

## CMS College Kottayam ( Autonomous)

Dated :02/12/2017

**Tenders are invited for supply of equipments (Computers and lab equipments) for science departments of the college under Star College Scheme-2017**

### **Important Dates:**

Issue of Tender Forms: 02/12/2017 – 15/12/2017 (working hours)

Last date of receipt of tenders: 16/12/2017 10.30am

Opening of tenders: 16/12/2017 11.30 am

### **Tender Cost:**

- Upto 50,000 – Rs.300 and GST (@ 12% - CGST-6% and SGST -6%)
- Above `1,00,000/- upto `10.00 lakh- 0.2% of the cost of tender rounded to the nearest multiple of 100, subject to a minimum of ` 400/- and maximum ` 1500/- + GST (@ 12% - CGST-6% and SGST -6%)
- Above `10.00 lakh- 0.15% of the cost of tender rounded to the nearest multiple of 100, subject to a maximum of ` 25000/- + GST (@ 12% - CGST-6% and SGST -6%)

**The GST amount should be paid by the tenderers and the receipt of the same should be provided at the time of purchase of tender form.**

### **EMD:**

A cash deposit as earnest money equal to one percent of the total cost

| Sl.No. | Item  | Specification   | Estimated Price / Unit | No. of Units |
|--------|---|---|------------------------|--------------|
| 1.     | Projectors  | Multimedia Projector with HDMI and VGA  | 26,000                 | 2            |
| 2.     | Desktops  | <ul style="list-style-type: none"> <li>• 7th generation Intel Core i5 processor</li> <li>• 16 GB RAM</li> <li>• 1 TB Hard drive</li> <li>• NVIDIA GeForce 920MX with 2 GB GDDR5 Graphics Memory</li> <li>• Windows 10</li> <li>• Internet Security</li> <li>• 3 year onsite warranty</li> </ul>   | 64,000                 | 7            |
| 3.     | Workstation and software for biomolecular modelling | Intel Xeon E3 1225 V5 processor/Intel C 236 chipset WS mother Board<br>8 GB RAM DDR4/1 TB SATA HDD<br>Nvidia Quadro GE<br>Force P600 2GB Graphics<br>Liquid Cooled fan<br>Platform for ATX cabinet and 365 W 90% efficient SMPS   | 79,750                 | 3            |
| 4.     | Helium-Neon Laser                                   | 5 mW with Power Supply (Box Type)   | 63,000                 | 2            |
| 5.     | Electromagnet                                       | With Power Supply for Electromagnet   | 18,500                 | 2            |
| 6.     | Gaussmeter  |   | 15,000                 | 2            |
| 7.     | CRO   | 30/20 MHz, Aplab like make  | 25,000                 | 3            |
| 8.     | Function Generator                                  | 2MHz, Aplab like make   | 10,500                 | 3            |
| 9.     | Spectrometer  | 175mm   | 21,500                 | 3            |
| 10.    | Travelling microscope                               | Vernier microscope  | 11,000                 | 2            |
| 11.    | Voltmeter   | 0-5 Volts (2Nos), 0-10V (1 Nos)   | 1,000                  | 3            |
| 12.    | Ammeter   | 0-500 $\mu$ A (3 Nos), 0-250 $\mu$ A (2 Nos), 0-500 mA (3 Nos), 0-10 mA (3 Nos)   | 1,000                  | 11           |
| 13.    | Galvanometer  | 0-50 (100 divisions)  | 1,000                  | 6            |
| 14.    | Digital pH meter                                    | <p>pH Range: 0 – 14, 0.01 pH Resolution.<br/> Repeatability: +/- 0.01 pH +/- 1 digit<br/> mV, Range : 0 to +/- 1999 mV<br/> Resolution : +/- 1 mV +/- 1 digit<br/> Temperature Compensation Range: 0 to 100° C; manual <b>Micro controller based and 3 point calibration, Automatic temperature compensation.</b><br/> Display: 7 digit and 7 segment LCD display with printer port.<br/> Standard solutions (4,7,10/other combinations) for calibration of the pH meter should be provided.<br/> 3 year Warranty</p> | 10,500                 | 8            |

| Sl.No. | Item                              | Specification   | Estimated Price / Unit | No. of Units |
|--------|-----------------------------------|---|------------------------|--------------|
| 15.    | Digital conductivity meter        | * Conductivity Range: 0 to 200 mS;<br>* Accuracy: +/1 % of FS +/- 1 count in all ranges<br>* Cell Compensation 0.9 to 1.1 acceptable<br>Manual Temperature Range: 0 to 100° C;<br>AC source : 100Hz to 1KHz Approx. automatically selected<br>Measurement of conductivity at ambient and 25° C<br>Standard Accessory : temperature prob, conductivity Cell of 1.0 Cc<br>Stand and clamp   | 15,000                 | 6            |
| 16.    | Water Quality Test kit            | Test for: <ul style="list-style-type: none"> <li>➤ pH, Acidity, Alkalinity</li> <li>➤ Conductivity</li> <li>➤ Chloride</li> <li>➤ Hardness</li> <li>➤ Iron, Sulfite, Sodium, Potassium content</li> <li>➤ Microbial content, Bacterial content</li> </ul>   | 90,000                 | 1            |
| 17.    | Soxhlet extractor                 | Heating Mantles are arranged in a row. Housing is made with MS sheet duly powder coated, supplied with two nos MS stand and one adjustable rod equipped with individual Energy Regulator and Pilot Lamp to work on 220-230 VAC. 6 No's 1000 mL RB flasks included.  | 19,000                 | 1            |
| 18.    | Table top centrifuge-Medium/small | Digital Speed regulator with RPM $\geq$ 5000 & Digital Timer (0-99 Minutes) Under feather touch System<br>3 year Warranty<br><u>Optional</u><br><b>12x15ml Angle rotor head</b>   | 20,000                 | 1            |
| 19.    | Autoclave                         | <b>350x550mm(Diameter x Height) or above</b><br><b>53Ltr Capacity or above</b><br>Double wall construction with inner S.S 304, and argon welded & Outer chamber made of high quality S.S 304/ M.S sheet duly powder coated.<br>Electrically heated by means of I.S.I quality Immersion heaters with working pressure 15PSI.<br>Hydraulically dye pressed Lid from S.S Plate with, easy pedal lifting device, having pressure gauge, 2 nos; safety valve, quick release coupling & handle with heater cover stand.<br>Water level arrangement cut off buzzer system and S.S perforated basket supplied along with unit on free of cost<br>3 year Warranty<br><u>Optional</u> | 70,000                 | 1            |

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|     |                           | <b>Digital Temperature controller</b><br><b>Digital Timer</b><br><b>Auto Pressure Cut off System</b><br><b>Auto Vacuum Breaker</b><br><b>Water Level Glass Indicator</b>   |        |   |
| 20. | Hot air oven              | <b>Chamber size <math>\geq 450 \times 450 \times 450</math></b><br><b>No of trays = 2</b><br><b>Capacity <math>\geq 95</math> ltr</b><br>Bottom heated, Double wall chambers inner made of SS and outer of Mild Steel sheet duly powder coated with 2½” thick glass wool insulation.<br>Temperature should be controlled by an imported thermostat to a maximum of 300 ° C with an accuracy of +/-1°C and working temperature of above 50°C to 250° C and without thermometer.<br>3 year Warranty  | 20,000 | 1 |
| 21. | UV-Transilluminator       | UV source : 365nm Wave Length<br>Viewing area : 28x15cm or 20x20<br>UV Tube : 10x8 watts UV Tube<br>Housing : Anti Corrosion treated with Powder coated Mild steel<br>UV Safety Shield : Clear Transparent lid for excellent clarity<br>Input : 220V AC,50-60HZ<br>Fuse : 2.5Amp<br>Anti-Slip rubber foot should be provided for base<br>3 year Warranty.  | 35,000 | 1 |
| 22. | Orbital Shaking Incubator | <b>Chamber size <math>\geq 470 \times 470 \times 810</math> mm</b><br><b>Temperature range= Ambient + 5°C- 60°C/ -5°- 60°C</b><br><b>Shaker platform size <math>\geq 360 \times 360</math></b><br><b>Platform 100 ml x 25 Nos</b><br><br>Double wall construction, the exterior is made of MS powder coated and interior of SS. The doors should have glass window. Powerful air circulator to create efficient airflow through the Incubator.<br>3 year Warranty<br><b>Optional</b><br><b>1. Additional platform 250 ml x 16 Nos-1</b><br><b>2. Digital Timer for orbital shaker-1</b><br><b>3. Chamber illumination with fluorescent tube (2 Nos.)</b><br><b>4. Chamber sterilization with ultra violet lamp (2 Nos.)</b><br><b>5. 0-24 hrs Cyclic Timer for illumination-1</b><br><b>6. Automatic Voltage Stabilizer 2KVA-1</b> | 40,000 | 1 |

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| 23. | Visible spectrophotometer with software | <p>Single beam optical system<br/> Tungsten lamp light source<br/> Spectral Bandwidth= 4.0nm<br/> Wavelength Range= 325~1000nm<br/> Wavelength Accuracy <math>\leq \pm 2</math>nm<br/> Wavelength Repeatability <math>\leq 1</math>nm<br/> Photometric Range -0.3 ~ 3.0 A, 0 ~ 200 %T<br/> Photometric Accuracy <math>\pm 0.003</math> A @ 0.5 A , <math>\pm 0.006</math> A @ 1.0 A , <math>\pm 0.5</math> %T @ 100<br/> Photometric Repeatability <math>\leq 0.0015</math> A @ 0.5 A , <math>\leq 0.003</math> A @ 1.0 A , <math>\leq 0.25</math><br/> Stability <math>\leq 0.002</math> A/h @ 500 nm<br/> Stray Light <math>\leq 0.2</math> @ 360 nm<br/> Sample Compartment = 4-position, 10mm path length cuvette<br/> LCD/LED Display<br/> Output = USB Port &amp; Parallel Port ( Printer)<br/> Dimensions( L×W×H) <math>\leq 490 \times 360 \times 210</math> mm<br/> Weight <math>\leq 10</math>kg<br/> 3 year Warranty<br/> <b>Each pair of Quartz and glass cuvette of 3ml should be provided.</b></p> | 65,000 | 1 |
| 24. | Ultra probe sonicator                   | <p>Power: 250 watts (average) - Variable from 60 - 100%<br/> Frequency: 20+/-3 KHz.<br/> Timer: Digital - (microprocessor based) 0 to 30 mins<br/> Meters: Digital Voltmeter.<br/> Processing Capacity: up to 250 ml<br/> Power supply: 230 V AC<br/> Housing: MS Powder coated housing for Generator and SS Housing for Transducer assembly.<br/> <b>Accessories:</b><br/> <ol style="list-style-type: none"> <li>1. SS 316 Horn –10 mm -1 No.</li> <li>2. Stand and Jack arrangement for keeping sample</li> <li>3. Necessary tools – 1 set.</li> </ol> <b>Optional</b><br/> <b>Sound proof Wooden Housing.</b></p>  | 65,000 | 1 |
| 25. | BOD incubator                           | <p>Temperature range 5°C to 60°C<br/> Capacity 90Ltr, 3Cft, 2 shelves<br/> Dimensions 420x400x810<br/> 3 year Warranty</p>   | 80,000 | 1 |
| 26. | Microscope camera with software         | <p>Digital <math>\leq 5</math>MP camera for microscopy<br/> PC based USB 2.0/3.0</p>   | 65,000 | 1 |

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|     |   | Sensor Type: CMOS sensor<br>Windows OS supporting Driver software which enables capture, calibration and measuring of specimen should be supplied.<br>3 year Warranty  |              |         |
| 27. | Refrigerator                              | Capacity $\geq$ 270L<br>3 year Warranty  | 30,000       | 2       |
| 28. | Research monocular Microscope             | All metal rugged Stand with Coaxial Coarse & Fine Focus drive with focus stop, <b>Free ECO LED illumination including Battery backup</b> with regulating intensity control for 220V/50Hz, movable Condenser drive, Abbe Condenser 1.25 NA with aperture iris diaphragm, Double layer Mechanical stage 132 mm X 140 mm with Coaxial X/Y drive including double slide holder, Paracentric Quadruple precision ball bearing nosepiece, Semi-Plan (SP) Achromatic objectives 4x, 10x, 40x (spring) & 100x (spring, oil immersion), 360° rotatable 45° inclined Monocular head with Widefield Eyepiece 10x/18 lockable, blue filter, dust cover complete set packed in thermocole pack. | 21,800       | 1       |
| 29. | Education Microscope                      | All metal rugged Stand with individual Coarse & Fine Focus drive with focus stop, Maintenance Free ECO LED illumination including Battery backup with regulating intensity control for 220V/50Hz, movable Achromatic Condenser 0.90 NA with aperture iris diaphragm, 115 X 125 mm double plate Mechanical Stage with coaxial XY Drive knobs, Quadruple revolving nosepiece, <b>Achromatic objectives 4x, 10x, 40x (spring)</b> , , 360° rotatable 45° inclined Monocular head with Widefield Eyepiece 10x/18 lockable, dust cover complete set packed in thermocole.   | 15,000       | 3       |
| 30. | DNA extraction kits 1 for 100 preparation | DNA extraction kit is a high throughput genomic DNA isolation reagent kit enabling the purification of high quality DNA from mammalian tissue samples. The DNA extraction kit offers greater recovery of high quality gDNA than other commercially available DNA isolation kits.<br><br><ul style="list-style-type: none"> <li>• Compatible with a variety of downstream analysis tools such as PCR, qPCR, SNP genotyping, and sequencing</li> <li>• Does not use organic extraction or centrifugation/filtration</li> <li>• Ability to process thre 96-well plates in about 75 minutes when using Multichannel Lab Automation Workstations</li> </ul>                             | 12,500       | 1       |
| 31. | Aquarium tanks                            | Glass tanks (L x B x H) (1m x 0.5m x 0.5m)<br>Concrete tanks (2000 lts)<br>Aerators, Tubes, Nets, Feed, Aquarium and culture fishes  | Total:50,000 | 10<br>5 |
| 32. | Fume cupboard with bottom working table   | Fume cupboard with bottom (38½”x26½”x72” outer size) working table (3’ x 2’)<br>To exhaust toxic and other harmful vapours, for protecting laboratory personnel and  | 61,500       | 1       |

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|     |  | equipment. The main body of the Fume Cupboard is made of good quality Marine Plywood with water and chemical proof epoxy painted/mica and inside of the cup board is made from FRP lining, which is acid or alkali resistant, fitted with a sliding door made of acrylic, moves vertically up and down with counter balanced weight operated by Chain and sprocket. Fluorescent light is provided inside the chamber for easy working. One SS zinc of small size, water tap and gas cock are also provided inside the chamber. Working top of the fume cupboard is of Granites /Stainless Steel Sheet, which is acid or alkali resistant. A major blower exhaust system [1/4 HP AC motor - 2880 Rpm] fitted on the top of the working area, which generates negative pressure within the hood extracting the contaminated air from the work area and expelling into the atmosphere and preventing the fume escaping into the room .For this purpose there is provided a provision for connecting 4" dia PVC pipe on the top of the instrument. Beneath the working area, fitted 3 drawers on one side and a closed storage area with a provision for locking system on the other side of the unit.   |        |   |
| 33. | Electronic balance   | Two digit digital top pan balance with capacity 200gm, Resolution .01 gm pan size 110 mm   | 7,500  | 1 |
| 34. | Electrophoresis<br>Vertical<br>Horizontal<br>Electrical supply | <p><u>VERTICAL SLAB GEL SYSTEM</u></p> <p><b>Mini Model</b> - One 8x7cm Gel</p> <p>Basic unit with Platinum electrode assembly (2), Glass Plates - notched &amp; rectangular (2sets), Teflon comb, 1,1.5 mm (1+1), Spacers, 1,1.5 mm (3+3),Single gel casting stand (1set), Metal Clips (2), Plastic pouch (1pk) Clamp &amp; screws (1set) and Power cord (1).</p> <p>Size: (lbh) 15 x 13 x 13 cm; 0.75 kg; Buffer, 100 + 100 mL; recommended power pack, analytical modelPower back</p> <p><u>(Horizontal) GEL SYSTEMS</u></p> <p>Nucleic Acids (DNA / RNA) fragments are routinely separated in agarose gels under (buffer) submerged conditions. This process, known as Submarine Gel Electrophoresis – maintains <i>temperature &amp; pH</i> during electrophoresis. Biotech manufactures different models of submarine gel systems from baby to maxi models to resolve 4 to 100 samples at a time. Every system has been devoted to achieve maximum efficiency in terms of low buffer consumption, fast run and better separation.</p> <p><b>Mini</b> - Gels 10x7; 5x7 cm</p> <p>Basic unit with Platinum electrode assembly (2), Gel platforms: 1 0x7 cm (1); 7x5 cm (2), 8-well comb, 1.5 mm (2) and Power cord (1).</p> <p><b>Power Pack Mini pack</b></p> <p>Mini Pack- Model 10-02, Output <b>-50, 100, 150, 200, 250 DC V</b></p> | 32,500 | 1 |

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| 35. | Spectrophotometer         | <p><b>Wave-Length Range : 340 To960nm</b><br/> <b>Absorbance range : -0.3 to 2500 Abs</b><br/> <b>Spectral Bandwidth : 5.0 nm</b><br/> <b>Display : Digital</b><br/> <b>Wave length resolution : 5 nm</b><br/> <b>Wave length accuracy : +/-5 nm</b><br/> <b>Photometric accuracy at 1 abs ; +/-0.005 Abs</b><br/> <b>Modes : % T, Abs,concentration&amp; factor</b><br/> <b>Concentration : 0.000 to 9999 with floating decimal point</b><br/> <b>K factor : 0.000 to 9999 with floating decimal point</b></p> <p><b>Photometric Readout : 4 digit LED display</b><br/> <b>0 &amp; 100% T testing : manual</b><br/> <b>Grating : 600 lines /mm</b><br/> <b>Detector : Si- Photo- diode</b><br/> <b>Sources : halogen lamp 12V 50W</b><br/> <b>Sample holder : 10 mm path length , two position manual sample holder</b></p> | 52,000 | 1 |
| 36. | Flame Photometer          | <p>Digital Flamephotometer Model 130 with Na,K filters &amp; Compressor Model 130<br/> For estimation of Sodium (Na), Potassium (K) Calcium (Ca) and lithium (Li)<br/> Sensitivity (Full scale)<br/> • Sodium (Na): 2 ppm<br/> • Potassium (K): 1 ppm<br/> • Lithium (Li): 1 ppm<br/> • Calcium (Ca): 30 ppm<br/> Minimum Detective limit<br/> • Sodium (Na): 0.2 ppm<br/> • Potassium (K): 0.1 ppm<br/> • Lithium (Li): 0.1 ppm<br/> • Calcium (Ca): 3 ppm<br/> Accuracy ±%1ofF SD<br/> Display LED /LCD<br/> Minimum Sample Volume : 3.5 ml<br/> AspirationTime :30 Sec.<br/> Fuel Gas : LPG<br/> Power 230V, +10%, 50Hz<br/> Accessories Gas and Air Tube with Li and Ca</p> <p><b>OPTIONAL Ca and Li filters at EXTRA COST (8000x2)</b></p>  | 57,000 | 1 |
| 37. | Sohxlet Extraction system | 250mlx3  | 12,000 | 1 |



|                                  |  |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
|----------------------------------|--|--|----------|----------------------|----------------------------------|-----------|-------------------------|--|---------------------------|-----------|---------------------|--------------|----|--------|-------------------|-----------------------|---------------------------------|--------------|--------|---|
|                                  |  | <p><b>Heating Mantles are arranged in a row. Housing is made with MS sheet duly powder coated, supplied with two nos MS stand and one adjustable rod equipped with individual Energy Regulator and Pilot Lamp to work on 220-230 VAC.</b></p> <p>Condensor, interchangeable Joint &amp; Flask x2</p>   |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| 38.                              | UV cabinet<br>2UV lamp +1 fluorescent lamp             | Made of MS sheet duly power coated, provided with inspection hole,useful for viewing TLC plate under UV light. <b>Outer size L325, B250, H275 (mm)</b><br>Two U.V lamps (short 256 & long 356 wave) with one fluorescent lamp  | 7,500    | 1                    |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| 39.                              | Distillation unit borosil glass horizontal             | <p>All Glass Distillation Units, with Borosilicate Boiler &amp; Borosilicate Condenser &amp; Quartz Heater Horizontal Model, Borosil</p> <table border="1"> <tr> <td>Cat. No.</td> <td>DOUBLE<br/>3362– 1.5L</td> </tr> <tr> <td>Dist. Water Output Cap. (Approx)</td> <td>1.5 Lt/hr</td> </tr> <tr> <td>Electrical Requirements</td> <td>230-250 volts single phase<br/>1.5 x 2 kw quartz heater</td> </tr> <tr> <td>Cooling Water Consumption</td> <td>100 lt/hr</td> </tr> <tr> <td>Biological Activity</td> <td>Pyrogen Free</td> </tr> <tr> <td>pH</td> <td>6.9– 7</td> </tr> <tr> <td>Conductivity S/cm</td> <td>&lt;1 X 10<sup>-6</sup></td> </tr> <tr> <td><b>AUTOMATIC CUT OFF SYSTEM</b></td> <td><b>13980</b></td> </tr> </table> | Cat. No. | DOUBLE<br>3362– 1.5L | Dist. Water Output Cap. (Approx) | 1.5 Lt/hr | Electrical Requirements | 230-250 volts single phase<br>1.5 x 2 kw quartz heater | Cooling Water Consumption | 100 lt/hr | Biological Activity | Pyrogen Free | pH | 6.9– 7 | Conductivity S/cm | <1 X 10 <sup>-6</sup> | <b>AUTOMATIC CUT OFF SYSTEM</b> | <b>13980</b> | 52,000 | 1 |
| Cat. No.                         | DOUBLE<br>3362– 1.5L                                   |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| Dist. Water Output Cap. (Approx) | 1.5 Lt/hr  |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| Electrical Requirements          | 230-250 volts single phase<br>1.5 x 2 kw quartz heater |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| Cooling Water Consumption        | 100 lt/hr  |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| Biological Activity              | Pyrogen Free   |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| pH                               | 6.9– 7   |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| Conductivity S/cm                | <1 X 10 <sup>-6</sup>                                  |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| <b>AUTOMATIC CUT OFF SYSTEM</b>  | <b>13980</b>   |  |          |                      |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| 40.                              | Vortex mixture   | This vortex mixer is used for thorough mixing of precipitates in test tubes, small bottles or flasks. A speed regulator switch also provided to control the speed. Suitable to work on 220VAC  | 5,500    | 1                    |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| 41.                              | Micropipette 1ml variable                              | 100-1000 µl  | 5,500    | 1                    |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |
| 42.                              | Microscope   | All metal rugged Stand with individual Coarse & Fine Focus drive with focus stop, Maintenance Free ECO LED illumination including Battery backup   | 18,750   | 1                    |                                  |           |                         |  |                           |           |                     |              |    |        |                   |                       |                                 |              |        |   |

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|     |   | with regulating intensity control for 220V/50Hz, movable Achromatic Condenser 0.90 NA with aperture iris diaphragm, 115 X 125 mm double plate Mechanical Stage with coaxial XY Drive knobs, Quadruple revolving nosepiece, Achromatic objectives 4x, 10x, 40x (spring), , 360° rotatable 45° inclined Monocular head with Widefield Eyepiece 10x/18 lockable, dust cover complete set packed in thermocole.   |        |   |
| 43. | 3MP Microscope Camera for bright field microscopy | <p><b>Image Sensor:</b> 1/3" Color CMOS</p> <p><b>Scan Mode:</b> Progressive</p> <p><b>Pixel size (active pixel):</b> 3.6µm x 3.6µm</p> <p><b>Pixels:</b> 1280 x 1024</p> <p><b>Max. Resolution:</b> 1.3MP</p> <p><b>Speed / Frame Rate (frame/sec):</b> 15 @ 1280 x 1024<br/>26 @ 640 x 512<br/>50 @ 320 x 256</p> <p><b>Sensitivity (@550nm):</b> 1.0 V/Lux-sec</p> <p><b>Dynamic Range:</b> 71 db</p> <p><b>S/N Ratio:</b> 44dB</p> <p><b>A/D Converter:</b> 10-bit, 8-bit RGB to PC</p> <p><b>Binning:</b> 1x1, 2x2, 4x4</p> <p><b>Spectral Range:</b> 380 - 650 nm (with IR-cut Filter)</p> <p><b>Size of mounting barrel:</b> 23.2mm and 30mm/30.5mm with adaptor</p> <p><b>Optical Interface:</b> Microscope ocular-tube or C-mount photo-tube</p> <p><b>Computer Interface:</b> USB2.0, hot plug &amp; thrust, via a USB cable of length 1.8m</p> <p><b>Exposure:</b> 0.14ms-2000ms, ROI Auto &amp; Manual</p> <p><b>White Balance:</b> ROI White Balance / Manual Temp Tint Adjustment</p> <p><b>Operating Temperature:</b> -10 - 50°C</p> <p><b>Operating Humidity:</b> 30 - 80% RH</p> <p><b>Image Output:</b> USB 2.0, 480Mbps</p> <p><b>Power supply:</b> USB port</p> <p><b>Cooling System:</b> Natural</p> <p><b>Camera Body:</b> Anodized metal body of square shape</p> <p><b>Accessories included:</b> Two adaptors (dia.30mm, dia.30.5mm, one each</p> | 56,000 | 1 |
| 44. | Monocular Teaching Microscope                     | All metal rugged Stand with individual Coarse & Fine Focus drive with focus stop, Maintenance Free ECO LED illumination including Battery backup with regulating intensity control for 220V/50Hz, movable Achromatic Condenser 0.90 NA with aperture iris diaphragm, 115 X 125 mm double plate Mechanical Stage with coaxial XY Drive knobs, Quadruple revolving nosepiece, Achromatic objectives 4x, 10x, 40x (spring), 100x (spring, Oil imm.), 360° rotatable 45° inclined Monocular head with Widefield Eyepiece  | 23,500 | 5 |

|     |                           |   |        |   |
|-----|---------------------------|---|--------|---|
|     |                           | 10x/18 lockable, dust cover complete set packed in thermocole   |        |   |
| 45. | Body fat analyser         | Wavelength : 340-990nm<br>Absorbance Range : -0.3 to 2.500 Abs<br>Spectral Bandwidth : 5nm<br>Wavelength Resolution : 1nm<br>Wavelength Display : 3 Digit Digital<br>Wavelength Accuracy : $\pm 2$ nm<br>Photometric Resolution : 0.1%T<br>Photometric Accuracy : $\pm 0.005$ Abs at 1 Abs.<br>Modes : %T, Abs, Concentration & Factor<br>Concentration : 0.000 to 9999 with Floating Decimal point<br>K Factor : 0.000 to 9999 with Floating Decimal Point<br>Photometric Read out : 4 Digit LED Display<br>0 & 100%T Setting : Manual<br>Grating : 600lines/mm<br>Detector : Si-Photo-Diode<br>Source : Halogen Lamp<br>Sample Holder : 10mm Path length,<br>Two Position Manual Sample Changer<br>Power : 230v $\pm 10\%$ ,50Hz<br>Dimension : 420(W)x310(D)x125(H)mm<br>Accessories : Two Glass Cuvettes<br>Optional Accessories : Single Position 20/50mm Cuvette Holder (Factory<br>Insalled) | 9,000  | 5 |
| 46. | Spectrophotometer         | Wavelength : 340-990nm<br>Absorbance Range: -0.3- 2.500<br>Bandwidth: 5nm<br>Wavelength Resolution: 1nm   | 67,000 | 1 |
| 47. | Photoelectric calorimeter | Wave length : 400to 700nm,<br>Selected by filters Mounted on a turret<br>Light source : 6V LED<br>Detector : Encased spill-proof selenium Photocell<br>Display : 3- Digit display calibrated directly<br>In optical density only<br>Resolution : 0.01 in O.D or Abs<br>Standard : a) Turret- mounted filters<br>Accessories b) Four test tubes<br>c) Instruction manuals  | 11,000 | 1 |

|     |                                  |  |        |    |
|-----|----------------------------------|--|--------|----|
| 48. | Centrifuge                       | 4 x 15 ml RPM 3600   | 6,600  | 1  |
| 49. | Photofluorometer                 | Systronic like make  | 78,000 | 1  |
| 50. | Microscope                       | Ach. Objectives : 10xand40x<br>Huy, Eye pieces : WF 10xandH15X<br>Magnification : 100x to 600x   | 6,400  | 13 |
| 51. | Refractometer                    | REFRACTOMETER RANGE 58-92%   | 4,500  | 1  |
| 52. | Digital Food/Cooking Thermometer | <ul style="list-style-type: none"> <li>• Digital thermometer with stainless steel sensor probe</li> <li>• Temperature range: -50C to 300C / -58F to 572</li> <li>• Kitchen Gadget</li> </ul> | 800    | 12 |
| 53. | Digital balance                  | 1 Kg   | 9,000  | 1  |
| 54. | Microwave                        | Basic model (Solo) without browning  | 5,500  | 1  |