

Tender Specification of Category A.

NAME OF EQUIPMENT FOR COLLEGE OF PHARMACY AT LUMHS, JAMSHORO.

SECTION A

Sr.	Name Of Instruments	Unit Price in C&F	Qty	Total Price In C&F
1.	<p>HPLC</p> <p>Quaternary with Low Pressure Mixing Processing,& High Speed Scanning</p> <p>Quaternary gradient solvent pump with accessory kit Flow rate: 0.001 to 10mL/min in 0.001/min increments</p> <p>Pressure range:0 to 40Mpa over flow range.</p> <p>Flow accuracy: $\leq \pm 0.5\%$.</p> <p>Precision: $< 0.1\%$ RSD</p> <p>Pressure pulsation: $\leq \pm 0.5\%$ at 2mL/min</p> <p>Gradient forming: Quaternary to Binary low pressure mixing & isocratic high pressure operation.</p> <p>Gradient control: High speed proportioning valves.</p> <p>Gradient precision: Typically 0.2% RSD at 1mltr/min</p> <p>Material in contact with fluids: Ceramic inserts, ruby & sapphire check valves, & PEEK.</p> <p>4104 00 01 User manual</p>		One (01) No.	

<p>1201 74 07 1 x Green connector</p> <p>'Wave Quest' - Ultra-Fast UV/Visible Scanning Detector complete with –</p> <p>Ultra low drift and ultra high sensitivity for the performance of detailed on the</p> <p>fly spectral scans and highly sensitive quantitative analyses.</p> <p>Easy to use, robust and versatile software.</p> <p>Optical System Double beam with monochromatic</p> <p>Scan Speeds Up to 1000nm/s</p> <p>Number of Peak Scans Up to 100 peaks for any single elution</p> <p>Multiple Scans of a Peak Up to 8 scans of any peak</p> <p>Wavelength Range 190-700nm</p> <p>Wavelength Accuracy $\pm 1\text{nm}$</p> <p>Optical Bandwidth 4 nm – constant</p> <p>Straylight < 0.02% at 220nm and 340nm</p> <p>Absorbance Range 0 to 3A</p> <p>Baseline Flatness $\pm 0.002\text{ A}$ over most of range</p> <p>Noise < $\pm 0.5 \times 10^{-5}\text{A}$ at 230nm</p> <p>Drift < $\pm 5 \times 10^{-5}\text{A/h}$ at 230nm</p> <p>4300 00 01 User manual</p> <p>1200 07 70 Flow cell, 8 μL 10 mm path length Detector accessory kit</p> <p>1200 48 00 Dummy cell (fitted)</p> <p>1200 20 05 Cell compartment cover</p> <p>1200 49 00 Cell key</p>			
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9000 20 00 'DataStream' Spectral Software			
PowerStream, digital and CSM (Terms and conditions apply)			
4900 10 00 PowerStream software CD-ROM			
4900 10 03 User manual			
4900 74 11 USB lead PC to CSM			
1201 74 07 2 x Green connectors			
Column mounting & Rheodyne valve Rheodyne valve installation kit			
1200 20 04 Column cover			
0203 01 18 2 x 1m PTFE cap tube, Rheodyne to waste			
4100 32 05 Syringe 100 L			
Solvent reservoir and pipe organiser			
4130 01 08 4 x 1L solvent bottle			
1100 26 02 4 x solvent bottle top			
4150 14 00 Installation kit for low pressure system			
4104 23 04 4 x FEP tube, x 200cm, reservoir to degasser			
1100 23 02 1 x s/s cap. 0.02", x 53cm, mixer to injector.			
1100 23 01 1 x s/s cap. 0.01", x 33cm. injector to column			
0203 01 18 1 x PTFE sleeving., transducer to waste			
1100 24 03 2 x Swagelok nut s/s,			

column fitting			
1100 24 04 1 x PTFE ferrule, 1/16, column outlet			
1100 24 07 1 x Back ferrule, s/s, column inlet			
1100 24 08 1 x Front ferrule, s/s, column inlet			
1100 26 04 2 x Valco nut, 1/16, column			
1100 26 05 2 x Valco ferrule, 1/16, column			
0588 01 32 Mains lead IEC			
4901 83 00 RS 232 lead - Detector to CSM and CSM to Solvent delivery unit			
1750 83 00 Analogue lead, 4300 detector to CSM			
4100 01 08 Power interconnection lead, short			
4900 27 00 Spare fuse kit			
5500 01 56 2 x T3.15A fuse			
5505 01 22 T2A fuse			
0292 61 12 F0.5A fuse			
4100 08 00 Syringe, pump priming			
Column oven, heated and chilled, 10deg C below ambient to 70deg C (3 columns)			
Solvent degasser, 4 channels each 5ml/min (+ kit 4040 14 00)			
RH7725I			
Rheodyne 7725i with micro switch			
Country of origin: USA, UK,			

	Japan, Korea, Europe or equivalent			
2.	<p>UV Spectrophotometer</p> <p>Specifications:</p> <p>wavelength range 190~1100nm</p> <p>UV/VIS Double beam spectrophotometer; Scanning type, 4 measurement modes</p> <p>Wavelength:190~1100nm ,motorised 8-cell changer,LCD display Complete with 16 glass cells, 4 quartz cells, PC software</p> <p>Features:</p> <p>Wide wavelength range, satisfying requirements of various fields. Fully automated design, realizing the simplest measurement 1nm and 0.5nm, made according to customer's need and satisfying the requirements of pharmacopoeia. Fully automated design, realizing the simplest measurement</p> <p>Optimized optics and large scale intergrated circuits design, light source and receiver from world famous</p>		One (01) No.	

	<p>manufacturer all add up to high performance and reliability. Rich measurement methods, wavelength scan, time scan, multi</p> <p>wavelength determination, multi-order derivative determination, double-wavelength method and triple-wavelength method etc. meet different measurement requirements . Automatic 10mm 8-cell holder, changeable to automatic 5mm-</p> <p>50mm 4-position cell holder for more choices.</p> <p>Data output can be obtained via a printer port and a RS-232 interface (RS-485 and USB port optional). Parameters and data can be saved for user's convenience. PC controlled measurement can be achieved for more accurate and flexible requirement.</p> <p>Wavelength Range: 190-1100nm</p> <p>Spectral Bandwidth 2nm (5nm, 4nm, 1nm, 0.5nm optional)</p> <p>Wavelength Accuracy</p>			
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<p>±0.3nm</p> <p>Wavelength</p> <p>Reproducibility ≤0.15nm</p> <p>Optical System Double beam</p> <p>Photometric Accuracy ±0.3%T(0-100%T), ±0.002A(0-1A)</p> <p>Photometric Reproducibility ≤0.15%T</p> <p>Working Mode T, A, C, E</p> <p>Photometric Range -0.3-3.5A</p> <p>Stray Light ≤0.1%T(NaI, 220nm, NaNO₂ 340nm)</p> <p>Baseline Flatness ±0.002A</p> <p>Stability ≤0.001A/h(at 500nm, after warming up)</p> <p>Noise ±0.001A(at 500nm, after warming up)</p> <p>Display 6 inches high light blue LCD</p> <p>Detector silicon photo-diode</p> <p>Power AC 220V/50Hz, 110V/60Hz, 180W /</p> <p>Dimensions 630×470× 210 m</p> <p>Value of goods ex-works</p> <p>CPT airfreight + Packing + Forwarding + Handling (estimated)</p>			
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	<p>Certificate of Origin (legalized from chamber of commerce only)</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
3.	<p>Vortex Mixer</p> <p>Speed range : 0 - 3,000 RPM</p> <p>Operation Mode : Touch On & Constant On</p> <p>Material : Aluminum Die- casting & ABS</p> <p>Head : Rubber Mixing Cup</p> <p>Dimension : (WxDxH) 130x155x155 mm</p> <p>Power Supply : 220 V 0.14 A 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		<p>One (01) No.</p>	
4.	<p>Stability chamber</p> <p>TEMPERATURE & HUMIDITY CHAMBER (H.S,CODE 8419 89 9070)</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>CAPACITY : 115 LITER</p> <p>Temp. Range : - 20 C to</p>		<p>One (01) No.</p>	

	<p>120 C (- 40 C - 60 C)</p> <p>Temp. Accuracy + / - 1 C</p> <p>Humidity Range : 30 to 98 % RH</p> <p>Humidity Accuracy : + / - 3 70 % RH</p> <p>Material (IN) : Stainless Steel,</p> <p>Air- Convection : Tangent Flow Fan With AC- Moter</p> <p>Inner Sight Lamp : Water Prppted AC -30 W Freezer</p> <p>Comp : Air Cooling Unit System</p> <p>Safety Device : Over, Under Temp. Protector,</p> <p>Level Monitor Power Breaker</p> <p>Sheives : 3 EA Stainless Steel Adjustable</p> <p>Dimension (IN) 500 x 500 x 600 mm</p> <p>Power Supply : 220 V / 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
5.	<p>Refrigerator</p> <p>Dimension (in) 620 x 690 x 1430 (H) mm</p> <p>(out) 740 x 800 x 2020 (H)</p>		One (01) No.	

	mm Capacity : 1125 Liters Shelves : 8 ea Temperature Range : 0 - 10 C (0 - 40) Temp.Uniformlty : + / - 0.5 C at 4 C Temp.Controller : Digital P.I.D. Controller Display : Dual LED Display Recorder : Thermal Recorder meterial (IN) : Stainless Steel (OUT) : Steel Plate with Powder coating Door : One Door Tempered Triple Safety Glass Safety Device : Excluslve High & Low Temp. Prratector Certification : ISO9001 ISO 14001 Power Supply : 220 V 2.2 A 50 Hz Country of origin: USA, Japan, Europe or equivalent			
6.	AUTOMATIC WATER		One (01) No.	

	<p>STILL</p> <p>Water Distillation Unit</p> <p>CAPACITY 4 LITER / hour</p> <p>Heater (LxDxH) 3 kw</p> <p>Cooling Water 40 LITER</p> <p>Storage Tank : 20 LITER</p> <p>Material Interior : Stainless Steel</p> <p>Safely Device : Over Temperature Limit /</p> <p>Water Floal Level Sensor / Water Supply Cut Off</p> <p>Extemal Dimension (L x D x H) 750 x 395 x 649 mm</p> <p>water Supply Cut Off</p> <p>Power Supply : 230 V / 50 Hz</p> <p>Country of origin: USA, Japan, Korea, Europe or equivalent</p>			
7.	<p>Multi Parameter Computerized Teaching System.</p> <p>The system should have ready- to use experiments with step- by-step instructions for a wide range of experiments including human & animal experiments.</p> <ul style="list-style-type: none"> It should have report pages which include study questions as well as students' recorded data, analysis tables and graphs from their completed experiments. 		One (01) No.	

	<p>It should allow students to type their answers and the reports can saved for easy review or printing.</p> <ul style="list-style-type: none"> • It should allow students and educators to access experiment material as well as the recorded data anywhere from outside the lab through internet. • The software should allow user to customise experiments as per their lab requirement. • The software should be provided with free experiments and software updates for at least 5 years. • The USB based 4 channel Data acquisition system with a variable sampling rate 400 KHz (agregate) and an two channel for bio-potential & isolated stimulator with a software controlled filtering, stimulation and recording range of 2mV to 10V & Voltage Range: 0-10 V & Current Range: 0-20mA with software selectable pulse duration (50-200 μ sec). • Simulated Experiments/Preconfigured Experiments with sample data for Frog Heart:- Temperature Effects, Starling's Law of the Heart, Drug Effects, Conduction Block, Heart Refractory Period, Vagal Escape, Frog Neuromuscular Junction:- Twitch Recruitment – Nerve, Muscle, force, latency, fatigue, Tubocurarineetc, Frog Sciatic Nerve & Skeletal Muscle:- 			
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	<p>Twitch Recruitment, Effect of Stretch on Contractile Force, Muscle Summation, Muscle Tetanus, Muscle and Nerve Fatigue, Nerve Threshold, Nerve Refractory Period, Conduction Velocity and other physiological parameters.</p> <ul style="list-style-type: none"> • Should have clinical pharmacology/Medical case laboratories live videos & Patient data to provide student an interactive solution for learning. • Human ECG, EMG, Grip Strength transducer, Spirometer for Human to be supplied as standard. • Pulse transducer, teaching force transducer (0-500g) , animal nerve & bar stimulating electrode, nerve chamber, bio-amp cable, shielded wires, alligator clips, muscle holder, manipulator with stand, needle electrode and other related accessories. • Should have an ISO, IEC and other safety standard certificates and international publications • Demonstration is mandatory before finalisation/acceptance. • Desktop Computer with 17" TFT Monitor, 4GB RAM, 380GB HDD, DVDR/W, Laser Printer & UPS. <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>			
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8.	<p><u>Kit For Pharmacodynamics Experiment</u></p> <p>The system should include a Perspex bath with tissue chambers, pre-heating reservoir coil, gas diffuser, tissue holder, micro positioner, a water pump, and temperature controller. A high speed USB 2.0 interfaced data recorder with inbuilt isolated stimulator with a recording range of 2mV to 10V & a sampling rate 100,000 sample per sec on each channel.</p> <p>An isometric force transducer (0 -50gwt.), suitable for measuring muscle contractions or similar forces in teaching applications. The teaching software provides the tissue isolation with pictorial representation to make student learn more effectively.</p> <p>Manufacturer should be ISO Certified with all standard certifications</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		One (01) No.	
9.	<p>Langendorff Isolated heart Assembly</p> <p>(Student Heart Perfusion system)</p> <ul style="list-style-type: none"> The System should include a water-jacketed glass apparatus includes a 100 mL heart chamber with pulley wheel option for force measurement, 10 mL heat exchanger 		Two (02) Nos.	

	<p>with a 5 mL bubble trap, temperature control unit and reservoir. A dual pump for the perfusate and heated water, ring clamps and stands with Manipulator and a Teaching Force Transducer (0-50g).</p> <ul style="list-style-type: none"> The system should have ready-to use experiments with step-by-step instructions for a wide range of experiments including isolated mammalian heart physiology. <p>The USB based Data acquisition system, with a variable sampling rate 100 KHz and a two channel for bio-potential & isolated stimulator with a recording range of 2mV to 10V & stimulating Current Range: 0-20 mA with software selectable pulse duration (50-200 μ sec).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
10	<p>Hotplate Analgesiometer</p> <p>Hot-Plate, a thick aluminum plate (10 mm) provides a high temperature stability and even surface distribution. The plate temperature can be held at a set point between 45 and 62°C by multiple proportional feedback circuits that minimize overshoot. The design of the hot-plate hinders the animal access to the external zone of the circular plate which temperature suffers the influence of the ambient</p>		ONE (01) No.	

	<p>temperature of the room. A built-in timer activated by an external foot switch allows precise measurement of reaction time (0.1 sec precision).</p> <p>A remote foot-switch controls the test start/stop allowing rapid hands-free experiments.</p> <p>Base Dimensions 200 (W) x 300 (D) x 110 (H) mm</p> <p>Plate Dimensions 200 (D) mm</p> <p>Cylinder Dimensions 200 (D) x 250 (H) mm</p> <p>Operating Temperature 45 to 62 degrees Celsius; 0,1 steps</p> <p>Reaction time 3 digits, 0,01 sec. increment</p> <p>Material Composition Clear methacrylate (animal holder), aluminum (plate) Maximum number of stations 1 per computer (multiple set-ups also available under request)</p> <p>Power Requirements 110V or 220V, 50/60Hz Certifications CE Compliant</p> <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>			
11	<p>Plethysmometer</p> <p>The Digital Water Plethysmometer is designed to provide a highly useful tool in the measurement of small volume changes. This test is</p>		One (01) No.	

	<p>typically used to follow the evolution of the inflammatory response experimentally induced in rodents and to screen potential anti-inflammatory or anti-oedema properties of pharmacological substances. Application: Anti-inflammatory drug screening, Anti-oedema drug screening, Inflammation, Post-operative pain <i>“Check solution” status button</i></p> <ul style="list-style-type: none"> • <i>Conductive solution is easy/cheap to prepare/source</i> • <i>Automatic zero adjustment</i> • <i>Foot switch control</i> • <i>Includes a volume transducer calibrator and tampon solution</i> • <i>optional Data Transfer software</i> <p><i>SeDaCom 2.0 (RS232/USB communication)</i></p> <p>SPECIFICATIONS</p> <p>Control Unit</p> <p>Dimensions</p> <p>28 (W) x 28 (D) x 11 (H) cm Resolution 0.01 s steps</p> <p>Stimulation Unit</p> <p>Dimensions</p> <p>23 (W) x 22 (D) x 30 (H) cm</p> <p>Material Composition Clear Methacrylate (cell), stainless steel</p> <p>(stand), platinum (electrode)</p>			
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	<p>Starting By panel key or pedal switch Power Requirements 220V, 50/60Hz</p> <p>CELL/ELECTRODE SYSTEM & CALIBRATOR</p> <p>1 ml cell with electrode and 1 ml calibrator</p> <p>3 ml cell with electrode and 3 ml calibrator</p> <p>5 ml cell with electrode and 5 ml calibrator</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
12	<p>Isolated tissue organ bath system 2 channel (automatic)</p> <ul style="list-style-type: none"> • A compact profile all in one two unit organ bath system with automatic Dose response software that includes a Perspex bath with tissue chambers, pre-heating reservoir coil, gas diffuser, tissue holder, micro positioner, a water pump, and temperature controller. • A compatible recording unit with +2 mV to +10 V Ranges, a sampling rate of 400 KHz, 24 bit resolution and software based online/offline analysis of force waveforms with calculation of slopes, indices and time intervals and with storing and printing facility of the recorded data. • The software should automatically generate instantaneous Hill curves, displays single or multiple response curves, calculates 		One (01) No.	

	<p>EC50 and Hill slopes.</p> <ul style="list-style-type: none"> • It should allow free export/import in third party software (Excel, Graph-pad Prism, Matlab etc.). Easy file sharing option free of cost. • Suitable Isometric transducer (0.-20) and Bridge amplifier (2 units each) <p>Country of origin: USA, UK, Europe, Australia_or equivalent</p>			
13	<p>Homeothermic Controller and Plate (220V, for mice):</p> <p>The ML295/M Homeothermic Controller and Plate provides temperature feedback control for controlling small animal (mouse) temperature through a heating plate. Power Supply = 220V AC. Accuracy: $\pm 0.5^{\circ}\text{C}$, Resolution: $\pm 0.1^{\circ}\text{C}$, Range: -100 to $+400^{\circ}\text{C}$, Heating Plate size: 111 mm x 217 mm. The system includes the controller, heating plate and MLT1404 Mouse Rectal Probe.</p> <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>		One (01) No.	
14	<p>Homeothermic Controller and Plate (220V, for rats):</p> <p>The ML295/R Homeothermic Controller and Plate provides temperature feedback control for controlling small animal (rats) temperature through a heating plate. Power Supply = 220V AC. Accuracy: $\pm 0.5^{\circ}\text{C}$, Resolution: $\pm 0.1^{\circ}\text{C}$, Range: -100</p>		One (01) No.	

	<p>to +400°C, Heating Plate size: 111 mm x 217 mm. The system includes the controller, heating plate, and MLT1403 Rat Rectal Probe for use with rats or guinea pigs.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
15	<p>Invasive BP Transducer Kit</p> <p>BP Transducer/Cable Kit includes a MLT0699 Disposable BP Transducer and a MLAC06 Adapter Cable used for measuring blood pressure arterial or venous blood pressure in animals. The kit can be used with any ADInstruments Bridge Amps. For animal use only.</p> <p>PE Catheter:</p> <p>Single lumen PE50 tubing (0.5 mm ID, 0.9 mm OD). Sold as a 30m roll. Can be used in the measurement of rat carotid arterial pressure in conjunction with a fluid filled pressure transducer.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		ONE (01) No.	
16	<p>Metabolic Cage for Rats 150-300 grams Metabolic cages</p> <p>(for urine and feces output and PH recording on data acquisition)</p>		Six (06) Nos.	

	<p>A poly carbonate or polystyrene cage for rats with system of separating urine and feces in different collector bottles. A possibility of evaluating feeding and drinking behavior is preferable.</p> <p>Country of origin: USA, UK, Europe ,Australia or equivalent</p>			
17	<p>Metabolic Cage for MICE Metabolic cages (for urine and feces output and PH recording on data acquisition.</p> <p>A poly carbonate or polystyrene cage for mice with system of separating urine and feces in different collector bottles. A possibility of evaluating feeding and drinking behavior is preferable.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		Six (06) Nos.	
18	<p>Adjustable Micropipette 5 – 50</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
19	<p>Adjustable Micropipette 50 – 200</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	

20	<p>Cardiac output pod & Accessories</p> <p>The Cardiac Output Pod is used with high performance T-type thermocouples for the determination of cardiac output in animals using the thermo dilution technique. Suitable T-type Thermocouples can be purchased separately and include the MLT1402 T-type Ultra Fast Thermocouple Probe or MLT1405 T-type Implantable Thermocouple Probe.</p> <p>Cardiac output module The Cardiac Output Module provides the user with the ability to extract, analyze and determine cardiac output in animals using the thermo dilution technique (Win only). The kit includes the necessary accessories for measuring Cardiac Output in small animals. The kit includes: Glass syringe (250 μl) and repeater dispenser, 15 cm lengths of PE tubing (x6) with needle hubs (suitable for mice, rats, guinea pigs, rabbits), three-way taps (x4) and Touhy Borst adapters (x2).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		One (01) No.	
21	Burner		Fifteen (15) Nos.	
22	Barometer		Five (05)	

			Nos.	
23	E.S.R Stand		Fifteen (15) Nos.	
24	Vitalograph Compact <ul style="list-style-type: none"> • Full Size Color Touch Screen Only • Autocalveable Flow Head • Flow Detection by Fleisch type pneumotachograph • Back Pressure Should be Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005 • USB x 4, Serial x 2, Ethernet x2, DVI Ports should be included • Over 50 Test Parameters • Scalable volume/time & flow/volume curves using single-breath or multi-breath spirometry • Automatic and scalable FEV₁ trend chart view as subject is selected prior to testing, designed to reflect the trend of FEV₁ over the lifetime of the subject • Choice of child incentives with sound effects and transparency so that real-time curves are 		Two (02) Nos.	

	<p>simultaneously viewable</p> <ul style="list-style-type: none"> • Pre-post Spirometry comparison for bronchodilator or longer-acting treatments <p>User selection from a choice of over 50 test parameters</p> <p>Country of origin: UK,Ireland, Japan or equivalent</p>			
25	Western Green Tubes		Fifteen (15) Nos.	
26	Glass Test Tubes		One hundred (100) Nos.	
27	Test Tub stands		Twenty 20 Nos.	
28	Biochemistry kit compatible with data acquisition system to study buffering, ion dissociation as well as conduct titration and cellular respiration experiments. The Kit includes a pH Pod,pH Electrode, Galvanic Oxygen Electrode, T-type Pod, General Purpose T-type Thermocouple and Reflective Drop Counter.		For (04) Nos.	
29	Sphygmomanometer		Fifteen (15) Nos.	
30	Stethoscope		Fifteen (15) Nos.	
31	<p>Infusion Pump</p> <p>SPECIFICATION:</p> <p>Holds 1 Syringe up to 60cc infusion rates from 0.73ul/hr (icc syringe to 2100ml/hr dispensing accuracy of +/-1%</p>		One (01) No.	

	<p>easy to use keypads interface space saving chassis foot pring size of only 5 ¼" x 8 ¼" built for automation operates stand-alone or from a computer infusion and with drawal set a single pumping rate and or dispensing volume program up to 41 pumping phase that change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer power supply: 220 VAC.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
32	<p>Isotonic Transducer.</p> <p>SPECIFICATION:</p> <p>The high performance isotonic displacement transducer for use with organ bath systems and used to measure displacement with pre- adjusted loads in the range of ±150. Should be compatible with software controlled bridge Amp and existing data acquisition system.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		One (01) No.	
33	<p>Pyrogen Testing</p> <p>Setup with software and 15 Probes expandable upto 90</p>		One (01) No.	

	<p>Probes.</p> <p>SPECIFICATION:</p> <p>The system is to be used to perform pyrogen tests according to US, British or European pharmacopeia. TEMPERCO is a complete system based on carefully developed software and hardware for PC or compatible computers. It is a powerful low cost tool that carries out the Pyrogen test according to several Pharmacopoeias with up to 90 animals simultaneously. Parameters Measured Register of initial and test temperature Graphic form of the initial and test temperatures for user-defined probes or groups Temperature increase calculated depending on the Pharmacopeia chosen Group Status at the end of the inoculation process (Free, Contemned or To be repeated)</p> <p>Automatic temperature readings</p> <p>GLP compliance software module</p> <p>Available Pharmacopoeias (editable): CFR21, USP24, Chinese, Korean, European</p> <p>Automatic dose estimation according to individual weight</p> <p>Specifications</p> <ul style="list-style-type: none"> • Computer requirements 1.5 GHz Processor, 256 MB of RAM. 1 USB and 1 Serial port available • System requirements Windows™ XP compatible 			
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	<p>operating system</p> <ul style="list-style-type: none"> • PROBOX15 Scanner for 15 probes • TEMPERCO Pyrogen Test Software • Temperature probe for rabbits (4,2 mm) • 15 Temperature probes for rabbits • TEMPERCOGLP GLP compliance software. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
34	Whattmann Filter paper		One (01) No.	

Note: each section of equipment must be quoted all items (uncomplete quoted section will not be entertained/ considered)

SECTION B

Sr.	Name Of Instruments	Unit Price in C&F	Qty	Total Price in C&F
1.	Centrifuge machine TABLE - TOPCENTRIFUGE CE ISO 9001 , ISO 14001 MAX. RPM : 4,000 RPM MAX RCF : 3,250 XG MAX CAPACITY : 360 ML 15 ML X 24 TUBES POWER : 220V 6A 1.5 KW 50Hz Country of origin: USA, Japan, Europe or equivalent		One (01) No.	
2.	MICROSCOPE BIOLOGICAL Total Magnification : 40x - 400x Eyepiece : WF 10 x Objective : Ach 4X10X 40X(S) Head : 30 inclined Binocular Head, 360 Rotatable, Inter pupupiliary Distance Adjustment Range 55-75mmStage : Double Layers Mechanical , 130 x 125 mm Moving Range 70 x 35 mm Condenser : Abbe Type with aperture ins Diaphragm N.A. 1.25 Focusing : Coaxial Coarse & Fine Focus illuminator : Built-in LED Lamp with and		Fifteen (05) Nos.	

	Rechargeable Batteries Input Voltage : AC 240 V / 50 Hz (Built-in DC Power Supply) Country of origin: USA, Japan, Europe or equivalent			
3.	Microtome Country of origin: USA, Japan, Europe or equivalent		One (01) No.	
4.	Oven DRY OVEN Mechanical Convection Ambient + 5 C to 220 C CAPACITY : 48 LITER Temp. Controller : Digital P.I.D. Controller Display : LED Display Material (IN) Stainless steel Sheives : 3 EA Stainless Plate Power Supply : 220 V 4 A 1 KW 50 Hz Country of origin: USA, Japan, Europe or equivalent		One (01) No.	
5.	Water bath 4 holes Country of origin: USA, Japan, Europe or equivalent		One (01) No.	
6.	Rota Evaporator + Chiller(3+1) ROTARY EVAPORATOR H.S. CODE NO. 8419.89.9000 FEATURE : 6 Types of flasks ranging from 50 ml to		One (01) No.	

	<p>3000ml</p> <p>HAHNAPOR is equipped with speed control.</p> <p>and R.P.M. value is display in digital in digital</p> <p>DIGITAL Water bath covers ambient temperature up to 180 C . If water level at heating bath goes down,</p> <p>power will be cut off automatically by sensor</p> <p>Speed control 20 - 208 R.P.M</p> <p>Slant Condenser</p> <p>Standard Distillation</p> <p>Continues supply device for large capacity</p> <p>Capacity : 4/3 L</p> <p>Size : 245 h - 120</p> <p>Dimension (WxDxH) 730X410x 630 mm</p> <p>Power Source : Ac 220V 50 Hz 2.5 A</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>			
7.	Aspirator		One (01) No.	

SECTION C

SR#	Name of Instruments	Unit Price in C&F	Qty	Total Price In C&F
1	Triple beam balance Country of origin: USA, Japan, Europe or equivalent		One (01) No.	
2	Microscope Binocular 45° degree view, Eyepieces: 10X Plano eyepieces Objectives: achromatic 4X/0.10; 10X/0.25; 40X/0.65; 100X/1.25 oil immersion. Illumination: 6 V 20 W (halogen) Power supply: 240 V, 20 W, 50/60 Hz illumination control. Double lenses Abbe-condenser NA1.25 with iris diaphragm and flip-out filter holder. Filters: blue, green, yellow Robust metal stand with coaxial coarse and fine adjustment with quick focusing device. XY stage movement L-R 77, b-f 50 mm. Country of origin: USA, Japan, Europe or equivalent		Five (05) Nos.	
3	Water bath		One (01)	

	Country of origin: USA, Japan, Europe or equivalent		No.	
4	<p>Melting Point Apparatus</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
5	<p>AUTOCLAVE</p> <p>CAPACITY : 45 LITER</p> <p>Ambient to 130 C</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>Time : Electronic Type . 0 - 60 min</p> <p>Air Exhaust : Adjustable Valve</p> <p>Safety Device : Over Head Protector.</p> <p>Heater: 2.2 KW</p> <p>Power Supply : 220 V 10.2 A 50 Hz</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		One (01) No.	
6	<p>Hot Incubator</p> <p>TEMP.RANGE AMBIENT + 5 C TO 70 C</p> <p>CAPACITY : 155 LITER</p> <p>Temp. Controller : Digital P.I.D. Controller</p> <p>Display : Dual LED Display</p> <p>Material (IN) Stainless steel</p> <p>Sheaves : 3 EA adjustable type</p> <p>Power Supply : 220 V 1.4 A 310 W 50 Hz</p>		One (01) No.	

	Country of origin: USA, Japan, Europe or equivalent			
7	Analytical Balance 300g Country of origin: USA, Japan, Europe or Equivalent		One (01) No.	
8	Digital balance 10mg - 1mg Sensitivity Country of origin: USA, Japan, Europe or Equivalent		One (01) No.	

Note: each section of equipment must be quoted all items (uncomplete quoted section will not be entertained/ considered)

SECTION D

SR#	Name of Instruments	Unit Price in C&F	Qty	Total Price In C&F
1	<p>Basic Science Teaching System:</p> <ul style="list-style-type: none"> • Data Acquisition System for online and offline. Sampling rate ≥ 200 KHz aggregate Variable sampling rate on each channel. ADC resolution 24 bits. • It should come with ready to use experiments with step by step instruction protocol for each experiment to be supplied with compatible transducers and stimulator. • Isolated Stimulator:- Constant-current stimulator with Output current: 0–20 mA in 0.1 mA steps and Pulse duration: 50–200 μs (software-selectable) • Amplifiers:- Bio-Potentials (EMG, EOG, EEG.ECG), temperature, Pulse, respiration, isometric • Transducers:- Pressure, volume, muscle activity/ force, respiration belt, pulse, respiration & temperature, heart sound, reflective drop counter , push button switch. ECG electrode, EEG & EMG paste etc. • Manufacturer should have ISO certification for quality standards. Should be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subject. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		2	
2	<p>Biopotential Signal Analysis System with Teaching Experiments on Animal Isolated Nerve, Skeletal Muscle and Heart Muscle.</p> <ul style="list-style-type: none"> • Data acquisition system should come with ready to use experiments with step by step instruction protocol for each experiment to be supplied with compatible transducers and stimulator. Sampling rate ≥ 100 KHz aggregate with variable sampling rate on each channel. ADC resolution 24 		2	

	<p>bits.</p> <ul style="list-style-type: none"> • Suitable for conducting experiments on animal muscle and nerve to demonstrate, simple twitch, tetnus, summation, nerve conduction velocity, compound action potential, cardiac activity, ECG in animals. • Constant-current stimulator and Bio-Potentials (EMG,EEG.ECG), Pulse, respiration, isometric muscle activity/force. • Manufacturer should have ISO certification for quality standards Should be approved to the IEC 60601-1 patient safety standard, making them safe for use with human subjects <p>Country of Orgina: USA/UK/Australia/Europe or equivalent</p>			
3	<p>Non-Invasive blood pressure system for Rats.</p> <ul style="list-style-type: none"> • The Blood pressure system should provide easily selectable pulse ranges with automated cuff inflation & deflation & easily interchangeable cuff & pulse transducer for rats noninvasively with 17" of display. Analogue recording of the cuff pressure and pulse signals the controller with built-in air pump should ensures that automated cuff inflation and deflation are constant. The system should be powered internally from the Data acquisition system. • The system should be supplied with transducers for rats, restrainers and required accessories for the experiment and should be based on pressure technique for pulse detection. It should also allow user toexport into various file formats (excel, notepad, Matlab, IGOR, word, ppt. etc.). • The system should be certified by ISO 9001:2000, should meet European 		1	

	<p>EMC directives, FCC class B Standard.</p> <ul style="list-style-type: none"> • Rodent Restrainer (80 to 200 g) • Rodent Restrainer (180 to 320 g) • Rodent Restrainer (300 to 440 g) • Rodent Restrainer (440 to 550 g) • Rodent Tail Cuff Holder <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
4	<p>ECG 12 Lead Switch Box (Dual Bio Amps):</p> <p>12 Lead Switch Box should allow for the mechanical selection of standard lead configuration aVF, aVL, aVR configurations for online as well as offline recording and analysis.</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		1	
5	<p>High Speed Acquisition system:</p> <p>The 15T Teaching System offers a dual Bio Amp, an isolated stimulator, two Inputs (DIN) and two independent analog outputs (non-isolated). The Pulse Transducer, Stimulating Bar Electrode, Shielded Bio Amp Cable and Shielded Lead Wires. It uses a USB interface for connection to Windows and Mac OS computers and has an aggregate sampling rate of 400k samples/s (100k samples/s per channel). (The Bio Amp and Isolated Stimulator are certified safe for human connection, BF rated).</p> <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>		4	

6	Adjustable Micropipette 5 – 50		1	
7	Adjustable Micropipette 50 – 200		1	
8	Centrifuge Machine Digital TABLE - TOPCENTRIFUGE CE ISO 9001 , ISO 14001 MAX. RPM : 5,500 RPM MAX RCF : 5,580 XG MAX CAPACITY : 480 ML 15 ML X 32 TUBES POWER : 220V 6A 1.5 KW 50Hz. Country of origin: USA, Japan, Europe or equivalent		1	
9	Burner		8	
10	Barometer		5	
11	E.S.R stand		15	
12	Spirometer Compact Full Size Color Touch Screen Only Autocalveable Flow Head Flow Detection by Fleisch type pneumotachograph Back Pressure Should be Less than 0.1kPa/L/second @ 14L/s, complies with ATS/ERS 2005 USB x 4, Serial x 2, Ethernet x2, DVI Ports should be included Over 50 Test Parameters Scalable volume/time & flow/volume curves using single-breath or multi-breath spirometry Automatic and scalable FEV ₁ trend chart view as subject is selected prior to testing, designed to reflect the trend of FEV ₁ over the lifetime of the subject Choice of child incentives with sound effects and transparency so that real-time curves are simultaneously viewable Pre-post Spirometry comparison for bronchodilator or longer-acting treatments User selection from a choice of over 50 test		2	
13	Western Green Tubes		15	
14	Glass Test Tubes		100	

15	Test Tub stands		20	
16	Neubar Chamber 0.0025mm ²		10	
17	RBC Pipette		10	
18	WBC Pipette		15	
19	Snellen's Chart(Eye)		10	
20	Meter rod		10	
21	Sphygmomanometer		10	
22	Stethoscope		15	
23	Sahli's haemometer		10	
24	Spirometer Kit (Mouth piece, filter and nose clips)		2	
25	<p>Perimeter With Object</p> <p>Subject fixes eyes at midpoint in the perimeter's semicircular while experimenter moves a pointer to identified by subject at his / her visual periphery. This device is used to map areas of the retina sensitive to different colored stimuli.</p> <p>Stand perimeter with semicircular perimeter device with fixation point, five targets (blue, green, yellow, red, and white), a wand for presenting targets, five right eye charts, five left eye charts, and stand</p> <p>Country of origin: USA, Europe, Japan or equivalent</p>		2	
26	<p>ECG machine</p> <p>Country of origin: USA, Japan, Europe or equivalent</p>		1	
27	Ultrasonic Water Bath 3 Lit.		2	
28	Whatman Filter paper		1	
29	Antiserum A B & D (Complete Set)		5	

30	Histology Slides (Basic)		1	
31	Weight Machine		2	
32	Set of Teachings Aids Including Charts, Models CDs & Functional Simulator on Basic Medical Sciences. Country of origin: USA, Europe, Japan or equivalent		I Set	
33	Bio-Assay System Complete. The system should be complete with hardware, software, experimental protocols, handouts, and all accessories. It should include Single Chamber Organ Bath with a 25 mL tissue bath along with data acquisition Teaching System with a dual Bio Amp, an isolated stimulator analog outputs (non-isolated). A compatible recording unit with +2 mV to +10 V Ranges, a sampling rate of 200 KHz, 24 bit resolution and software based online/offline analysis of force waveforms with calculation of slopes, indices and time intervals and with storing and printing facility of the recorded data. The software should automatically generate instantaneous Hill curves, displays single or multiple response curves, calculates EC50 and Hill slopes. Compatible force transducers should be supplied range be in between (0-50gms) . It should allow free export/import in third party software (Excel, Graph-pad Prism, Matlab etc.). Easy file sharing option free of cost. Manufacturer should be ISO & CE Certified with all standard certifications. Country of origin: USA, UK, Europe, Australia or equivalent		2	
34	Continuous Non-Invasive BP Monitoring System For Humans		1	

	<ul style="list-style-type: none"> • The system should be able to record and analyze. • Pulse, respiration, airflow, blood pressure, GSR, temperature, Heart Rate Variability [HRV] • ECG recording with multi-leads, phonocardiogram to record heart sounds and correlate the sound with the electrical events of the cardiac cycle. VCG (Cardiac Axis analysis) • Blood pressure monitoring in Human with Systolic, Diastolic and other hemodynamic parameters. • Dynamometer to study handgrip strength profile with balance board for static petrography studies. • Non Invasive Tono meter for Vascular function Testing • Goniometry, Tandon Hammer, Stimulating electrodes for reflex, reaction action experiments. <p>Specifications:</p> <ul style="list-style-type: none"> • Number of channel : 8 channels Data Acquisition system • Range: - +2 mV to +10 V and Sampling rate of 400 KHz (aggregate speed), • ADC resolution = 16 bits on all gain ranges and variable sampling speed on each channel with continuously record and display up to 32 channels of data. • Transducers:- Pressure, Plethysmography, Respiration, Pulse, Surface Temperature probe, Biopotential, GSR Electrodes, Non-Invasive tonometer , hand dynamometer and wireless Heart rate kit, variability and other accessories for the measurement of the above parameters. • Software:- It should have various automatic analysis modules for ECG, HRV, Blood Pressure, Metabolic studies, Cardiac output, Peak analysis, spike histogram etc. • Online & offline analysis with various export options like Binary, Axon, IGOR, MATLAB, Excel, Graph Pad Prism, QuickTime, Wav, Text etc. • Online recorded data & analysis streaming to Excel & Mat Lab • The software should have step by step instructions, protocol and experimental design for performing various experiments in physiology teaching applications. Also should have sample data for animal experiments for demonstrating to the students. • The software should provide an easy file 			
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	<p>sharing option to a distant user with-out involving any cost with a 5 year of free updates and upgrade.</p> <ul style="list-style-type: none"> • Computer: Intel Core i5, Genuine Windows 7 professional, 21.5 — Full HD Widescreen Flat LED Monitor, 4GB RAM, 500GB SATA Hard Drive, DVD. Facility for internet connectivity, Laser printer and UPS with 20 minutes back up for whole system required • Optional Items:-Electric Tilt table & Non Invasive beat to beat Blood Pressure Monitor, compatible with data acquisition system& Software for analysis to be quoted separately. • Documentations:-CE, ISO and other safety certificates must be provided. • Proper Demonstrations to be carried out before finalizing. <p>Country of origin: USA, UK, Europe, Australia or equivalent</p>			
35	<p>For memory testing The Tail Suspension Test instrument.</p> <p>The Tail Suspension Test instrument includes unique features such as the randomization process of the animals, the measurement of up to 6 animals in the same run, the direct computations of the “Immobility”, the “ENERGY” and the “Power in Motion”. Settings should available to adjust the definitions to user’s protocol. The energy value is a unique way to differentiate between passive swinging and active struggling The system includes.</p> <p>The suspension cages (3 mice per cage) and a user-friendly software to run, record, analyze and replay the experiments. The results are either printed or stored in .txt or.xls files formats. Set of 3 boxes, including transducers and electronic elements Material Composition Black and white pex, metal hook Computer Requirements Windows XP, Windows 7 (32 bits).</p>		1	

	Country of origin: USA, UK, Europe, Australia or equivalent			
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Note: each section of equipment must be quoted all items (uncomplete quoted section will not be entertained/ considered)

SECTION E

SR#	Name of Instruments	Unit Price	Qty	Total Price In
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		in C&F		C&F
1	<p>Tablet Hardness Tester</p> <p>Hardness tester should combines the economy of a simple easy to use tester with the performance and accuracy of microprocessor controlled data collection.</p> <p>Foremost in the design specification were those features that you, the user, identified as being essential to the “ideal” hardness tester.</p> <p>You told us, for example, that the unit must be as compact as possible such that it could be used in the confines of the tablet press booth. So, we made it compact.</p> <p>Country of origin: USA, Europe or Equivalent</p>		1	
2	<p>Friability Test Apparatus</p> <p>The equipment should comprise of a drum and a motor capable of rotating the drum at 25 rpm. The standard friability drum has an inside diameter of 287 mm and a depth of 38 mm and is fitted with a curved baffle which subjects the tablets to be tested to a drop of 156 mm.</p> <p>The sample (normally 10 tablets) to be tested is first weighed and then placed into the drum. The drum is then rotated 100 times, any loose dust from the sample removed and the sample re-weighed.</p> <p>The Friability of the sample is given in terms of % weight loss (loss in weight expressed as a percentage of the original sample weight). A maximum weight loss of not more than 1% is considered acceptable for most tablets.</p> <p>Country of origin: USA, Japan, Europe or Equivalent</p>		1	
3	<p>Dissolution Apparatus 6 Basket</p> <p>Tablet Dissolution Tester should be have Six stirred test vessels and simple, easy to use controls. It is ideal for both R&D and routine quality control applications. In common with the rest of the series has been specifically designed to reduce clutter and maximise visibility and access in the critical sampling area above the water bath. equipped must be precision ground shafts that will accept any of the baskets, paddles or rotating cylinders described in</p>		1	

	<p>the Pharmacopoeia and are supplied with USP/Ph.Eur. compliant vessels featuring the unique “Easy-Centre” system to ensure that the vessels are perfectly centred every time.</p> <p>Individual clutches enable each individual basket/paddle to be raised, lowered or engaged independent of the drive head. With Calibration tool kit.</p> <p>Country of origin: USA, Japan, Europe or Equivalent</p>			
4	<p>Disintegration Apparatus Double Single Basket</p> <p>Sturdy, robust design including novel “quick release” basket(s), one-piece water bath and independent digital heater/circulator</p> <p>Country of origin: USA, Japan, Europe or Equivalent</p>		1	
5	<p>Multi Function Pharmaceutical Experimental Machine</p> <p>Along with following Accessories .</p> <p>1-Couple gear</p> <p>2-Trough type mixer</p> <p>3-Sugar Coating Machine</p> <p>4-Cube Mixer</p> <p>5-Drum Hoop Mixer</p> <p>6-V-Type Mixer</p> <p>7-Oscillating granulator</p> <p>8- Slot Mixer</p> <p>Country of origin: China or Equivalent</p>		1	
6	<p>Syrup Filling Machine</p> <p>Material contact parts are made of 316L stainless steel material, meet the requirements of GMP.</p> <p>Filling volume and filling speed can be adjusted, and high filling accuracy.</p> <p>Filling head adopts anti drip and lifting filling device.</p> <p>Air pressure: 0.4-0.6MPa</p> <p>Power: 10W</p>		1	

	Power source: 220/110V, 50/60Hz The filling speed: 10-30 bottles / minute Filling accuracy: $\leq \pm 1$ Optional models: 5-60ml Country of origin: China or Equivalent			
7	Ointment Filling Machine Physilab ointment cream filling machine Electrically operated. Suitable to fill tubes, bottles etc in the range of 5gms to 90gms. Per stroke, Motorised operated (motor 1/2 hp or dc geared motor) the unit is supplied complete with 3 set of standard Nozzles and all electrical accessories in the motorized models. Country of origin: China or Equivalent		1	
8	Ball mill Country of origin: China or Equivalent		1	
9	Single Punch Tablet Country of origin: China or Equivalent		1	
10	Capsule filling Country of origin: China or Equivalent		1	
11	Filling and Sealing Country of origin: China or Equivalent		1	

12	Tipple Roller Mixer Country of origin: China or Equivalent		1	
13	Try Dryer Country of origin: China or Equivalent		1	
14	Boatel feeling and capping machine Country of origin: China or Equivalent		1	
15	Single Punch Tablet Machine Country of origin: China or Equivalent			

Note: each section of equipment must be quoted all items (uncomplete quoted section will not be entertained/ considered)

SECTION F

Requirements of Chemical & Glassware

Chemical

S. No.	Chemicals	Unit price in C&F	Quantity	Total Price In C&F
1.	Ammonia		10 L	
2.	Ammonium chloride		1 Kg	
3.	Acetic acid		15 L	
4.	Acetyl salicylic acid		1.5 Kg	
5.	Acetone		10 L	
6.	Atropine sulphate		10 gm	
7.	Anise oil		1 Lb	
8.	Aniline		2 L	
9.	Acetanilide		½ Kg	
10.	Aluminium chloride		½ Kg	
11.	Acetyl chloride		1 L	
12.	Acriflavine		1 Pack	
13.	Acetamide		½ Kg	
14.	4-amino phenol		150 gm	
15.	Acetophenone		1 L	
16.	Aspartic acid		50 gm	
17.	4-amino benzoic acid		100 gm	
18.	2-acetyl salicylic acid		½ Kg	
19.	Amm. Bicarbonate		1 kg	
20.	Ammonium molybdate		½ Kg	

21.	Amaranth		1 kg	
22.	Accacia gum		5 Kg	
23.	Acid fuchsin ind.		100 ml	
24.	Anthrone		25 gm	
25.	Arabinose		10 gm	
26.	Adipic acid		½ kg	
27.	Aluminium hydroxide		½ kg	
28.	Ascorbic acid		½ kg	
29.	Arginine		50 gm	
30.	Albumin(bovine)		200 gm	
31.	Anthracene		1000 gm	
32.	Acetyl choline		10 gm	
33.	Aspirin power		1 Kg	
34.	Alanine		15 Gm	
35.	Aluminium sulphate		1 gm	
36.	Amyl alcohol		1 L	
37.	Amm iron II sulphate		½ kg	
38.	Asparagines		10 gm	
39.	Citric acid		½ kg	
40.	Crystal violet		50 gm	
41.	Calcium chloride		1 Kg	
42.	Creatinine		10 gm	
43.	Ceric amm sulphate		10 gm	
44.	Cystine		10 gm	
45.	Capillary tube		5 Packet	
46.	Celite powder		½ kg	

47.	Di oxane		1 L	
48.	Ethyl acetate		2 L	
49.	Ethanol		5 L	
50.	Emyluesifing wax		½ kg	
51.	Glucose		5 kg	
52.	Glactose		½ kg	
53.	Giemsa stain		200 ml	
54.	Glutamine		200 ml	
55.	Glass wool		1 kg	
56.	Glass slide		20 packs	
57.	Glass cover slip		20 packs	
58.	Hydro chloric acid		4 L	
59.	Hydroquinone		½ kg	
60.	Heavy kaoline		2 kg	
61.	Histidine		25 gm	
62.	Iodine		½ kg	
63.	Kiesulgahr		10 pack	
64.	Litmus paper blue		10 pack	
65.	Litmusb paper red		25 gm	
66.	Litmus blue powder		25 gm	
67.	Malic acid		½ kg	
68.	Malonic acid		200 gm	
69.	Maleic acid		½ kg	
70.	Methanol		5 L	
71.	Maltose		½ kg	
72.	Malachite green		25 gm	

73.	Mercuric acetate		100 gm	
74.	Methyl blue		25 gm	
75.	Methyl cellulose(20)		4 kg	
76.	Methyl hydroxyl benzoate		½ kg	
77.	Mercuric chloride		200 gm	
78.	Magnesium chloride		½ kg	
79.	Methyl salicylate		3 L	
80.	Magnesium tri salicate		½ kg	
81.	Methyl acetate		1 L	
82.	Methionine		25 gm	
83.	Menthol		200 gm	
84.	Magnesium stearate powder		1 kg	
85.	Pot.dichromate		½ kg	
86.	Pot.permaganate		½ kg	
87.	Pyridine		1 L	
88.	Phenol red		25 gm	
89.	Phenolphthalein		200 gm	
90.	Paraffin oil		5 L	
91.	Pot. Iodide		½ kg	
92.	Phenyl hydrazine hydro chloride		200 gm:	
93.	Pot. hydrogen phosphate		½ kg	
94.	Pot. Meta bi sulphate		100 gm	
95.	Pthalic anhydride		200 gm	
96.	Pyrocatechol		½ kg	
97.	Phenol		½ kg	
98.	Pot.Hydride		½ kg	

99.	Petroleum ether		1.5 L	
100	Pot.chloride		2 kg	
101	Paraffin soft		2 kg	
102	Paraffin hard		2 kg	
103	Benzyl chloride		1 L	

Glassware

S. No.	Items	Unit Price in C&F	Quantity	Total Price In C&F
1.	3-neck R. B. flask (100 & 250 ml)		10	
2.	Air condenser		10	
3.	Air steam inlet tube		25	
4.	Buchner filter funnel		10	
5.	Buchner funnel		05	
6.	Burettes Borosilicate glass		08	
7.	China crucible		08	
8.	China dish		15	
9.	Condenser		10	
10.	Cone MF 15/2		10	
11.	Cone MF 15/1		10	
12.	Conical Flask Flat Bottom (Various Capacities)		25	
13.	Desiccator		05	
14.	Desiccator plates		08	
15.	Drying tube bent		10	
16.	ESR westergren tube		10	
17.	Filter flask		10	
18.	Funnels		15	
19.	Gas washing bottle		15	
20.	Glass cover slip		5 pack	
21.	Glass slide plain		5 pack	
22.	Gloves		20	
23.	Graduated Cylinder (Various capacities)		20	

24.	Graduated pipette		15	
25.	Graduated pipettes, Pyrex (Various capacities)		15	
26.	Hollow stopper		10	
27.	Iron stand clamp		08	
28.	Liebig condenser		08	
29.	Magnetic stirrer bar		05	
30.	Markham still		08	
31.	Melting point apparatus		08	
32.	Micro Pipettes Adjustable		08	
33.	Multiple adapter		08	
34.	Pestle & mortar		08	
35.	Petri dish		25	
36.	Pycnometer		15	
37.	Pipette filter		15	
38.	R.B.C pipette		15	
39.	R. B. flask		15	
40.	R. flask		15	
41.	Reagent bottle		50	
42.	Receiver adopter		15	
43.	Receiver bend with vent		15	
44.	Receiving flask		10	
45.	Round Bottom Flask (Various capacities)		15	
46.	Socket		10	
47.	Soxhlet apparatus		08	

48.	Spatula		10	
49.	Spatula small steel		10	
50.	Stop cork assembly		10	
51.	Syringe disposable		05 pack	
52.	Test Tube 1/ 1000		05 Pack	
53.	Volumetric Flasks Glass (Various capacities)		05 each	
54.	W.B.C. pipette		10	
55.	Water taps		10	
56.	Capillary tube		05 pack	
57.	Fusion tube		05	
58.	Test tube (5 ml & 25 ml)		05 pack each	
59.	Funnel plane angle (60 mm & 80 mm)		10	
60.	Thermometer (100 C/ 110 C, 360C & 340C)		05 each	
61.	Water distillation plants (Electric)		1 minimum	
62.	Beaker (50, 100, 250, 1000 & 2000 ml)		10 each	
63.	Separating funnel (100 ml & 250 ml)		05 each	
64.	Funnel plain (100 ml)		05 each	
65.	Measuring flask (50, 100, 250, 500 & 1000ml)		05 each	
66.	Volumetric pipette (10 & 20 ml)		05 each	
67.	Titration flask (50, 100 & 250 ml)		05 each	
68.	Burette (10 & 50 ml)		05 each	

69.	Measuring cylinder (10,50,100 &250 ml)		05 each	
70.	Condenser (14/23,19/26 & 24/29)		05 each	
71.	Round bottom flask (50,100 &1000 ml)		05 each	
72.	3-neck round bottom flask (100 & 250 ml)		05 each	
73.	Receiving flask (50,100 & 250 ml)		05 each	
74.	Desiccator (140,200 mm, 150 ml)		02 each	
75.	Desiccator plate		05	
76.	Pycnometer (10,25 & 50 ml)		05 each	
77.	Glass washing bottles (250 ml)		08 each	
78.	Cone MF 15/1 and 15/2 (14/23, 19/26)		08 each	
79.	Dropping bottle (125 ml)		08 each	
80.	Viscometer		08	
81.	Watch glass (2 inch & 3 inch)		20 each	
82.	Glass slide plain		05 Pack	
83.	Glass cover slip		05 Pack	
84.	Petri dish (4 inch)		10	
85.	Iodine flask (250 ml)		10	
86.	Neubauer's chamber		10	
87.	Air condenser (C2/11,C2/12)		10	
88.	Glass tile		10	
89.	Safety glasses		10	

90.	Flat bottom flask (5 L)		05	
91.	Rotational viscometer		05	
92.	Micro pipette		10	
93.	Wall thermometer		02	
94.	Depression slide		10	
95.	Colony counter		1	
96.	Filtration assembly		2	
97.	Distillation apparatus glass		4	
98.	Glass vials		25	