44	Digital Function Generator with different wave form	Upto 100KHz, Make Metravi or eqv.
45	Soldering Iron -25W, paste, metal	Fine tip
46	Power Supply- variable	0-6V, 0- 12V
47	Power Supply- variable	-12-0-12V
48	Scientific calculator	
49	Digital Multimeter	Metravi or eqv.
50	Table lamp with 60W bulb	
51	Magnifying glass	With steel holder , Dia 3 inch, f= 10-15cm
52	Lens holder for combination method (for ordinary optical bench)	For holding Concave and convex lens together simultaneously
53	Index Rod (Index error measurement)	Total Brass Body: 20- 30 cm long: 4 mm dia
54	Ammeter (DC)	0-50mA, 0-100mA, 0-1A, 0-5 A: With desk stand , connecting terminals at top
55	Bar Magnet	Length 2 inch
56	Commutator: Plug Type	Ebonite base, 0.5 inch thick brass panel, heavy knob
57	Commutator: Pohl's - Heavy type	Bakelite base, Heavy type
58	Compass needle	For Vibration Magnetometer
59	Ordinary DC table Galvanometer	With desk stand, connecting terminals at top and good Sensitivity
60	Super Sensitive DC Table Galvanometer	With desk stand, connecting terminals at top and very highly Sensitivity
61	Fixed condenser	Bakelite box: Connecting terminals at top:3 uF, 5 uF, 10uF, 10

Head of Department

[Type text]

Officer-in-Charge

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSICS

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

		mH, 20 mH, 50 mH
62	Suspended coil Galvanometer	Ballistic Type, CDR less than 100Ω, CDR ≈1000Ω
63	Suspended coil Galvanometer	Dead Beat Type
64	Pencil Jockey	Made of brass
65	Four Way Key	Ebonite base, 0.5 inch thick brass panel, heavy knob
66	Charge- Discharge Key	Ebonite Base, Brass made, heavy type
67	One Way Key	Ebonite base, 0.5 inch thick brass panel, heavy knob
68	Tapping Key	Ebonite Base, Brass made, heavy type
69	Three Way Key	Ebonite base, 0.5 inch thick brass panel, heavy knob
70	Two Way Key	Ebonite base, 0.5 inch thick brass panel, heavy knob
71	Lamp & Scale Arrangement	Heavy Base
72	Digital Microammeter/ Miliammeter	0-100 uA 0-500 uA , 0-200mA, 0-500 mA With desk stand, connecting terminals at top
73	Voltmeter- Digital	Upto 10V, 0.1V accuracy
74	Voltage Source	2V, 1A, 6V, 1A, 12V, 1A
75	Mutual Inductance Box	Box type, Secondary inside primary, 0- 180 deg, pointer and scale,
76	P.O. Box- Plug Type	Pure Manganin Foil : 0.5 inch thick block: Ebonite top and teak wood box(1% accuracy)
77	Paper Capacitor	Cylindrical in shape, with two terminals at opposite side of the cylinder:0.001-0.1 μF, with voltage rating 25 V-500 V
78	Platinum Resistance Thermometer:	Coring glass tube 12 inch : 15 mm dia: nickel plated brass cap with ebonite top having four terminal: res-2.7 ohm at room temp
79	Search Coil	Dia-10 mm, 100 turns
80	"Lamp and Scale arrangement"	Stand with scale holder
81	Wire- Nicrome	500g
82	Electrolytic Capacitor	Cylindrical in shape, with +ve and -ve terminals at one side of cylinder:1-1000 μF, with voltage rating 25 V-500 V
83	Extension Board	6 plug(3 pin)- 5A, on heavy wooden box (12"x9"), Sunmica top: Havells plug: 10 m long wire(Havells):
84	IC Chips OP-AMP, NAND, OR, AND, NOR, EX-OR, NOT	741C, 7400, 7432, 7408, 7402, 7486, 7404, 7409
85	LED	Red, Green
86	Transistor	BC148
87	CRO	30MHz, Dual Channel, Make Scientific or eqv.
88	Tool Box	Screw Driver Set, Wrench Set, Nose Pliers, Cutter, plier, wire piller, Drill machine with different bit
89	Desktop , Laptop	Processor i5, RAM 4GB, LCD Monitor 15inch, HP or eqv.
90	LCD Projector with screen	
91	Laser Printer, scanner	HP or eqv
92	UPS	1.5KVA Make: APC or eqv
93	Diffraction Grating	LPI=2500 , LPI=5000, LPI=7500 Hilger or eqv
94	Diffraction Grating Holder	Brass frame
95	Discharge Tubes (Small Size) with stand	Intense, Ar, Ne, He, H, Hg
96	Double Slit	Heavy type: Brass frame with micro meter for mounting on prism table
97	Fresnel Biprism	For bi-prism expt
98	High Voltage Source for Discharge tube	
99	Polarimeter Tube	22 cm long
100	Polaroid	
101	Prism	A=60°, Extra Dense Flint
102	Single Slit	Heavy type:Brass frame with micrometer for placing on the prism table
103	Na and Hg Vapour Lamp ≈50W with housing	Long size
104	Spectrometer- 10 inch dia	V.C.=20 sec,
105	Astronomical Telescope with stand	6 inch objective, view finder
106	Power supply for Na-Vapour lamp and variable power supply for discharge tube	

Head of Department

[Type text]

Officer-in-Charge

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSICS

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

107	Concave Lens	3 inch dia, Focal Length = 20cm, 25cm, 30cm,
108	Convex Lens	5 inch dia, Focal Length = 10cm, 15cm, 20cm
109	Convex Lens	3 inch dia, Focal Length = 10cm, 15cm, 20cm
110	Hot water pipe	
111	Cork Borer set	Heavy type
112	Iron Hammer	
113	Slide Wrench	
114	Rubber tube	Dia-6mm, 8mm, 10mm
115	Rubber Cork	No-2, No-4, No-6, No-8, No-10, No-12, No-14, No-16
116	Scissor	
117	Mirror Slab	4" X4"
118	Dry Cell-AA	1.5V
119	2 Pin Plug	5amps
120	3 Pin Plug	5amps
121	3 Pin Plug	15amps
122	3 Pin Multiple Socket	5 Amps
123	3 Pin Multiple Socket	15 Amps
124	Ebonite Board-12mm	3"X2"
125	Binding Post	Heavy type
126	Single door refrigerator	165Litre

Glass wires

Sl.No.	Articles Name	Make
1	Round bottom flask with side tube (1000 ml)	Borosil®
2	Separating funnel, globe shape with stopcock(500ml)	Borosil glass
3	Test tube with rim (1" dia)	Borosil®
4	Specific gravity bottle (25ml)	Borosil Glass
5	Specific gravity bottle(50 ml)	Borosil Glass
6	Aspirator bottle with side opening for tabulation.	Borosil®
7	Measuring Cylinder-25ml	Borosil®
8	Measuring Cylinder-50ml	Borosil®
9	Measuring Cylinder-100ml	Borosil®
10	Glass tube with capillary bore	
11	Solid Glass rod	
12	Silicon Tube- 4mm internal dia (Length 10 meter)	Borosil®
13	Silicon tubes -6mm internal dia (Length 10 meter)	Borosil®
14	Silicon tubes -8mm internal dia (Length 10 meter)	Borosil®
15	Silicon tubes -10mm internal dia (Length 10 meter)	Borosil®
16	Distilled water plant	Borosil®
17	Funnel	Borosil®
18	Capillary tube box with different diameter	Borosil®
19	long neck Round bottle flask with side tube	Borosil®
20	Beaker-100ml	Borosil®
21	Beaker-250ml	
22	Beaker-500ml	
23	Conical flask (1 lit.)	Borosil®
24	Flat round bottom flask	Borosil®
25	Adapter B24	

PLASTIC WARE

Sl. No.	Articles Name	Make
1	Measuring Cylinder-250ml	Tarson
2	Measuring Cylinder-500ml	Tarson
3	Plastic Beaker-500ml	Tarson

Head of Department

[Type text]

Officer-in-Charge

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSICS

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

4	Wash Bottle	Tarson
5	Separating funnel, globe shape with stopcock, 500ml	Tarson

CHEMICALS

Sl. No.	Articles Name	Qty.	Make	
1	Mercury (EMARC)	1kg	EMARK	
2	Mercury (EMARC)	500g		
3	Sucrose (EMARC)	500g		
4	Sodium Dichromate AR	500g	SDF	
5	Potassium Dichromate AR	500g		
6	Aniline AR	500ml		
7	Sulphuric Acid	500ml		
8	Tarpin oil			
9	Ethyl Alcohol			
10	Carbon tetra Chloride	500ml		
11	Acetone	500ml		
12	Lycopodium Powder	100g		

STATIONARY

Sl. Name	Articles Name	
1	Feather Duster	
2	Cloth duster	
3	Dust free Chalk	
4	Marker Pen	
5	Board Duster	
6	Emery Paper – 80 no.	
8	Bulb	
9	A4 paper	
10	Cartridge compatible to printer	
11	Full scape paper	
12	Black and Red ball pen	
13	Glue stick and gum	
14	Stapler and Stapler pin (No. 10 and 24)	
15	Board pin, James clip, Plastic Ruler, Pin, Pencil, Rubber	
16	Godrej Lock and Key	

Head of Department

[Type text]

Officer-in-Charge

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSIOLOGY

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

Quotation are invited for purchase of the following apparatus and laboratory components for Dept. of Physiology , Government General Degree College Kharagpur-II, Madpur, Paschim Medinipur for the academic year 2017-18. All items should be branded and good quality.

Kindly quote the price including all taxes, delivery and installation charges and others.

List of Chemicals			
SI. NO	DESCRIPTION	MAKE	UNIT
1.	Sodium Chloride	Merck	500gmX1No
2.	Sodium Hydroxide	Merck	500gmX1No
3.	Sodium Acetate	Merck	500gmX1No
4.	Sodium Hypobromite Solution	Nice	500mlX1No
5.	Sodium Tungstate	Merck	250gmX1No
6.	Sodium Nitroprusside	Merck	100gmX1No
7.	Sodium Nitrite	Merck	500gmX1No
8.	Sodium Hypochlorite	Merck	1litX1No
9.	Sodium Carbonate	Merck	500gmX1No
10.	Sodium Citrate	Merck	500gmX1No
11.	Ammonium Chloride	Merck	500gmX1No
12.	Ammonium Hydroxide Solution/ Ammonium solution	Merck	500mlX1 No
13.	Ammonia Solution	Merck	500mlX1No
14.	Ammonia (Conc)	Merck	500mlX1No
15.	Ammonium Sulphide	Loba	500mlX1No
16.	Ammonium Molybdate	Loba	100gmX1No
17.	Ammonium Sulphate	Merck	500gmX1No
18.	Ammonium Phosphate	Merck	500gmX1No
19.	Ammonium Dihydrogen Phosphate	Merck	500gmX1No
20.	Urea	Merck	500gmX1No
21.	Uric Acid	Loba	25gmX1No
22.	Creatinine.	Span	1 Kit
23.	Acetic acid	Merck	500mlX1No
24.	Acetone	Merck	500gmX1No
25.	Ethyl Acetoacetate	Merck	500mlX1No
26.	Methyl Acetoacetate	Loba	500mlX1No
27.	Trichloro Acitic Acid	Merck	100gmX1No
28.	Boric Acid	Merck	500gmX1No
29.	Picric Acid	Merck	500mlX1No
30.	Ortho Phosphoric Acid	Merck	500mlX1No
31.	5-Sulphosalicylic Acid	Loba	250mlX1No
32.	Bromine	Merck	100mlX1No
33.	Hydrogen peroxide.	Merck	500mlX1No
34.	Sulphur Powder	Loba	500gmX1No
36.	Potassium Chloride	Merck	500gmX1No

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Date 07.04.2017

37.	Potassium Hydroxide	Merck	500gmX1No
38.	Potassium Nitrate	Merck	500gmX1No
39.	Potassium Nitrite	Merck	500gmX1No
40.	Potassium Iodide	Merck	250gmX1No
41.	Potassium Hydrogen Pthalate	Merck	500gmX1No
42.	Potassium Phosphate	Loba	500gmX1No
43.	Potassium Bisulphate	Loba	500gmX1No
44.	Potassium Thiocyanate	Merck	500gmX1No
45.	1-Naphthol	Merck	100gmX1No
46.	2-Naphthol	Merck	250gmX1No
47.	Thymol Indicator Solution	Nice	125mlX1No
48.	Iodine	Merck	100gmX1No
49.	Benedict's Reagent (Quntitative)	Loba	500mlX1No
50.	Benedict's Reagent (Qualitative)	Merck	500mlX1No
51.	Selenewanoff's Reagent	Loba	125mlX1No
52.	Millon's Reagent	Loba	125mlX1No
53.	Barfoed Regent	Loba	250mlX1No
54.	Fahling's Solution A	Merck	500mlX1No
55.	Fahling's Solution A	Merck	500mlX1No
56.	Esabach's Reagent	Loba	125mlX1No
57.	Ninhydrin	Loba	10gmX1No
58.	Formaldehyde	Merck	500mlX1No
59.	Fouchet's Reagent	Loba	125mlX1No
60.	Folin Ciocalteu's Phenol Reagent	Merck	100mlX1No
61.	Nessler's Reagent	Loba	100mlX1No
62.	2,6 Dichloroquinmone 4- Chlorimide	Loba	5gmX1No
63.	Methyl Red	Merck	25gmX1No
64.	Methyl Violet	Loba	25gmX1No
65.	Phenol Red	Loba	5gmX1No
66.	Rohake Salt/Sodium potassium tartarate	Merck	500mlX1No
67.	Phenolphthalin	Merck	125mlX1No
68.	Phenolphthalin	Merck	50gmX1No
69.	Lead Acetate	Merck	500gmX1No
70.	Lead Oxide	Merck	500gmX1No
71.	Ferric Chloride	Loba	500gmX1No
72.	Silver Nitrate	Merck	25gmX1No
73.	Silver Nitrate	Merck	500mlX1No
74.	Silver Chloride	Merck	25gmX1No
76.	Vanillin	Merck	25gmX1No
77.	Resorcinol	Merck	100gmX1No
78.	Magnesium Metal	Nice	25gmX1No
79.	Phloroglucinol	Merck	25gmX1No
80.	Tetrabromophenol Blue	Sigma	1gmX1No

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DEPARTMENT OF PHYSIOLOGY

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

81.	Thymol Blue	Loba	5gmX1No
82.	Thymol Blue	Loba	125mlX1No
83.	Dimethyleminobenzene	Merck	100gmX1No
84.	Tropeolin	Loba	25gmX1No
86.	Citric Acid	Merck	500gmX1No
87.	Calcium Chloride	Merck	500gmX1No
88.	Calcium Oxalate	NICE	250gmX1No
89.	Copper Sulfate	Merck	500gmX1No
90.	Copper Acetate	Merck	500gmX1No
91.	Sucrose	Merck	500gmX1No
92.	Glucose	Merck	500gmX1No
93.	Starch	Merck	500gmX1No
94.	Gelatin	Loba	500gmX1No
95.	Cholesterol	Loba	25gmX1No
96.	Bile Salt	Loba	100gmX1No
97.	Oxalic Acid	Merck	500gmX1No
98.	Sulphuric Acid	Merck	500gmX1No
99.	Nitric Acid	Merck	500gmX1No
100.	Orthophosphoric Acid	Merck	500gmX1No
101.	Hydrochloric Acid	Merck	500mlX1No
102.	n-Amyl Alcohol	Loba	500mlX1No
103.	Formaldehyde	Merck	500mlX1No
104.	Chloroform	Merck	500mlX1No
105.	Bovine Albumin	Loba	5gmX1No
106.	Lactose	Loba	500gmX1No
107.	Peptone	Loba	500gmX1No
108.	Phenol	Merck	500gmX1No
109.	Lactic Acid	Merck	500mlX1No
110.	Folin Ceocalton Regent(Phenol Reagent)	SRL	100mlX1No
111.	Benzidine	Loba	100mlX1No
112.	Pyridine	Merck	500mlX1No

List of glass wares

1.	Beaker – 100ml.	Borosil®	1 No
2.	Beaker – 250ml.	Borosil®	1 No
3.	Beaker – 500ml.	Borosil®	1 No
4.	Beaker – 1000ml.	Borosil®	1 No
5.	Conical flask – 100ml.	Borosil®	1 No
6.	Conical flask – 250ml.	Borosil®	1 No
7.	Conical flask – 500ml.	Borosil®	1 No
8.	Conical flask – 1000ml.	Borosil®	1 No
9.	Burette – 25ml.	Borosil®	1 No
10.	Volumetric flask – 100ml.	Borosil®	1 No
11.	Volumetric flask – 250ml.	Borosil®	1 No
12.	Volumetric flask – 500ml.	Borosil®	1 No

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSIOLOGY

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

13.	Volumetric flask – 1000ml.	Borosil®	1 No
14.	Measuring cylinder – 05ml.	Borosil®	1 No
15.	Pipette – 1ml.	Borosil®	1 No
16.	Pipette – 2ml.	Borosil®	1 No
17.	Pipette – 5ml.	Borosil®	1 No
18.	Pipette – 10ml.	Borosil®	1 No
19.	Pipette – 25ml.	Borosil®	1 No
20.	Funnel – 25mm	Borosil®	1 No
21.	Funnel – 50mm	Borosil®	1 No
22.	Funnel – 75mm.	Borosil®	1 No
23.	Funnel – 100mm.	Borosil®	1 No
List of equipments			
1.	Kymograph set Kymograph machine with Dubois induction coil Myograph board, Myograph liver with all accessories	INCO	1 Set
2.	Centrifuge. Digital Centrifuge Model-R8C+R83-8X15ml angle head	REMI	1 No
3.	Digital pH Meter with auto temperature compensation, Gel filled Epoxy body combination pH electrode & RTD probe, 3,1/2 digit LED display; Digital pH Meter with electrode, Model 335	Systronics	1 No
4.	Digital colorimeter Model---112	Systronics	1 No
5.	Digital Serological water bath 2 rack	E I	1 set
6.	Medical Microscope – Model-HB	Magnus	1 No
7.	Medical Microscope.	Bristol	1 No
8.	Medical Microscope – Model-BM-6mo LED microscope	ALMICRO ISO-9001 company	1 No
9.	Dale's organ bath	Royal	1 No
10.	Autoclave	Medfurnish Pro	1 No
11.	Incubator maintaining ambient 110°C	Royal Scientific	1No
12.	Rotary microtome with tissue sectioning knife	Royal Scientific	1 No
13.	UV Vis Spectrophotometer	Biorad	1 No
14.	-20°C freezer	Blue Star 200ml	1 No
15.	LCD projector	Sony Dx102 DLP Projector	1 No.
16.	LCD projector screen 8ftx6ft	True Vision	1 No.

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF PHYSIOLOGY

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

17.	Phase contrast inverted microscope with camera	OLYMPUS CX41 PHASE CONTRAST MICROSCOPE WITH TRINOCULAR HEAD	1 No.
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Quotation are invited for purchase of the following apparatus and laboratory components for Dept. of Zoology , Government General Degree College Kharagpur-II, Madpur, Paschim Medinipur for the academic year 2017-18. All items should be branded and good quality.

Kindly quote the price including all taxes, delivery and installation charges and others.

[Items must be quoted in the same sequence as they are mentioned below]

Group – A [Instruments]

Microscopes:

- Compound Student Microscope – eyepiece 10x, 15x , achromatic objective 10x, 40x/45x, with mechanical stage. With good build quality, detachable LED illumination source preferred.
- Compound Student Microscope – eyepiece 10x, 15x , achromatic objective 10x, 40x/45x, 100x , with mechanical stage. With good build quality, detachable substage LED illumination source
- Trinocular upright microscope for demonstration (high quality) such as Magnus MLX TR plus or equivalent– 10x, 40x, 100x oil immersion, complete with substage illumination source, condenser, mechanical stage etc. dust cover
- Magnus MagCam DC and MagVision Software
- Phase contrast attachment for Magnus MLX TR Plus
- Binocular upright microscope for demonstration (high quality) such as Magnus MLX TR plus or equivalent– 10x, 40x, 100x oil immersion, complete with substage illumination source, condenser, Mechanical movable stage etc. dust cover
- Inverted microscope with 10x eyepiece, 10x, 20x, 40x objective, illumination source.
- Imaging accessories with CMOS sensor compatible with Magnus MLX TR plus, software with measurements.
- Simple microscope
- Dissecting Microscope
- Binocular Stereoscopic Microscope with turret mounted/sliding objectives , upto 40x magnification, with incident and transmitted light
- Binocular Stereo zoom microscope, upto 40x magnification, with incident and transmitted light
- High quality microscope with achromatic objective 10x, 40x, 100x with camera and other accessories [Research Grade]

Refrigerators/freezers

- Refrigerator 4C, ~150L
- Refrigerator 4C, ~200L
- Refrigerator 4C, ~300L
- Refrigerator -20C, ~150L
- Refrigerator -20C, ~200L
- Refrigerator -20C, ~300L

Centrifuges:

- Small mini centrifuge – for 1.5 ml , 2ml tubes
- Table top centrifuge with digital speed regulator, timer, imbalance detector, brake, safety lid – for 15ml , 50 ml tubes with swing out rotors and complete accessories
- Refrigerated centrifuge

Digital balance:

- Coarse balance – 0.1 gm to 600 gm
- Coarse balance –0.5 gm to 3000 gm
- Coarse balance –0.1 gm to 3 kg
- Fine balance – 0.001 to 200 gm
- Fine balance – 0.001 to 100 gm
- Fine balance – 0.01 gm to 300 gm

Digital spectrophotometer:

- Microprocessor controlled Digital Photo Colorimeter 8 filters. Range400-700 nm
- Digital spectrophotometer (visible) – Range : 340 - 960 nm
- Digital spectrophotometer UV-VIS single beam
- Digital spectrophotometer UV-VIS double beam

Digital pH meter

- pH meter with probe – with temperature compensation

Histology apparatuses:

- Rotary microtome with all the accessories including razors etc.
- Hot plate
- Microtome blade
- Staining assembly
- Microtome tissue processing unit

- Paraffin dispenser
- Tissue embedding moulds – 16x16x12mm
- Tissue embedding moulds – 22x22x12mm
- Tissue embedding moulds – 32x25x12mm
- Tissue floating bath

Micropipettes:

- 0.1-10ul
- 2-20ul
- 20-200ul
- 100-1000ul

Molecular biology instruments:

- Horizontal gel apparatus with accessories – 10x7cm gel approx
- Horizontal gel apparatus with accessories – 13x13cm gel approx
- Horizontal gel apparatus with accessories – 25x13cm gel approx
- Vertical gel apparatus (Mini gel) (SDS-PAGE) with accessories – 8x7cm gel approx.
- Vertical gel apparatus (midi gel)(SDS-PAGE) with accessories – 16x14cm gel approx
- Powerpack – 300v, 150mA
- Electro Blotting apparatus – for mini gels
- Electro Blotting apparatus – for midi/regular gels
- UV transilluminator – 25x13cm viewing window

Other laboratory equipments:

- Hot air oven – 15”x15”x18”
- Hot air oven – 18”x18”x18”
- Autoclave – 12”dia x 20” height [with auto pressure cut off]
- Autoclave – 14”dia x 22” height [with auto pressure cut off]
- Laminar airflow – 2’x2’2’
- Laminar airflow – 3’x2’2’
- Magnetic stirrer with magnetic flees
- Heater
- Microwave oven
- Pipette controller (battery operated)
- Water treatment plant
- Temperature regulated water bath – with digital temp display and control
- Vortex mixer

- Homogenizer machine
- Plankton net
- Insect collecting net portable
- Spirit lamp
- Temperature controlled water bath
- Water distillation plant
- Table lamp

Camera/binoculars:

- Digital camera with high zoom
- Digital SLR/SLT camera with lens [standard 18mm-55mm and telephoto zoom 200mm/300mm lens]
- Binoculars – minimum 12x magnification

Group- B [Projectors, computers, peripherals]

Projectors/screens:

- LCD Projector with XGA (1024x768) resolution, HDMI connectivity
- LCD Projector with WXGA (1200x800) resolution, HDMI connectivity
- Short throw LCD projector, HDMI connectivity
- Ultra short throw LCD projector, HDMI connectivity
- Projector screen – non motorised
- Projector screen - motorized
- Projector mounting accessories.
- Overhead projector

Computers/peripherals [branded models only. No self-assembled units] :

- Desktop computer – with 4 GB RAM, Core i3 6th gen & above processor, with genuine windows 10 OS, MS Office
- Desktop computer – with 8 GB RAM, Core i5 6th gen & above processor, with genuine windows 10 OS, MS Office
- Desktop computer – low cost, with genuine windows 10 OS, MS Office
- Laptop - with 4 GB RAM, Core i3 6th gen & above processor, with genuine windows 10 OS, MS Office
- Laptop - with 8GB RAM, Core i5 6th gen & above processor, minimum 2GB graphics, with genuine windows 10 OS, MS Office

- UPS
- Flatbed scanner
- Laser printer – black
- Laser printer – colour
- Multi-function printer with scanner
- Anti-virus software
- Microsoft office suit, 2016

Group – C [Glass wares ,Plastic wares, dissection items etc.]

All glasswares should be of Borosil or equivalent quality and should be autoclavable.

Please quote Prices of Borosilglasswares along with other low cost alternatives if possible.

Glasswares:

Haemocytometer

Pipette Graduated Capacity 1 ml

Pipette Graduated Capacity 2 ml

Pipette Graduated Capacity 5 ml

Pipette Graduated Capacity 10 ml

Pipette Graduated Capacity 25 ml

Burettes, Boroflo, Blue screw thread stopcockmade form borosil glass capacity 50 ml

Erlenmeyer, Graduated Narrow Mouth Conical Flask Capacity 25 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 50 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 100 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 150 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 250 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 500 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 1000 ml

Erlenmeyer, Graduated Narrow MouthConical Flask Capacity 2000 ml

BOD bottle – 125ml with interchangeable stopper

BOD bottle – 300ml with interchangeable stopper

Couplin jar (ordinary glass) 5 /10 slides

Measuring Cylinder Hexagonal Base With spout Capacity 25 ml

Measuring Cylinder Hexagonal Base With spout Capacity 50 ml

GOVT. GENERAL DEGREE COLLEGE, KHARAGPUR-II,
DEPARTMENT OF ZOOLOGY

Tender No. T-I/G/GGDC/KGP-II/2017-18

Date 07.04.2017

Measuring Cylinder Hexagonal Base With spout Capacity 100 ml
Measuring Cylinder Hexagonal Base With spout Capacity 250 ml
Measuring Cylinder Hexagonal Base With spout Capacity 500 ml
Measuring Cylinder Hexagonal Base With spout Capacity 1000 ml
Beaker with Spout And Graduated Capacity 100 ml
Beaker with Spout And Graduated Capacity 150 ml
Beaker with Spout And Graduated Capacity 250 ml
Beaker with Spout And Graduated Capacity 500ml
Beaker with Spout And Graduated Capacity 1000 ml
Beaker with Spout And Graduated Capacity 2000ml [borosil]
Reagents Bottle Plain Narrow mouth With Flat Head Interchangeable stopper – 125ml
Reagents Bottle Plain Narrow mouth With Flat Head Interchangeable stopper – 250ml
Reagents Bottle Plain Narrow mouth With Flat Head Interchangeable stopper – 500ml
Reagents Bottle with wide mouth screw cap – 125ml
Reagents Bottle with wide mouth screw cap – 250 ml
Reagents Bottle with wide mouth screw cap – 500ml
Reagents Bottle with wide mouth screw cap – 100ml
Dropping bottle with rubber tit – 30ml
Dropping bottle with rubber tit – 60ml
Dropping bottle with rubber tit – 125ml
Test Tube Thick wall 15 x 125 mm
Test Tube Thick wall 18 x 150 mm
Test Tube Thick wall 15 x 125 Made Of Soda Glass Pyrex type
Dropper Made Of Neutral Glass 8” long 5C.C Rubber Tit
Watch Glass With All Side Edge polished Dia -----50 mm
Watch Glass With All Side Edge polished Dia -----75mm
Watch Glass With All Side Edge polished Dia -----100 mm
Glass slides
Glass slides with concavity
Cover Glass Square 18x 18mm
Cover Glass Square 22x 22mm
Cover Glass Square 22x40mm
Petri dishes – 50mm with lid
Petri dishes – 100mm with lid

Plasticwares and other items:

Beakers ,propelyene – 50ml

Beakers ,propelyene – 100ml

Beakers ,propelyene – 250ml

Beakers ,propelyene – 500ml

Beakers ,propelyene – 1000ml

Burettes, with transparent acrylic body and leak proof stop cock – 25ml

Burettes, with transparent acrylic body and leak proof stop cock – 50ml

Burettes, with transparent acrylic body and leak proof stop cock – 100ml

Retort Stand With Clamp Made Of Polythene

Pipette Stand Vertical

Test tube racks

Multi stand for 5ml, 15 ml, 50 ml tubes

Disposable petridish -35mm

Disposable petridish – 60mm

Disposable petridish – 100mm

15ml conical tubes with screw cap

50ml conical tubes with screw cap

1.5ml microcentrifuge tubes

2ml microcentrifuge tubes

Carboy with stop cock – 10ltr

Carboy with stop cock – 20ltr

Pipette controller/pump – 2ml

Pipette controller/pump – 10ml

Pipette controller/pump – 25 ml

Slide box

Staning Bottle 85 x 28mm with screw cap

Plastic couplin jars

Spatula – made of stainless steel 8 inch

Spatula – made of stainless steel 6inch

Spatula – made of stainless steel 4 inch

Spatula – made of horn 8 inch

Spatula – made of horn 6inch

Spatula – made of horn 4 inch

Weighing boats

Parafilm

Microtips with tip box – 10ul

Microtips with tip box – 200ul

Microtips with tip box – 1000ul

Biohazard bags

Nitrile gloves – medium

Nitrile gloves - small

Nitrile gloves – large

Thick acid resistant gloves

Test Tube Holder Made Of Brass Clip Type With Wooden Handle

Dissection instruments:

Dissection tray with wax – best quality

Dissection instrument box – 17 instruments (best quality)

Scalpel blades

Scalpel blade holder

Forceps – 4’’

Forceps – 6’’

Forceps – 8’’

Forceps – 15’’

Forceps – 18’’

Scissors – 4’’ (straight)

Scissors – 5’’(straight)

Scissors – 6’’(straight)

Scissors – 8’’(straight)

Scissors – 10’’(straight)

Scissors – 4’’ (curved)

Scissors – 5’’(curved)

Scissors – 6’’(curved)

Scissors – 8’’(curved)

Scissors – 10’’(curved)

Teasing needle all metal

Tissue forceps

Fine tissue forceps

Micro-dissection forceps
Curved fine point forceps
Shell crackers/cutters

Group – D[Chemicals, reagent, teaching kits]

List of Chemicals/reagents/dyes: [Brands – E Merck, NICE, Qualigens etc.]

If possible quote the price of E Merck and Nice/others both

1. Chloform
2. Formaline
3. Methylene Blue
4. Saffranin
5. Delafield Haematoxylin
6. Geimsa Stain
7. Leishman Stain
8. Crystal Violet
9. Phenolphthalin Solution
10. Orcein
11. Eosin
12. Sodium Hydroxide Pellets
13. Sodium Chloride
14. Potassium chloride
15. Potassium Hydroxide Pellets
16. Nitric Acid
17. Hydrochloric Acid
18. Sulphuric Acid
19. Starch
20. Dextrin
21. Glucose
22. Fructose
23. Lactose
24. Maltose
25. Sucrose
26. Dextrose
27. Albumin
28. Globulin
29. Gelatine

30. Peptone
31. Urea
32. Uric Acid
33. Ammonia Solution
34. pH Buffer Solution
35. Xylene
36. Gram Stain Kit
37. Antiserum Kit (AB&D)
38. FolinCiocalteau
39. Luria broth powder
40. Agar
41. RPMI-1640
42. HEPES
43. Sodium bicarbonate
44. PBS tablet/powder
45. Ethanol
46. Methanol
47. Bouin's fixative
48. picric acid
49. Glacial acetic acid
50. Millon's reagent
51. BSA
52. Casein
53. Sudan Black B
54. Ethidium bromide
55. Gel loading dye
56. Protein marker
57. DNA marker
58. Molisch's reagent
59. Benedict's reagent
60. potassium iodide
61. copper sulphate
62. Sudan III Dye
63. DPX
64. Glycerine
65. Saturated aqueous mercuric chloride
66. Manganous sulphate
67. Sodium thiosulphate
68. Periodic acid-Schiff stain
69. Manganesulphate
70. Sodium thiosulfate

71. Phenylarsine oxide
72. Potassium bi-iodate
73. alkali-iodide-azide
74. Mercuric chloride
75. Nessler's reagent
76. Schaudinns fluid
77. Silver Nitrate
78. Staining solution
79. Solution for Leishman
80. Staining buffer for Giemsa stain

Teaching kits:

- Agarose Gel Electrophoresis Teaching Kit
- Western Blotting Teaching Kit
- Bacterial Growth Curve Teaching Kit
- SDS-PAGE Teaching Kit
- Protein Silver Staining Teaching Kit
- Antibody Capture ELISA Teaching Kit
- Antigen Capture ELISA Teaching Kit
- Blood Grouping Teaching Kit
- Lymphocyte Separation Teaching Kit
- Sandwich ELISA Teaching Kit

Group – E [Specimens – prepared slides, bones, models of animals]

- Permanent slides - T. S. of liver, pancreas, thyroid, kidney, ovary & testis, lungs, adrenal, stomach, duodenum, ileum.
- Permanent slides - Whole mount of chick embryo (24h; 48h; 72h, 96h)
- Cleavage stage (blastula& gastrula of frog)
- Prepared slides (spleen, lymph gland, bursa fabricaceous)
- **Non-chordates:***Amoeba, Paramoecium, Elphidium, Scypha (= Sycon), Neptune's cup, Aurelia, Obelia, Pennatula, Physalia; Sea-anemone, Madripora, Beroe, Nereis, Chaetopterus, Hirudinaria, Centiped, Milliped, Scorpion, Aphrodite, Squilla, Hippa, Eupagurus, Tachypleus or Carcinoscorpius, Peripatus, Belostoma, Chiton, Patella, Aplysia, Mytilus, Sepia, Loligo, Octopus, Lamellidens, Achatina, Asterias, Astropecten, Sea-urchin, sea-lily, Hemichordate/Balanoglossus.*
- **Chordates:***Branchiostoma, Ascidia, Petromyzon, Myxine, Scoliodon, Torpedo, Sphyrna, Exocoetus, Hippocampus, Anabas, Echinus, Ichthyophis, Tilototriton,*

- Rhacophorus, Axolotl larva, Cryptobranchus, Hyla, Chameleon, Gekko, Hemidactylus, Mabuia, Vipera, Naja, Hydrophis, Naja, Turtle, Passer, Ploceus, Pycnonotus, Halcyon, Dinopium, Pteropus, Chiroptera*
- **Bones:** *appendicular bones of Columba and Cavia; vertebrae of snake, Columba and Cavia; skull of Bufo, Rana, Chelonia, venomous snake, Columba, Cavia and Canis.*
 - **Applied Zoology :** *Entamoeba, Giardia, Trypanosoma, Plasmodium, Leishmania, Taeniasolium, Ascaris (male & female), Ancylostoma, Wuchereriabancrofti,*
 - *Tribolium, Tryporyza, Scirpophagaincertulus, Sitophilusoryzae, Tanymericusindicus, Hispa, Apion, Leucinodes, Anomissabulifera, Lepisma, Termite castes, Silk worm life history stages, honey bee, lac insect, Culex, Anopheles, Aedes, Phlebotomus, Bandicoota*
 - *Paeneus, Macrobrachium, Labeorohita, L. bata, L. calbasu, Cirhinusmrigala, Catlacatla, Mugilparsia, Latescalcarifer Harpodon, Hypophthalmichthyesmolitrix, Cyprinus carpio, Ctenopharyngodonidella, Hilsailisha*
 - **Unstained prepared slides** – various tissues [as previously mentioned]

Group – F [Laboratory safety equipments]

- Fire extinguisher
- Fire blanket
- Safety goggles/UV goggles
- Apron
- First aid kit
- Liquid soap
- Hand sanitizer
- Hand sanitizer dispenser
- Paper towel
- Paper towel dispenser
- Absorbent cotton
- Non-absorbent cotton