**Section 6. Schedule of Requirements**

**Supply of equipment’s for Annual procurement of Goods for Practical Classes and Research, Students of Institute of Leather Engineering & Technology, University of Dhaka.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sl.**  **No** | **Name of the Items Description** | **Quantity** | **Unit** | **Unit Rate** | **Total Amount** |
| 1 | **Vortex Mixer Features**  Speed adjustable from 0-2500rpm. Includes Ø30mm tube capacity standard cup adapter. 3 position power switch with touch/continuous modes of operation. Wide range of accessories available. Shaded pole motor for low maintenance. Good corrosion resistant aluminum alloy casing exterior. Small rubber vacuum grippers hold the unit during operation. LED lamp indicator of power. Specifications  Voltage: 100-120V/200-240V,50/60Hz Power: 60W Mixing motion: Orbital Orbital diameter: 4mm Motor type: Shaded pole motor Motor rating input: 58W Motor rating output: 10W Speed range: 0-2500rpm Speed display: Scale Run type: Touch operation/Continuous Dimension[W×H×D]: 127×130×160mm Weight: 3.5kg Permissible ambient temperature: 5-40o C Permissible relative humidity: 80%RH Protection class: IP21  **Country of origin:** EU/USA/UK/Korea/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 2 | **Digital Overhead Stirrer** SpecificationsMax. Stirring Capacity: 20L Motor Input: 60W Motor Output: 50W Speed Range: 50~2200rpm Speed Display: LED Max. Torque: 40N×cm Overload Protection: Visual alarm, motor automatic stop Max. Viscosity: 10000mPa-s Chuck Diameter Range: 0.5-10mm Protection Type: IP21 Working Environment: 5~40°C, 80%RH Power Consumption: 70W Power Supply: 220V±10%» 50/60HZ External Size(W×D×H): 83×186×220mm  **Origin:** **Country of origin:** EU / USA / UK / Korea / Japan / Taiwan / Equivalent. |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pcs |  |  |
| 3 | **Forced Convection Drying Oven Features:**  - With TurboFan and ON/OFF function. - Internal observation is possible through the viewing window - Stainless Steel Internal Chamber with shelves - Excellent temperature uniformity and accuracy Specification  Air Circulation type: Forced Temp Range: Ambient +10℃ to 250℃ (Ambient +18℉ to 482℉) Temp&Time controller: Microprocess PID controller Heater Capa: 1600 W Dimension Internal (W×D×H): 480×400×530mm 18.90x15.75x20.87 Dimension External (W×D×H): 635x570x905mm 25.00x22.44x35.63' Weight: 100 L Capacity: 100 L Material Internal: Stainless Steel Material External: teel Plate With Powder Heating Coated Shelves: 2 Supplied (12 Maximum) Fan Position: Bottom Electrical Requirements 120V ,50/60Hz, 1Φ: 14.5 A  **Country of origin:** EU/USA/UK/Korea/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pcs |  |  |
| 4 | **Thermostatic Shaking Incubator Features:** \*High quality servo motor. \* Multi-steps rotate speed, temperature and time control systems. \*Slow accelerate and decelerate design. \*Advantaged air duct design. \*Automatic defrosting function. \* High-precision speed control. \*High-precision temperature control. \*Open door protection. \* LCD display with bright illumination. \* Memorized and protected operating parameters. \*Function of encrypted and locked operating parameters. \*Continuously running or timing. \* Unique slow-start design. \*Optional of illumination and UV light. Specifications Controller: PID, Display: LCD, Circulation Mode: Forced convection Shaking Mode: Rotary Shaking, Drive Mode: Unidimensional drive Temp. Range: RT+5~65℃, Temp: Accuracy ±0.1℃ Temp. Uniformity: ±0.5℃(at 37℃), Rotating Speed 20-450(r/min) Rotating Speed: 20-450(r/min), Rotating Accuracy: ±1(r/min) Vibration Range: 26mm, Timing Range: 0-9999h/min Shaking Plate Size: 450×410mm, Standard: Capacity 100ml×4, 250ml×3, 500ml×3 Max. Capacity: 100ml×23 or 250ml×15 or 500ml×9, External Size(mm): 750×710×520 Auxiliary Function: Ultra-low speed start, adjustable start speed, monitoring timer, parameter memory, upper and lower limits of over-temperature acousto-optic alarm, while opening the door automatically stop, monitoring temperature and environmental temperature for correction, Consumption: 550W, Power Supply: Standard: AC220±10%, 50/60Hz; Optional:110V±10%, 60Hz, Internal Material: Stainless steel, External Material: Stainless steel, Package Size: 881×875×715mm, Gross Weight: 110kg  **Country of origin:** EU/USA/UK/Korea/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pcs |  |  |
| 5 | **UV-VIS Spectrophotometer Features:**  High performance fixed 2nm spectral bandwidth. Low stray light 0.05% . Wavelength accuracy +/- 1nm . Holographic blazed grating 1200lines/mm. Local control software for photometric fixed wavelength measurement. Easily upgraded to include quantitative analysis, multi wavelength spectrum & kinetics. Built in cell holder storage. Robust modular design with a small footprint. Can be used with UV-WIN software  Specification  Selectable: Selectable, Wavelength range: 190 -1100nm Wavelength accuracy: ±1nm, Wavelength reproducibility: ≤ 0.2nm Spectral bandwidth: 2nm, Photometric mode: Transmittance, Absorbance,  Photometric range: -0.3-3.0Abs, Photometric accuracy: 0.002A (0-0.5A), 0.004A (0.5 -1A) 0.3%T (0 -100%T), Photometric reproducibility: 0.001A (0 - 0.5A), 0.002A (0.5 -1A) 0.15%T (0 -100%T), Photometric noise: 0.001A (500nm) 30min warm-up Baseline flatness: 0.002A (200 -1000nm), Baseline stability: 0.001A/h (500nm,0Abs), 2hr warm-up, Stray light: ≤ 0.05%T (220nm Nal, 340nm NaNO2 Standard Functionality: Photometric Measurement Photometric & Quantitative (Quantitative, Multi-wavelength, Measurement Spectrum and Kinetic  Detector: Silicon photo diode, Light source: tungsten Halogen and, Deuterium arc lamps Display: Digital LCD display, PC Interface: RS232, Software support: Local and UV-Win, Power supply: Switch mode 95 - 250VAC 50 - 60Hz, Weight: 11kg Dimension (Width, Depth, Height): 476(mm), 362(mm), 225(mm) Warranty: Two years service warranty  **Country of origin:** EU/USA/UK/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 6 | **High Speed Mini Centrifuge Features:** Large LCD display with intuitive menu for quick and easy operational settings. Compact in structure and requires only a small foot print space. Maintenance free rotor with a powerful centrifugal force of 15100xg and max. speed of 15000rpm. High efficiency BLDC motor quickly accelerates the rotor to set speed. Precise rotation speed and quiet operation with noise level ≤45dB. D2012 Plus passed the rigorous explosion-proof test and accredited with CE, cTUVus, FCC certificates, and MCA test. MCA test according to IEC/EN61010-2-20. Specifications Max. Speed: 15000rpm(500-15000rpm), increment: 100rpm Max. RCF: 15100×g, increment: 100×g Speed Accuracy: ±20rpm Rotor Capacity: 1.5mL/2mL×12 Run Time: 30sec-99min/Continuous Driving Motor: Brushless DC motor Safety Devices: Door interlock, Over-speed detection, Over-temperature detection, Automatic internal diagnosis Power: ingle-phase, AC100V-240V, 50Hz/60Hz, 3A 100W Noise level: ≤54dB Acceleration Braking time: 11s↑/9s ↓ Dimension[D×W×H]: 255×245×140mm Weight: 6kg  **Country of origin:** EU / USA / UK / Korea / Japan / Taiwan / Equivalent. |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 7 | **Circulating Water Bath Features:**  -Excellent temperature accuracy by Digital Control - Circulation Motor allows excellent temperature distribution - External circulation port (possible to connect with an external device) - Stainless Steel internal bath - Safety assurance with C.E. conformity Specifications  Temp Range: Ambient +5℃ to 99℃ (Ambient + 9℉ to 210℉) Temp Controller: Digital PID Controller Time Range: 00.00 to 99HR 59MIN (MIN SEC) Selectable Digital Display Capacity: 21.8 L, Heater Capa: 800 W Dimension Internal (W×D×H ): 290x500x150mm 11.42x19.69x5.90'' Dimension External(W×D×H ): 335x600x470mm13.18x23.62x18.05'' Top Open: 9.45x4.88'', (WxD): 10 Kg Material Internal: Stainless Steel Material External: Steel Plate with Powder Heating Coated Electrical Requirements: 230v ,50/60Hz, 1Φ  **Country of origin:** EU/USA/UK/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 8 | **Trinocular Microscope With Camera**  **Highlights** Microscopes for research and laboratories, • Monocular, binocular and trinocular models  • Digital models available, • HWF 10x/20 mm eyepieces, • Reversed ball-beared quadruple or quintuple nosepiece with slot for polarization filter, • E-plan, Plan, E-plan IOS and Plan IOS objectives, • E-plan Phase, E-plan Phase IOS, Plan Phase IOS objectives, • Rackless integrated X-Y mechanical stage, • 3 W NeoLED™ adjustable illumination system, • Integrated carrying grip, • Cable Storage System  EYEPIECE (S) High wide field HWF 10x/20 mm secured eyepiece(s) with 20 mm field of view. The eyepiece of monocular models is supplied with pointer  Specifications  (BS.1153-EPLi, Euromex): Sensor CMOS 1/2.3 inch, Pixels 3584 x 2746 pixels, 10.0 Mpix, Scan mode Progressive, rolling shutter, Pixel size 1.67 μm x 1.67 μm, Filter RGB, Mount C-mount  Max fps Up to 10 frames per second (3584 x 2746 pixels) Up to 25 frames per second (1792 x 1372 pixels), White balance Automatic/manual, Dynamic range 63.5 db  S/N max 35.5 db, Data interface USB 3.0 high speed, Operation 0 – 50°C, 30-80 % humidity, Storage temperature -20 to 60° Celsius, Power supply 5V over PC USB port  Housing Integrated CNC aluminum alloy, Supplied with 0.5x objective with C-mount, USB 3 cable, 30 and 30.5 mm adapters for stereomicroscopes, 76 x 24 mm calibration slide (1mm/100), CD ROM with ImageFocus Alpha software, carton box Software: Supplied with ImageFocus Alpha capture and measuring software For Win XP (32bit), Vista/ 7/ 8/ 10 (32 and 64 bit configurations) PC requirements: Compatible with Intel Core 2, 2.8 GHZ or higher, 2GB, USB-3 high speed  **Country of origin:** EU/USA/UK/Korea/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 9 | **Digital Compound Microscope with Camera 5 Mega Pixels**  Specifications Total magnification: 40X-100X-250X-400X-1000X-2500X Eyepieces: wide field WF10X and WF25X, Objective: achromatic DIN 4X, 10X, 40X(S), 100X(S, Oil), Viewing head: 45°Inclined 360°swiveling trinocular Sliding adjustable interpupillary distance: 2-3/16&quot; ~ 2-15/16&quot;(55~75mm) Ocular diopter adjustable on both eyetubes, Nosepiece: revolving quadruple Stage: mechanical double layer size: 4-1/2&quot;x 4-15/16&quot; (115mm x 125mm) Stage x-y stroke (travel range): 2-13/16&quot; x 1-3/16&quot; (70mm x 30mm) Condenser &amp; diaphragm: NA1.25 Abbe condenser with iris diaphragm Transmitted (lower) illuminator: LED light, intensity adjustable Focus adjustment: Coaxial coarse &amp; fine knobs on both sides All metal mechanical components, Power supply: AC/DC adapter, 100V-240V (UL approved), Digital camera: Digital Camera- true color 2592x1944 pixels (5M pixels) - 0.5X reduction lens to get larger field of view - 0.01 mm calibration slide: 1mm/100 division - Frame speed: 5fps at 2592x1944, 18fps at 1280x960, 60fps at 640x480 - Software compatible with Windows XP/Vista/ 7 (32/64-bit), Mac OS and Linux operating system - Capturing microscope images, recording live video, measuring lengths, angles, areas, editing images - USB2.0 cable included, Dimension: 9-1/16&quot; x 7-1/8&quot; x 14-1/4&quot; (23cm x 18cm x 36cm), Package weight: 11 lbs (5 kg) 2 High Speed Centrifuge Machine,  **Country of origin:** EU/USA/UK/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 10 | **Infrared Sterilizer (Micro incinerator) Features:** ＊Safe and convenient, can completely replace alcohol lamp. ＊Small size, light weight, beautiful appearance and easy to clean. ＊The heater can be arbitrarily adjusted at an elevation angle of 30°and a depression angle of 45°. ＊The highest temperature is 930℃+ 30℃, sterilization need only 2-5 seconds, can be completed quickly. ＊Heating is divided into low temperature range and high temperature range. ＊Ceramic tube heating parts are made of high quality 95 porcelain: high wear resistance, corrosion resistance, high temperature resistance and water repellency. Technical Specifications Heating caliber(mm): φ26 Sterilizable caliber(mm): ≤φ15 Max temp./standby temp: 930±30℃/600℃ Working Environment: Temp. Range: -10℃~40℃ Humidity: ≤95% Fuse: 250V; 2A;φ5×20 Consumption: 150W Power Supply: AC110/220V±10%, 50Hz Package Size(W×D×H)mm: 290×200×110 Net Weight(kg)/Gross Weight(kg): 1.3/1.5  **Country of origin:** EU/USA/UK/Korea/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pc |  |  |
| 11 | **Multiparameter (waterproof meter)**  **Specifications:** Provides multipara meter measurement in a compact and rugged IP67 waterproof enclosure. Ideal for demanding application, this meter features our rugged, quick connect multi-function probe with field replaceable sensors. Measures pH/mV, ORP, Conductivity, TDS, Resistivity, Salinity, Seawater, Dissolved Oxygen, Atmospheric Pressure and Temperature. Also available in 10m, 20m and 40m cables. See table below for details. Prices will vary. A backlit, graphic LCD provides easy to read resolution even in low-lit areas. A combination of dedicated and soft keys allows easy, intuitive operation in a choice of languages. HI-98194 allows users to store up to 45,000 continuous or log-on demand samples with logging intervals from one second to three hours. Logged data can be later transferred to a PC with the HI-920015 micro USB cable and Hanna software. pH/mV Range 0.00 to 14.00 pH/± 600.0 mV Resolution 0.01 pH/ 0.1 mV Accuracy ±0.02 pH/ ±0.5 mV Calibration automatic one, two or three points with automatic recognition of five standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or one custom buffer ORP Range ±2000.0 mV ORP Resolution 0.1 mV ORP Accuracy ±1.0 mV ORP Calibration automatic at one custom point (relative mV) EC Range 0 to 200 mS/cm (absolute EC up to 400 mS/cm) Temperature Range -5.00 to 55.00°C  **Country of origin:** EU/USA/UK/Korea/Japan/Equivalent |  |  |  |  |
|  | **Brand must be mentioned by the bidder:** |  |  |  |  |
|  |  | 1 | Pcs |  |  |
| **Total Taka =** | | | | |  |

In Word:

Sd/-

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Signature of the Contractor Executive Engineer-Elect (Zone-1/Kha)

Address- University of Dhaka

This Schedule of Requirements contains [insert number] corrections duly initialled and signed by the.Tenderer

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Note

1. It is suggested that the Tenderer uses these sheets of the Schedule of Requirements in order to avoid any manipulation, distortion and inadvertent mistakes or omissions in course of preparing the Tender by the Tenderer

2. Tenderer’s profit, overheads, VAT and all other charges including corresponding incidental service charges for banking shall be deemed included in all the unit rates and prices in the Schedule of Requirements against each basic item or activity and, thus forth the total Tender Price quoted by the Tenderers.

3. Follow the Guidance notes under Section 6 in filling this Schedule