

# MOUNT ZION COLLEGE OF ENGINEERING AND TECHNOLOGY

Tender Ref. No: MZCET/IDEA LAB/Tender/01

Date:04.09.2025

## Tender Notice

Sealed/Online tenders are invited from reputed and experienced suppliers, manufacturers, or authorized distributors for the **supply, installation, and commissioning of equipment, tools, and machines** for setting up an **AICTE IDEA Lab** at our institute. The laboratory is to be developed as per the AICTE guidelines for promoting innovation, design thinking, and prototyping skills among students and faculty. The detailed specifications of the required items are enclosed with this document.

| Sr. No | Equipments               | Preferred brands if any                                            | Specifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qty |
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| 1      | Single Nozzle 3D printer | Branded Company Product with at least three years product warranty | Printing Technology: Fused Filament Fabrication (FFF) or Fused Deposition Modeling (FDM).<br>Printable Area: The minimum printable area should be at least 310 x 310 x 310 mm or above<br>Printer Design: Core XY or Cartesian.<br>Temperature Range:<br>Hot end: Up to 300°C or above<br>Heat bed: Up to 120°C. or above.<br>Nozzle: Compatible with All polymers, 0.4, 0.6 and 0.8mm<br>Steel Sheet: Provided with satin or smooth PEI surface.<br>Filament Diameter: 1.75mm (supports PLA, PETG, ASA, ABS, etc.).<br>Extruder: Gearbox with 1/10 ratio, Speed : 550 MM/Sec or above<br>Stepper Drivers for smooth motion. or equivalent<br>Stepper Motors: Choose between 1.8° or precise 0.9° X, Y stepper motors.<br>LCD Screen: 3.5" graphic 65k color screen or larger.<br>Connectivity: USB drive, LAN, or internet.<br>Supported Materials: PLA, PETG, ASA, ABS, PP, PC, flexible filaments, and more.<br>Wi-Fi Module: Built-in (network connectivity not required for setup or operation).<br>Compatibility: Windows, macOS, Linux.<br>Printer Dimensions: The maximum physical dimensions of the system 700 X 700 X 700 or above. Fully enclosed Machine. | 1   |

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| 2 | PCB Milling Machine                   | Branded Company Product with at least three years product warranty | <p>Cuttable Materials: Modeling Wax, Chemical Wood, Foam, Acrylic, Poly Acetate, ABS, PCB, Copper glad, etc<br/>Table Size: 225 (X) × 150 (Y) mm or more</p> <p>Drive System: Stepping Motor (X, Y, Z Axis)<br/>Operating Speed: 800 mm/min<br/>Software Resolution: 0.01 mm/step<br/>Position accuracy : 0.01 to 0.02 mm<br/>Max Travel Speed (mm/sec)-58 (2.28 ")<br/>Drilling (mm)-0.2 -3.175 (8-125 mil)<br/>Maximum Drilling Cycles/ Min-50</p> <p>Spindle Motor: DC Motor Type 380 or More<br/>Spindle Speed: Adjustable 20,000 and above rpm or more<br/>Tool Chuck Type: Collet<br/>Interface: USB or cable<br/>Control Commands: RML-1, NC code<br/>Power Supply: DC 24V, 2.5A (via AC 100–240V, 50/60Hz adapter)<br/>Power Consumption: Approx. 50 W or more</p> | 1 |
| 3 | CO <sub>2</sub> Laser Cutting Machine | Branded Company Product with at least three years product warranty | <p>Working Area: Min 600 x 900 mm or above<br/>Laser Type: CO<sub>2</sub> DC Glass Laser Tube/RF Metal Laser Tube<br/>Laser Power: 80/100W<br/>Wave Length: Upto 10.6 Micrometer<br/>Cutting Speed: 30000 mm/min or more<br/>Engraving Speed: 64000 mm/min or more<br/>XY Axis: LM Guide Rail or equivalent<br/>Cooling: Air/ Water Cooling<br/>Supply Voltage: 230V/415 V<br/>Accessories:<br/>CO<sub>2</sub> Focus Lens: 1 No.<br/>Mirror 25mm: 3 Nos.<br/>Acetone: 1 litre<br/>Acrylic sheet: 2 Nos</p>                                                                                                                                                                                                                                                                 | 1 |
| 4 | Vinyl Printer                         | Branded Company Product with at least Two years Warranty           | <p>Dimensions: 50 cm x 15 cm x 15 cm or above<br/>Weight: 15.4 lbs or less<br/>Max cut size using machine mat: 11.5 inch x 23.5 inch or more<br/>Cut speed: up to 14.1 ips</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1 |
| 5 | 3D Scanner                            | Branded Company Product with at least three years product warranty | <p>Technology: Stereo camera structured light with focusable cameras or equivalent<br/>CPU: Quad-core 64-bit SoC, 1.5GHz with integrated GPU<br/>RAM: 4 GB<br/>Projector: DLP MEMS mirror or equivalent<br/>Camera Sensor: Sony 13 MP or better<br/>Scan Speed: 4 seconds or more Working</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1 |

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|   |                              |                                                                                   | <p>Distance : Effective Working Distance:<br/>160mm-1400mm Scan Speed :<br/>980,000points/s, up to 14FPS</p> <p>Align Modes : Feature Alignment, Hybrid<br/>Alignment, Texture Alignment, Global<br/>Markers</p> <p>Safety : Eye-safe</p> <p>Texture Scan : Yes</p> <p>Interface : USB2.0 or above</p> <p>Outdoor Scanning : Yes</p> <p>Output Formats : OBJ; STL; PLY; P3; 3MF</p> <p>Scanning Environment: Indoor and outdoor<br/>(shaded)<br/>Texture / Color Scanning: Yes<br/>Minimum Capturable Feature Size: 0.2 mm or<br/>less</p> <p>Scanner Weight: 500 grams or less<br/>Scanner Dimensions: upto 240 × 60 × 60 mm<br/>Compatible OS: Any OS supporting a modern<br/>web browser</p>                                                                                                                                                                 |   |
| 6 | Lathe Machine<br>cum milling | Branded<br>Company<br>Product with at<br>least three<br>years product<br>warranty | <p>Centre Width: Up to 400 mm or better<br/>Height of Centers: Up to 88 mm<br/>Maximum Workpiece Diameter: Up to 100<br/>mm<br/>Machine Base: Cross-ribbed surface, high-<br/>quality cast iron with ground prismatic guide,<br/>capable of fitting milling/drilling attachment<br/>Spindle: Supported with adjustable taper<br/>roller bearings<br/>Spindle Receiver: MK3 or compatible<br/>Spindle Drill Hole: Up to 22 mm or better<br/>Spindle Concentricity: Up to 5 microns or<br/>better<br/>Chuck: 3-jaw chuck as per DIN 6386,<br/>centrically clamped, 100 mm diameter or<br/>better Run Out (without Chuck): Up to 10<br/>microns<br/>Sleeve Receiver: MK2, retractable sleeve with<br/>scale<br/>Spindle Speed Range: Between 50 to 2500<br/>rpm<br/>Speed Stages: 6-8<br/>Motor Rating: 550W or better, induction<br/>motor, single phase 230V</p> | 1 |

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|    |                               |                                                                    | <p>Traverse Cross: Up to 70 mm or better<br/> Traverse Longitudinal: Up to 300 mm or better<br/> Weight (Complete): Up to 55 kg or more</p> <p>Additional Accessories:<br/> Splash guard and chip collecting tray: 1 No.<br/> Cutter set with tungsten inserts: 2 Nos.<br/> Milling Attachment: 1nos<br/> Tungsten disposable tips ten-piece set: 1 No.<br/> Sample workpieces (Nylon Rod, Aluminium Rod)<br/> Desktop: 1 No.</p>                                                                                                                          |   |
| 7  | CNC Router                    | Branded Company Product with at least three years product warranty | <p>Working Area: Min 1300 x 2500 mm<br/> Z Axis Working Area: 200 or above<br/> Resolution: <math>\pm 0.03/300</math>mm or more<br/> CNC Spindle: 3KW or more<br/> Lathe Structure : Welding Steel Structure or equivalent<br/> XYZ Structure: Rack Pinion , Ball Screw Linear Rails<br/> Max Spindle Speed : Min 18000RPM<br/> Table: T-Slot/Vacuum Bed/Water Bed<br/> Repeatability: <math>\pm 0.03</math><br/> Working Mode: Stepper Motor/Servo Motor<br/> Dust Collector : To be included by Vendor<br/> Voltage: AC 220V/415V, 50/60 Hz, 3 Phase</p> | 1 |
| 8  | Belt and Disc Sanding Machine | Branded Company Product with at least three years product warranty | <p>Motor: 230V 50Hz<br/> Power: 380W S2 30min<br/> No-load Speed: 1450rpm or more<br/> Belt Size: 100x914mm or less<br/> Disc Size: 150mm or better<br/> Table Titing Range: 0°-45°<br/> Belt Titing Range: 0°-90°<br/> Table Size: upto 190x125mm</p>                                                                                                                                                                                                                                                                                                     | 1 |
| 9  | Scroll Saw                    | Branded Company Product with at least three years product warranty | <p>Power input: 50 Watt<br/> Thickness of Cut: 50 mm (2 inch)<br/> Throat: 406 mm (16 inch)<br/> Length of Stroke: 18 mm (11/16 inch)<br/> Strokes Per Minute: 400-1,600 SPM<br/> Overall Length: 600 mm (23-5/8 inch)</p>                                                                                                                                                                                                                                                                                                                                 | 1 |
| 10 | Wood Turning Lathe            | Branded Company Product with at least three years product warranty | <p>Motor: 230V~50Hz, 550W, S2:15min or above<br/> Max. Disc Diameter: min 75 mm<br/> Max. Cutting Length: 450 mm or more<br/> Spindle Speed: 5 speeds such as 1600 / 2600 / 3200 RPM etc<br/> Material: Cast Iron<br/> Bed Height: 0.2 m<br/> Cable Length: 0.850 m</p>                                                                                                                                                                                                                                                                                    | 1 |

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| 11 | Bench Top Drill Machine     | Branded Company Product with at least Three to Five years Warranty | Continuous rating input: Max. 250 W<br>Capacity: Steel: Min 13 mm (1/2")<br>Wood: Min 24 mm (15/16")<br>No Load Speed (RPM): 570, 890, 1,300, 1,900, 2,670(50 Hz), 690, 1,070, 1,560, 2,280, 3,200(60 Hz)<br>Net weight: Max. 20 kg (44.1 lbs.)<br>Power supply cord: 1.75 m (5.7 ft)<br>Additional Accessories: Bench Vise: 1 No., Drill Bit Set 10 Pcs: 1 No                                                                         | 1 |
| 12 | Portable Welding Machine    | Branded Company Product with at least Three to Five years Warranty | Welding Current (at 40°C, 10 min cycle): 120A @ 100%, 150A @ 60%, 200A @ 35%<br>Supply Voltage: 240V +10%, -15%, 1 Phase, 50/60 Hz<br>Open Circuit Voltage: 55V DC ±5V<br>Welding Current Range: 15–200 Amps DC<br>Insulation Class: F Type<br>Ingress Protection: IP21<br>Dimensions (L×W×H) with Handle: upto 320×120×195 mm<br>Weight (Approx.): 4.3 kg or less                                                                     | 1 |
| 13 | Computerized Sewing Machine | Branded Company Product with at least three years product warranty | Motor: 120 W<br>Max Sewing Speed: 860 SPM<br>Power: 220 - 240 V<br>Automation Grade: Automatic<br>Max Stitch Length: 4mm<br>Thread Type: Computerized<br>Weight: 7.6 kg<br>Number of Stitches: 120<br>Size/Dimension: 50.8 cm x 29.464 cm x 40.64 cm<br>Maximum Stitch Width: 7 mm<br>Number of Buttonhole Styles: 7<br>LCD Screen Display: Yes<br>Bed Type<br>Free Arm/Flatbed convertible<br>Bobbin Type<br>Drop & Sew Bobbin System | 1 |
| 14 | Filament Dehydrator         | Branded Company Product with at least three years product warranty | Operating Temperature Range: Min 45°C–70°C<br>Drying Time Setting: 0–48 hours or higher<br>Hot-Air Heating: upto 360° circulation<br>Moving Speed: 300 mm/s or more<br>Power Rating: 160 W<br>Shipping Weight: 2.5 kg                                                                                                                                                                                                                  | 1 |
| 15 | Reflow Oven                 | Branded Company Product with at least three years product warranty | No. of Waves: 7 or higher<br>Heating Type: Infrared IC Heater<br>Max. PCB Width: 300×320 mm or more<br>Power Supply: AC 220V / 50Hz<br>Peak Power: 1500W<br>Cycle Time: 1–8 min or less<br>Temperature Range: 0°C–280°C                                                                                                                                                                                                                | 1 |

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|    |                    |                                                                       | Overall Dimensions: min 350×450 mm<br>Machine Weight: upto 25 kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |
| 16 | Digital multimeter | Branded Company<br>Product with at least three years product warranty | Display Count: Up to 4000<br>DC Voltage Range: Up to 1000 V<br>AC Voltage Range: Up to 1000 V<br>DC Voltage Accuracy: $\pm 0.5\%$ or $\pm 3$ digits, whichever is higher<br>AC Voltage Accuracy: Within $\pm 1\%$ + 3 digits<br>DC Current Measurement: Up to 10 A<br>AC Current Measurement: Maximum 10 A<br>DC Current Accuracy: $\pm 1.5\%$ + 3 digits (approximate)<br>AC Current Accuracy: $\pm 1.5\%$ + 3 digits (typical)<br>Resistance Measurement: Up to 40 M $\Omega$<br>Resistance Accuracy: Estimated at $\pm 1.5\%$ + 3 digits<br>Capacitance Measurement: Up to 1000 $\mu$ F<br>Capacitance Accuracy: $\pm 5\%$ or $\pm 5$ digits<br>Operating Temperature Range: From 0°C up to approximately 40°C<br>Storage Temperature Range: Between -30°C and 60°C<br>Overall Dimensions (H×W×L): Approximately 183×91×49.5 mm<br>Unit Weight: Around 455 grams<br>Safety Compliance: As per IEC 61010-1 & IEC 61010-2-030 standards, suitable for CAT III 600V and CAT II 1000V environments with Pollution Degree 2 classification | 5 |
| 17 | MSO 100 MHz        | Branded Company<br>Product with at least three years product warranty | Bandwidth: Up to 100 MHz<br>Analog Channels: 4 or more<br>Real-Time Sampling Rate: Maximum 1 GSa/s per channel<br>Memory Depth: 10 Mpts per channel<br>Waveform Update Rate: Approximately 120,000 wfms/s<br>Vertical Resolution: 8 bits<br>Vertical Scale: Ranging from 1 mV/div to 10 V/div<br>Horizontal Scale: Spanning 1 ns/div to 100 s/div<br>Spectrum Analyzer Frequency Range: DC to 500 MHz<br>FFT Points: Up to 1M points for enhanced frequency domain resolution<br>Waveform Math Functions: Includes addition, subtraction, multiplication, division, minimum, maximum, root, square, absolute, inverse, derivative, integral, and low-pass filter<br>Trigger Types: Edge, Pulse Width, Video, Pulse Runt, Rise & Fall (slope), Alternate,                                                                                                                                                                                                                                                                                 | 1 |

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|    |                      |                                                                                  | <p>Timeout, Event-Delay, Time-Delay, and Bus Arbitrary Waveform Generator (AWG): Dual-channel, 25 MHz, supporting various waveforms such as sine, square, pulse, ramp, DC, noise, sinc, Gaussian, Lorentz, exponential rise/fall, haversine, and cardiac</p> <p>AWG Sample Rate: 200 MSa/s</p> <p>AWG Vertical Resolution: 14 bits</p> <p>Display: 8-inch WVGA TFT LCD (800 × 480 pixels)</p> <p>Data Logging Capability: Up to 1000 hours</p> <p>Segmented Memory: Supports up to 29,000 segments for efficient waveform storage and retrieval</p> <p>Connectivity: USB 2.0 (host and device), Ethernet (RJ45), and Go-NoGo BNC</p> <p>Dimensions (W × H × D): 380× 200× 125 mm or above</p> <p>Weight: 2 Kgs or above</p> <p>Safety Compliance: Conforms to IEC 61010-1 and IEC 61010-2-030 standards, suitable for CAT III 600V and CAT II 1000V environments with Pollution Degree 2 classification</p>                                                                                                                                                                                                                            |   |
| 18 | Digital oscilloscope | <p>Branded Company</p> <p>Product with at least three years product warranty</p> | <p>Number of Channels: Up to 2 independent analog inputs</p> <p>Memory Record Length: Up to 10 Mpts for extended waveform capture</p> <p>Bandwidth Limiting: Selectable 20 MHz bandwidth filter</p> <p>Sampling Rate: Maximum of 1 GSa/s real-time equivalent per channel</p> <p>Rise Time: ≤ 3.5 ns depending on probe and settings</p> <p>Display: 7" TFT color LCD with 800×480 resolution</p> <p>Time Base Range: From 5 ns/div to 100 s/div, user-adjustable</p> <p>Vertical Resolution: 8-bit digital resolution</p> <p>Trigger Modes: Automatic, Normal, and Signal-dependent triggering</p> <p>Maximum Input Voltage: 300 Vrms (within safety limits)</p> <p>Input Sensitivity: Within the range of 1 mV/div to 10 V/div</p> <p>Input Coupling Options: Selectable among AC, DC, and Ground</p> <p>Trigger Coupling Modes: Configurable as AC, DC, High-pass, or Low-pass</p> <p>Physical Dimensions: Approximately 350 × 200 × 120 mm or above</p> <p>Unit Weight: 2.5 kg or above</p> <p>Input Impedance: Nominal 1 MΩ // 16 pF</p> <p>Measurement Capabilities: Equipped for automatic parameter extraction, background</p> | 1 |

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|    |              |                                                                           | <p>noise filtering, and AUTOSET configuration for display scaling (time base/gain)</p> <p>Protocol Decoding Support: Capable of analyzing I2C, SPI, UART, CAN, and LIN communication protocols</p> <p>Standard Accessories: Includes mains power cable, user manual (digital format), and one GTL-16E probe per input channel</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |
| 19 | Power supply | <p>Branded Company Product with at least three years product warranty</p> | <p>Output Configuration: 4-channel design with independent electrical isolation across all outputs</p> <p>Channel Output Ranges:</p> <ul style="list-style-type: none"> <li>• CH1 &amp; CH2: Adjustable output voltage from 0 to 32V with a current delivery capacity up to 3A</li> <li>• CH3: Variable range 0 to 5V supporting up to 1A</li> <li>• CH4: Output adjustable from 0 to 15V with a load current of up to 1A</li> </ul> <p>Constant Voltage Operating Mode</p> <p>Line Regulation: <math>\leq 0.01\% + 3 \text{ mV}</math> (approximate value within rated voltage range)</p> <p>Load Regulation: <math>\leq 0.01\% + 3 \text{ mV}</math> (across rated load variation)</p> <p>Ripple &amp; Noise: <math>\leq 1 \text{ mVrms}</math> across full bandwidth</p> <p>Constant Current Operating Mode</p> <p>Line Regulation: <math>\leq 0.2\% + 3 \text{ mA}</math></p> <p>Load Regulation: <math>\leq 0.2\% + 3 \text{ mA}</math></p> <p>Ripple Current: <math>\leq 3 \text{ mArms}</math> (typical)</p> <p>Safety &amp; Operational Features</p> <p>Output Control: Independent output ON/OFF switching functionality is required</p> <p>Voltage Resolution: Approximately 100 mV (*1)</p> <p>Current Resolution: Approximately 10 mA (*1)</p> <p>Display Parameters</p> <p>Display Units: Four separate displays required for individual channel status visualization</p> <p>Display Type: 4.3-inch LCD (color or monochrome as applicable)</p> <p>Functional Features</p> <p>Tracking Operation: Supported (required for synchronizing output behavior)</p> <p>Auto Series/Parallel: Supported (automatic internal reconfiguration required)</p> | 1 |

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|    |                      |                                                                    | <p>Power Requirements<br/>Supply Input: 230V AC <math>\pm 10\%</math>, 50 Hz</p> <p>Mechanical Specifications<br/>Maximum Dimensions (W <math>\times</math> H <math>\times</math> D): Within 200 mm <math>\times</math> 100 mm <math>\times</math> 200 mm<br/>Maximum Weight: 10 kg or less</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |   |
| 20 | Function Generator   | Branded Company Product with at least three years product warranty | <p>Output Function: The equipment shall provide output waveforms including sine, square, triangle, and TTL signals as required.</p> <p>Frequency Range: For sine and square waveforms: approximately 0.1 Hz up to 3 MHz. For triangle waveform: approximately 0.1 Hz up to 1 MHz.</p> <p>Frequency Resolution: Frequency resolution shall be maintained within a maximum of 0.1 Hz.</p> <p>Frequency Stability: The frequency stability shall be within <math>\pm 20</math> ppm (parts per million).</p> <p>Frequency Accuracy: The frequency accuracy shall be maintained within <math>\pm 20</math> ppm.</p> <p>Frequency Aging: Frequency aging shall not exceed <math>\pm 5</math> ppm per annum.</p> <p>Amplitude Range: Output amplitude shall be up to 10 V peak-to-peak (Vp-p) into a 50 <math>\Omega</math> load.</p> <p>Amplitude Accuracy: Amplitude accuracy shall be within <math>\pm 20\%</math> at maximum amplitude setting.</p> <p>Output Impedance: Nominal output impedance shall be 50 <math>\Omega</math> with a tolerance of <math>\pm 10\%</math>.</p> <p>Attenuator: A single-step attenuator of -40 dB <math>\pm 1</math> dB shall be provided.</p> <p>Display: A 6-digit LED display shall be incorporated for parameter indication.</p> <p>Output Control: Output shall be controlled via an ON/OFF selector switch.</p> <p>Power Source: The device shall operate on an AC supply of 240 V, 220 V, or 110 V <math>\pm 10\%</math>, with frequency 50/60 Hz.</p> <p>Ambient Operating Temperature: Normal operation shall be ensured within the ambient temperature range of 0 <math>^{\circ}</math>C to 40 <math>^{\circ}</math>C.</p> <p>Dimensions: Maximum dimensions shall not exceed 255 mm (W) <math>\times</math> 95 mm (H) <math>\times</math> 295 mm (D).</p> <p>Weight: Maximum device weight shall be within 2.5 kg.</p> | 1 |
| 21 | Bench Top Multimeter | Branded Company Product with at                                    | <p>DC Voltage: Range: 500 mV to 1000 V across 5 ranges. Accuracy: <math>\pm (0.03\% \text{ rdg} + 4 \text{ digits})</math>.</p> <p>Input impedance: 10 M<math>\Omega</math>.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1 |

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|    |                            | least three years product warranty                                 | <p>AC Voltage (True RMS): Range: 500 mV to 1000 V across 5 ranges. Accuracy: <math>\pm(0.5\% - 5\% \text{ rdg} + \text{digits})</math> depending on frequency and range. Input impedance: 10 M<math>\Omega</math>.</p> <p>DC Current: Range: 500 <math>\mu\text{A}</math> to 20 A across 6 ranges. Accuracy: <math>\pm(0.02\% - 0.3\% \text{ rdg} + 2 \text{ digits})</math> depending on range.</p> <p>AC Current (True RMS): Range: 500 <math>\mu\text{A}</math> to 20 A across 6 ranges. Accuracy: <math>\pm(0.5\% - 1\% \text{ rdg} + \text{digits})</math> depending on frequency.</p> <p>Resistance: Range: 500 <math>\Omega</math> to 20 M<math>\Omega</math> across 6 ranges. Accuracy: <math>\pm(0.1\% - 0.3\% \text{ rdg} + \text{digits})</math> depending on range.</p> <p>Diode Test: Max forward voltage 1.5 V, open voltage 2.8 V.</p> <p>Capacitance: Range: 5 nF to 50 <math>\mu\text{F}</math>. Accuracy: <math>\pm(2\% \text{ rdg} + 4 \text{ digits})</math>.</p> <p>Frequency: Input level varies by range; functions include Auto/Manual Range, Max, Min, dBm, Rel, Hold.</p> <p>Continuity Beep: Threshold <math>&lt;5 \Omega</math>.</p> <p>Display: Dual 7-segment LED, 0.4" and 0.5".</p> <p>Power Source: AC 100/120/230 V <math>\pm 10\%</math>, 50/60 Hz.</p> <p>Dimensions &amp; Weight: Approximately 251 <math>\times</math> 91 <math>\times</math> 291 mm; 2.6 kg.</p> |   |
| 22 | Non-Contact Voltage Tester | Branded Company Product with at least three years product warranty | <p>Function: Non-contact AC voltage detection tester.</p> <p>Voltage Detection Range: Approximately 90 V to 1000 V AC.</p> <p>Detection Method: Capacitive, with visual and audible indication.</p> <p>Sensitivity: Adjustable sensitivity for different voltage ranges.</p> <p>Response Time: Instantaneous detection within standard operating conditions.</p> <p>Indicators: Bright LED indicators and audible beep for voltage presence.</p> <p>Operating Environment: Suitable for use in ambient temperatures from 0 <math>^{\circ}\text{C}</math> to 40 <math>^{\circ}\text{C}</math>.</p> <p>Power Source: Powered by standard batteries (typically 2 <math>\times</math> AAA or equivalent).</p> <p>Safety Standards: Complies with IEC/EN 61010-1 CAT III 1000 V safety standards.</p> <p>Dimensions: Compact, handheld design suitable for field use (approx. 150 mm <math>\times</math> 30 mm <math>\times</math> 25 mm).</p> <p>Weight: Lightweight, approximately 150 g for ease of portability.</p>                                                                                                                                                                                                                                                                                                                                                                                      | 5 |
| 23 | LCR Meter                  | Branded Company Product with at least three                        | <p>Display: Approximately 2.8" TFT touch LCD screen.</p> <p>Resolution: 25,000 or above counts resolution on both primary and secondary</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1 |

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|    |                    | years product warranty                                             | <p>displays.</p> <p>Basic Accuracy: Within <math>\pm 0.2\%</math> under standard conditions.</p> <p>Test Frequencies: Six or eight selectable frequencies depending on model variant.</p> <p>Measurement Combinations: Up to 15 different measurement combinations available.</p> <p>Test Level: Selectable AC test levels approximately 0.3 V, 0.7 V, and 1 V rms; DC test level selectable at <math>\pm 1</math> V.</p> <p>Measurement Speed: Selectable measurement speeds of approximately 10 measurements per second (fast) and 2.5 measurements per second (slow).</p> <p>Auto LCR Mode: Automatic identification and measurement of component types within supported ranges.</p> <p>Data Hold: Feature available to hold measured data on display.</p> <p>Interface: USB virtual COM port provided for remote communication capabilities.</p> <p>Software: Datalogging software available for data capture and analysis.</p>                        |   |
| 24 | Soldering Station  | Branded Company Product with at least three years product warranty | <p>Power Rating: Approximately 60 W maximum output power.</p> <p>Temperature Range: Adjustable from approximately 200 °C up to 480 °C.</p> <p>Temperature Stability: Within <math>\pm 2</math> °C under normal operating conditions.</p> <p>Heating Element: Ceramic heating element for rapid heat-up and efficient temperature maintenance.</p> <p>Display: Digital or analog temperature display (depending on variant) for precise temperature control.</p> <p>Temperature Control: Adjustable via knob or digital interface with fine resolution.</p> <p>Power Supply: AC 220 V <math>\pm 10\%</math>, 50/60 Hz.</p> <p>Safety Features: Thermal cutoff and overload protection within required standards.</p> <p>Dimensions: Compact design with 100 mm <math>\times</math> 100 mm <math>\times</math> 90 mm (W <math>\times</math> H <math>\times</math> D) or above</p> <p>Weight: Approximately 1.5 kg for ease of portability and bench use.</p> | 3 |
| 25 | Digital Microscope | Branded Company Product with at least three years product warranty | <p>Specification: Magnification: 1600X</p> <p>Light source: 8 LED lights</p> <p>Resolution: 1920<math>\times</math>1080, 640*480</p> <p>Pixel: 30W</p> <p>Focal length: 3-40mm manual adjustment</p> <p>Support Android 4.2 or above/widows/Mac system</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1 |

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| 26 | Soldering Rework Station | Branded Company Product with at least three years product warranty | <p>Soldering Iron Power: Up to approximately 60 W output power with temperature adjustable within approximately 200 °C to 480 °C range.</p> <p>Heating Element: Needle bit with MCH heater providing rapid heat-up and stable temperature control within <math>\pm 2</math> °C.</p> <p>Hot Air Blower Power: Up to approximately 500 W output power with temperature adjustable within approximately 200 °C to 450 °C range, multiple nozzles included.</p> <p>Hot Air Features: Auto-pause function on placement in cradle, airflow adjustable within operational limits.</p> <p>DC Power Supply: Provides output voltage approximately 15 V up to 2 A maximum current plus 5 V USB output for auxiliary power.</p> <p>Control: Microcontroller-based system with LED indicators for temperature and mode selection.</p> <p>Safety: ESD-safe design compliant with applicable standards.</p> <p>Build: Metallic body with powder coating, approximate dimensions 280 mm <math>\times</math> 180 mm <math>\times</math> 140 mm (W <math>\times</math> H <math>\times</math> D).</p> <p>Weight: Approximately 3.5 kg.</p> <p>Power Source: AC 220 V <math>\pm 10\%</math>, 50/60 Hz.</p> <p>Accessories: Includes soldering iron with needle bit, hot air blower with 3 nozzles, iron stand with sponge, hot air cradle, patch cord, and power cord.</p> <p>Operating Temperature: Suitable for ambient temperature approximately 0 °C to 40 °C</p> | 1 |
| 27 | Hand Drill Machine       | Branded Company Product with at least three years product warranty | <p>Rated Input Power: Approximately 500 W or above maximum power consumption.</p> <p>Bit Holder: Standard 1/2"-20 UNF thread type.</p> <p>No-Load Speed (1st Gear): Adjustable from 0 up to approximately 3,000 rpm.</p> <p>Power Output: Approximately 300 W continuous output power.</p> <p>Weight: Approximately 1.7 kg total device weight.</p> <p>Impact Rate at No-Load Speed: Variable from 0 up to approximately 48,000 bpm.</p> <p>Rated Torque: Approximately 1.4 Nm maximum torque output.</p> <p>Drill Spindle Connecting Thread: Standard 1/2"-20 UNF thread.</p> <p>Chuck Capacity (Min/Max): Approximately 1.5 mm minimum to 13 mm maximum.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 2 |
| 28 | Cordless drill           | Branded Company Product with at                                    | <p>Torque (soft/hard/max.): Min 21/50/- Nm</p> <p>No-load speed (1st gear / 2nd gear): Min 0 – 500 / 0 – 1,900 rpm</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2 |

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|    |             | least three years product warranty                                 | Weight incl. battery: 1.3 kg or less<br>Max. impact rate: 27,000 bpm<br>Battery type: Lithium-Ion or equivalent<br>Chuck capacity, min./max.: 1.5 / 13 mm<br>Weight excl. battery: 0.99 kg<br>Torque settings: 20+2 or better                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |
| 29 | Jig Saw     | Branded Company Product with at least three years product warranty | Rated Input Power: Approximately 500 W maximum power consumption.<br>Voltage, Electrical: Nominal 230 V AC supply.<br>Saw Stroke Length: Approximately 20 mm stroke length.<br>Stroke Rate at No Load: Adjustable within approximately 800 to 3,100 spm (strokes per minute).<br>Weight: Approximately 2.08 kg total weight.<br>Bevel Angle: Adjustable within approximately -45° to 45° range.                                                                                                                                                                                                                                                                                                                                                                         | 1 |
| 30 | Miter Saw   | Branded Company Product with at least three years product warranty | Rated Input Power: Approximately 1,750 W maximum power consumption.<br>Saw Blade Diameter: Approximately 254 mm nominal diameter.<br>Mitre Setting: Adjustable up to approximately 47° left and 52° right.<br>Bevel Setting: Adjustable up to approximately 45° left and 0° right.<br>Saw Blade Bore Diameter: Approximately 25.4 mm standard bore.<br>Cutting Capacity at 0°: Approximately 90 mm × 130 mm maximum cross-section.<br>Cutting Capacity at 45° Mitre: Approximately 90 mm × 91 mm maximum cross-section.<br>Cutting Capacity at 45° Bevel: Approximately 60 mm × 130 mm maximum cross-section.<br>Tool Dimensions (W×L×H): Approximately 477 mm × 559 mm × 567 mm.<br>No-Load Speed: Fixed at approximately 5,000 rpm.<br>Weight: Approximately 11.1 kg. | 1 |
| 31 | Hot air gun | Branded Company Product with at least three years product warranty | Rated Input Power: Approximately 1,800 W maximum power consumption.<br>Voltage, Electrical: Nominal 230 V AC supply.<br>Weight: Approximately 0.75 kg.<br>Working Temperature Range: Adjustable within approximately 60 °C to 550 °C.<br>Heat-Up Time: Approximately 1 second to reach target temperature.<br>Airflow: Adjustable within approximately 350 to 550 liters per minute.<br>Airflow Control: Three selectable airflow settings.                                                                                                                                                                                                                                                                                                                             | 2 |

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| 32 | Table saw        | Branded Company<br>Product with at least three years product warranty | Rated input power: Max 1800 W<br>Incline setting: 45 ° L / 0 ° R<br>Table size: Up to 555 x 555 mm<br>Saw blade diameter: 254 mm<br>Cutting height 90°: 80 mm<br>Cutting height 45°: 55 mm<br>Saw blade bore diameter: 30 mm<br>Weight 24.4 kg or less<br>Max. cutting capacity on the right: 545 mm<br>No-load speed: 4300 rpm<br>Cutting height 90°: 80 mm<br>Cutting height 45°: 55 mm | 1 |
| 33 | Bench grinder    | Branded Company<br>Product with at least three years product warranty | Grinding wheel diameter: min 150 mm<br>Rated input power: 350 W or more<br>Grinding wheel widths: 20 mm or more<br>No-load speed: upto 3,000 rpm<br>Grinding wheel bore: 20 mm/2cm<br>Grit 24, 60 or more<br>Weight: 10 kg or less                                                                                                                                                        | 1 |
| 34 | Angle Grinder    | Branded Company<br>Product with at least three years product warranty | Rated Input Power: Approximately 670 W maximum power consumption.<br>No-Load Speed: Approximately 11,000 rpm.<br>Disc Diameter: Approximately 100 mm nominal diameter.<br>Grinding Spindle Thread: Standard M10 thread.<br>Weight: Approximately 1.5 kg.<br>Switch: Lockable switch for operational safety.                                                                               | 1 |
| 35 | Straight Grinder | Branded Company<br>Product with at least three years product warranty | Rated Input Power: Max 300 W power consumption.<br>No-Load Speed: Up to 28,000 rpm.<br>Voltage, Electrical: Nominal 230 V AC supply.<br>Spindle Collar Diameter: Approximately 41 mm.<br>Weight: Around 1.4 kg.<br>Maximum Grinding Tool Diameter: Up to 25 mm.<br>Maximum Collet Diameter: Up to 8 mm.<br>Switch: Lockable switch for enhanced safety.                                   | 1 |
| 36 | Circular Saw     | Branded Company<br>Product with at least three years product warranty | Rated Input Power: Approximately 1,400 W maximum consumption.<br>Saw Blade Diameter: Nominal 184 mm diameter.<br>Saw Blade Bore Diameter: About 20 mm standard bore size.<br>Guide Rail Compatibility: Not compatible with guide rails.<br>No-Load Speed: Typically 5,200 rpm.<br>Weight: Around 4.1 kg                                                                                   | 1 |

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| 37 | Blower                | Branded Company Product with at least three years product warranty | Rated Input Power: Max 650 W power consumption.<br>Weight: Approximately 1.7 kg.<br>Voltage, Electrical: Nominal 230 V AC supply.<br>Sound Pressure Level: Around 103 dB(A).<br>Sound Power Level: Approximately 95 dB(A).<br>Uncertainty (K): Within $\pm 3$ dB                                                                                                                                                                                                                                                                                                                                                           | 1 |
| 38 | Cordless Screw Driver | Branded Company Product with at least three years product warranty | Battery Capacity: Around 1.5 Ah nominal capacity.<br>Torque (Soft/Hard/Max): Approximately 14 Nm / 30 Nm / Maximum not specified.<br>No-Load Speed (1st Gear / 2nd Gear): Ranges from 0 up to 400 rpm and 0 up to 1,500 rpm respectively.<br>Battery Type: Rechargeable Lithium-Ion battery.<br>Chuck Capacity (Min/Max): From approximately 0.8 mm up to 10 mm.<br>Weight (Excluding Battery): About 0.8 kg.<br>Torque Settings: 20 plus 1 adjustable settings.                                                                                                                                                           | 1 |
| 39 | Vacuum Cleaner        | Branded Company Product with at least three years product warranty | Rated Input Power: Approximately 1,100 W maximum power consumption.<br>Weight: Around 6 kg total weight.<br>Container Volume (Net): Approximately 10 liters capacity.<br>Voltage, Electrical: Nominal 230 V AC supply.<br>Container Volume (Gross): Approximately 15 liters total volume.<br>Container Volume (Net, Water): About 8 liters capacity for water.<br>Filter Surface Area: Around 2,300 cm <sup>2</sup> effective filtration area.<br>Airflow Rate (Turbine): Approximately 53 liters per second.<br>Vacuum Pressure (Turbine): Up to 270 mbar vacuum pressure.<br>Number of Wheels: Four wheels for mobility. | 1 |
| 40 | Random orbit sander   | Branded Company Product with at least three years product warranty | Rated Input Power: Up to 280 W maximum consumption.<br>Sanding Pad Diameter: Nominal 125 mm diameter.<br>Orbit Diameter: Approximately 2.6 mm orbital diameter.<br>Weight: Around 1.4 kg.<br>No-Load Speed: Adjustable within 7,500 to 12,000 rpm range.<br>Orbital Stroke Rate: Between 15,000 and 24,000 orbits per minute (opm).<br>Eccentricity: Approximately 1.3 mm.                                                                                                                                                                                                                                                 | 1 |

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| 41 | Planer                                   | Branded Company Product with at least three years product warranty | Rated Input Power: Not exceeding 710 W under nominal operating conditions.<br>Planing Width: Approximately 82 mm effective width capacity.<br>Planing Depth: Within the range of up to 2.6 mm maximum depth per pass.<br>Weight: Circa 2.8 kg total unit mass.<br>Adjustable Rebating Depth: Maximum adjustable depth of approximately 9 mm.<br>No-Load Speed: Operating speed typically around 18,000 rpm.                                                                                                                                                                                                                                         | 1 |
| 42 | Cordless Vacuum Cleaner with Starter kit | Branded Company Product with at least three years product warranty | Battery Voltage: Rated at approximately 18.0 V nominal voltage.<br>Weight Excluding Battery: Around 1.3 kg without battery attached.<br>Container Volume: Approximately 0.7 liters net capacity.<br>Filter Surface Area: Roughly 55 cm <sup>2</sup> filtration surface.<br>Maximum Airflow Rate (Turbine): Up to 10 liters per second.<br>Maximum Vacuum Pressure (Turbine): Not exceeding 60 mbar under standard conditions.<br>Operating Time (18 V Battery): Typically 7 minutes per Ah of battery capacity.                                                                                                                                     | 1 |
| 43 | Rotary Tool Kit                          | Branded Company Product with at least three years product warranty | Rated Power Input: Approximately 175 W within nominal voltage range.<br>Voltage: Operates within 220 to 240 V AC supply.<br>Weight: Around 0.66 kg total mass.<br>Length: Approximately 24 cm overall length.<br>Width: About 4.1 cm nominal width.<br>Depth: Roughly 4.3 cm depth dimension.<br>No-Load Speed: Variable speed ranging from 5,000 up to 35,000 rpm.<br>Battery Technology: Not applicable (n.a.).<br>Speed Setting: Fully variable speed control as required.<br>Accessory Quick Change System: Equipped with multi chuck for rapid accessory interchange.<br>Vibration Level: Approximately 18 m/s <sup>2</sup> measured vibration | 2 |
| 44 | Rubber Grip Hacksaw                      | Very Good Quality                                                  | Depth of Throat: Approximately 98 mm (3.85 inches) nominal depth.<br>Blade Length: Around 254 mm (10 inches) standard length.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 |
| 45 | Hacksaw Mini                             | Very Good Quality                                                  | Blade Length: Approximately 10 inches nominal length.<br>Handle Material: Constructed from metal as                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2 |

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|    |                                 |                      | standard.<br>Overall Length: Around 11 inches total length.                                                                            |   |
| 46 | Claw Hammer<br>Steel Shaft      | Very Good<br>Quality | Weight: Approximately 8 oz (220 grams)<br>nominal weight.<br>Dimensions: Around 27.8 cm × 12.4 cm × 3.6<br>cm (L × W × H) overall size | 2 |
| 47 | Ball Pein Hammer                | Very Good<br>Quality | Weight: Approximately 110 grams nominal<br>weight.<br>Dimensions: Around 32.6 cm × 10 cm × 2 cm<br>(L × W × H) overall measurements.   | 2 |
| 48 | Rubber mallet                   | Very Good<br>Quality | Weight: Approximately 450 grams nominal<br>weight.<br>Dimensions: Around 33.6 cm × 9.6 cm × 6.2<br>cm (L × W × H) overall size.        | 2 |
| 49 | Ring spanner set<br>12Pcs       | Very Good<br>Quality | Weight: 3.08 Kg nominal weight.<br>Quantity: 12 pcs per set.<br>Size: 6 mm to 32 mm overall range.                                     | 1 |
| 50 | Open end spanner<br>set 12Pcs   | Very Good<br>Quality | Weight: Approx1.74Kg nom.wt.<br>Qty: 12pcs/set.<br>Size: 6mm-32mm overall dims.                                                        | 1 |
| 51 | Combination<br>Spanner set 8Pcs | Very Good<br>Quality | Weight: Approx649g nom.wt.<br>Qty: 8pcs/set.                                                                                           | 1 |
| 52 | Allen key set<br>10pcs          | Very Good<br>Quality | Hex Key Size: 1.5,2,2.5,3,4,5,5.5,6,8,10mm;<br>Qty:10pcs/set                                                                           | 2 |
| 53 | Allen key set<br>12pcs          | Very Good<br>Quality | BallKeySize:1/16",5/64",3/32",7/64",1/8",9/<br>64",>5/32",3/16",7/32",1/4",5/16",3/8"<br>Qty:12pcs/set                                 | 2 |
| 54 | Combination plier               | Very Good<br>Quality | Weight: Approx422g nom.wt.<br>Size: 8"/200mm nominal                                                                                   | 2 |
| 55 | Long nose plier                 | Very Good<br>Quality | Weight: Approx399g nom.wt.<br>Size:180mm/6" nominal                                                                                    | 2 |
| 56 | Circlip straight 5"             | Very Good<br>Quality | Weight: Approx399g nom.wt.<br>Size:130mm/5" nominal                                                                                    | 2 |
| 57 | Circlip bent                    | Very Good<br>Quality | "Weight: Approx399g nom.wt.<br>Size:130mm/5"" nominal"                                                                                 | 2 |
| 58 | Diagonal Cutter                 | Very Good<br>Quality | "Weight: Approx239g nom.wt.<br>Size:180mm nominal"                                                                                     | 2 |
| 59 | Wire Stripper                   | Very Good<br>Quality | Weight: Approx281g nom.wt.<br>Size:130mm nominal                                                                                       | 2 |

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| 60 | Adjustable spanner              | Very Good Quality | Size: Upto 150 mm                                                                                                                         | 2 |
| 61 | Pipe wrench                     | Very Good Quality | Size: Max 300 mm                                                                                                                          | 2 |
| 62 | C – clamp                       | Very Good Quality | Size: Upto 75 mm                                                                                                                          | 4 |
| 63 | C-clamp                         | Very Good Quality | Size: Upto 150 mm                                                                                                                         | 4 |
| 64 | Snap- off Knife                 | Very Good Quality | Size:18 mmm                                                                                                                               | 2 |
| 65 | 16pcs screw driver set          | Very Good Quality | Pieces Per Set: 16 pcs                                                                                                                    | 1 |
| 66 | 6pcs precision screw driver set | Very Good Quality | Pieces Per Set: 16 pcs                                                                                                                    | 2 |
| 67 | Max steel snip cutter           | Very Good Quality | Length: 250 mm                                                                                                                            | 2 |
| 68 | PVC Pipe cutter                 | Very Good Quality | Length: 42 mm                                                                                                                             | 2 |
| 69 | Hot Glue Gun                    | Very Good Quality | Power: 40 W                                                                                                                               | 4 |
| 70 | Small file set                  | Very Good Quality | Length: 160 mm                                                                                                                            | 2 |
| 71 | Big file set                    | Very Good Quality | Length: 200 mm                                                                                                                            | 2 |
| 72 | Chisel set                      | Very Good Quality | Weight: 340 gm                                                                                                                            | 2 |
| 73 | Punch set                       | Very Good Quality | Weight: 390 gm                                                                                                                            | 2 |
| 74 | Bench wise                      | Very Good Quality | Base Type: Fixed<br>Size:2-3½" nominal<br>JawWidth:60mm                                                                                   | 2 |
| 75 | Router Bit Starter Kit          | Very Good Quality | Pieces Per Set: 15 pcs                                                                                                                    | 1 |
| 76 | Drill bit set                   | Very Good Quality | WAF(mm):1,1.5,2,2.5,3,3.5,4,4.5,5,5.5,6,6.5,7,7.5,8,8.5,9,9.5,10,10.5,11,11.5,12,12.5,13<br>Wt:~1.3Kg nom.wt<br>Sz(mm):205×115×55 overall | 2 |

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| 77 | Baby wise               | Very Good Quality | Vice Type: Bench<br>Size:2" nominal<br>JawWidth:50mm                             | 2  |
| 78 | Ratchet Set             | Very Good Quality | Vice Type: Bench<br>Sz:2" nominal; Jaw:50mm                                      | 2  |
| 79 | Pegboard                | Very Good Quality |                                                                                  | 5  |
| 80 | Digital Vernier Caliper | Very Good Quality | Product Type: Digital Calliper<br>Meas.Range:0–150mm / 0–6"<br>Resolution:0.01mm | 2  |
| 81 | Micrometer              | Very Good Quality | Resolution:0.001mm/0.00005"<br>Meas.Range:0–25mm/0–1"                            | 1  |
| 82 | Steel Rule 300mm        | Very Good Quality | Product Type: Steel Rule<br>ScaleSize:12"/300mm<br>Material: Stainless Steel     | 5  |
| 83 | Steel Rule 600mm        | Very Good Quality | Product Type: Steel Rule<br>ScaleSize:24"/600mm<br>Material: Stainless Steel     | 5  |
| 84 | Engineering Square      | Very Good Quality | Size:150×80mm nominal<br>Material: Carbon Steel                                  | 2  |
| 85 | Meter Tape 30m          | Very Good Quality | Length: 30 m                                                                     | 1  |
| 86 | Measuring Tape 3M       | Very Good Quality | Length: 3 m                                                                      | 3  |
| 87 | Measuring Tape 5M       | Very Good Quality | Length: 5 m                                                                      | 3  |
| 88 | Spirit Level            | Very Good Quality | Vials:3<br>Accuracy:0.5mm/m<br>Length:300mm<br>Product Type: Level               | 3  |
| 89 | Goggle                  | Very Good Quality | Goggle – Industrial Standard Make                                                | 5  |
| 90 | Apron                   | Very Good Quality | Apron - Standard Make                                                            | 5  |
| 91 | Ear Muff                | Very Good Quality | Earmuff – Industrial Standard Make                                               | 5  |
| 92 | Mask                    | Very Good Quality | Mask – Industrial Standard Make                                                  | 50 |
| 93 | Fire Extinguisher       | Very Good Quality | Fire Extinguisher– Industrial Standard Make                                      | 6  |

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| 94 | First Aid Kit | Very Good Quality                                                  | First Aid Kit – Industrial Standard Make                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2  |
| 95 | Gloves Pair   | Very Good Quality                                                  | Gloves – Industrial Standard Make                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 10 |
| 96 | Normal Oven   | Branded Company Product with at least three years product warranty | Oven Cap: 20L or more<br>Type: Solo<br>Door: Side Swing<br>Child Lock: Yes<br>Completion Beeper: Yes<br>Power Levels: upto 5<br>Control: Membrane Type<br>Cavity Mat: Anti-Bacterial<br>Dims(mm):455×252×320<br>PowerOut:700W or less                                                                                                                                                                                                                                                                                                      | 1  |
| 97 | Refrigerator  | Branded Company Product with at least three years product warranty | Capacity:183L or more<br>AnnualEnergyConsumption:148kWh/Year or less<br>RefrigeratorFreshFoodCapacity:165L or more<br>Freezer Capacity: min 18L<br>BottleCount:5 or more<br>NoiseLevel:40dB or less<br>Installation Type: Freestanding                                                                                                                                                                                                                                                                                                     | 1  |
| 98 | Smart Board   | Branded Company Product with at least three years product warranty | Display Size: Approx 75Inch (190 cm) Up to<br>Resolution: 4KUHDorHigher<br>Brightness: Min 350 nits; Typ400nitsApprox<br>Contrast Ratio: Typ 1200: 1Upto<br>Response Time: Approx 8ms<br>Viewing Angle: Approx178DegreesWide<br>WorkingFrequency:1.5GHzNominal<br>RAM:4GBOrMore<br>InternalStorage:32GBMin<br>OS: Android Based<br>HDMI: 3Ports<br>USB: 2Ports<br>Sensing Type: Infrared Touch Frame<br>Surface Protection: 4mm Toughened Glass Or Equivalent<br>Infrared Touch Points: 20Approx<br>Voltage:DC+5V±5%Range<br>OPS: Optional | 1  |
| 99 | Projector     | Branded Company Product with at least three years product warranty | Projection Tech: RGB liquid crystal shutter projection (3LCD) Up to<br>Connectivity: USB Type B: 1port<br>(FirmwareUpdate/Copy OSD) Approx<br>AnalogInput:D-Sub15pin:1port<br>Digital Input: HDMI:1port<br>Projection Lens: Type: No Optical<br>Zoom/Focus (Manual)Nominal<br>FocalLength:16.70mm Approx                                                                                                                                                                                                                                   | 1  |

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|     |                        |                                                                                   | FNumber:1.44 Nominal<br>Zoom:1.44-1.95 Ratio (Wide to Tele)<br>ThrowRatioRange:1.00–1.35(Digital Zoom<br>Approx                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |    |
| 100 | Printer                | Branded<br>Company<br>Product with at<br>least three<br>years product<br>warranty | Functions: Print, Scan, Copy<br>Printer Type: Laser Nominal<br>Dims(mm):409×398.5×267Approx<br>Weight:9.7KgNominal<br>PrintSpeed:Upto30ppm(A4Size)Approx<br>Warranty:1YearOn-Site<br>PrintResolution:600×600dpi,HQ1200(2400×<br>600dpi) Quality Approx<br>2Sided-Duplex-<br>PaperType:Plain,Thin,RecycledApprox<br>2Sided-Duplex-PaperSize:A4<br>PaperHandling:Tray#1-<br>PaperType:Plain,Thin,Recycled<br>Tray#1-<br>MaxCapacity:Upto250Sheets(80g/m <sup>2</sup> )Approx<br>PaperOutput:Upto100Sheets(80g/m <sup>2</sup> )FaceDo<br>wnTray;OneSheetFaceUpTrayApprox<br>Copy- Colour /Mono: Yes/Yes<br>Multiple Copies:<br>Sorts/StacksUpto99PagesApprox<br>Enlarge/Reduce:25%-<br>400%(In1%Steps)Approx<br>CopyResolution:600×600dpi<br>2Sided-Duplex-<br>CopyPaperType:Plain,Thin,Recycled<br>2Sided-Duplex-CopyPaperSize:A4<br>Scan-<br>ResolutionInterpolated:Upto19200×19200dp<br>iApprox<br>Scan-<br>ResolutionGlass:Upto600×2400dpiApprox<br>Connectivity:Hi-SpeedUSB2.0<br>DisplayType:16Chars×2Lines<br>MemoryCapacity:32MBAprox<br>PowerSource:220-240VAC50/60Hz<br>PowerConsumption-Ready:Approx60W<br>PowerConsumption-Sleep:Approx6.6W<br>PowerConsumption-Off:Approx0.08W<br>NoiseLevel:50dB(A)Approx | 1  |
| 101 | Desktop                | Branded<br>Company<br>Product with at<br>least three<br>yearsproduct<br>warranty  | CPU: INTEL CORE I7-12THGEN or Higher<br>RAM:8GB+512GB SSD or more<br>Conn: LAN+WIFI+BLUTOOTH+KEYMOUSE<br>Display:20" DESKTOP MONITOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 5  |
| 102 | 3D printer<br>Filament | Very Good<br>Quality                                                              | Weight Kg: 1 Approx<br>Melt Flow Index: 2 (190°C/2.16kg) Nominal<br>FilamentLength:330mApprox<br>Dim Accuracy: +/-0.1mmApprox                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 10 |

|     |                                                                             |                      |                                                                                                                                                  |    |
|-----|-----------------------------------------------------------------------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|----|
|     |                                                                             |                      | Roundness Accuracy: +/-0.5mmApprox<br>SpoolInnerDia:55mmNominal<br>SpoolOuterDia:200mmApprox<br>SpoolWeight:300gNominal<br>SpoolWidth:65mmApprox |    |
| 103 | Acrylic Sheet<br>3mm, 4ft x 4ft                                             | Very Good<br>Quality |                                                                                                                                                  | 20 |
| 104 | Acrylic Sheet<br>4mm, 4ft x 4ft                                             | Very Good<br>Quality |                                                                                                                                                  | 20 |
| 105 | Acrylic Sheet<br>5mm, 4ft x 4ft                                             | Very Good<br>Quality |                                                                                                                                                  | 20 |
| 106 | Foam Sheet 8mm,<br>4ft x 4ft                                                | Very Good<br>Quality |                                                                                                                                                  | 2  |
| 107 | Foam Sheet<br>10mm, 4ft x 4ft                                               | Very Good<br>Quality |                                                                                                                                                  | 1  |
| 108 | Foam Sheet<br>12mm, 4ft x 4ft                                               | Very Good<br>Quality |                                                                                                                                                  | 1  |
| 109 | Foam Sheet<br>15mm, 4ft x 4ft                                               | Very Good<br>Quality |                                                                                                                                                  | 1  |
| 110 | Ply Board 5mm,<br>2ft x 4ft                                                 | Very Good<br>Quality |                                                                                                                                                  | 12 |
| 111 | Nylon Rod 10mm,<br>1m                                                       | Very Good<br>Quality |                                                                                                                                                  | 5  |
| 112 | Nuts<br>(3mm,4mm,5mm,<br>6mm,8mm,10mm,<br>12mm) Pack of<br>100              | Very Good<br>Quality |                                                                                                                                                  | 1  |
| 113 | Bolts<br>(3mm,4mm,5mm,<br>6mm,8mm,10mm,<br>12mm) dia 1"<br>Inch Pack of 100 | Very Good<br>Quality |                                                                                                                                                  | 1  |
| 114 | Screws<br>(3mm,4mm,5mm)<br>Pack of 100                                      | Very Good<br>Quality |                                                                                                                                                  | 1  |
| 115 | Washers<br>(3mm,4mm,5mm,<br>6mm,8mm,10mm,<br>12mm) Pack of<br>100           | Very Good<br>Quality |                                                                                                                                                  | 1  |

|     |                                                            |                      |  |    |
|-----|------------------------------------------------------------|----------------------|--|----|
| 116 | Studs<br>(6mm,8mm) 1<br>Meter                              | Very Good<br>Quality |  | 2  |
| 117 | Nails<br>(1",2",3",1.5",5")<br>Pack of 100                 | Very Good<br>Quality |  | 1  |
| 118 | Fevicol 2Kg                                                | Very Good<br>Quality |  | 1  |
| 119 | 2 Way Tape                                                 | Very Good<br>Quality |  | 10 |
| 120 | PVC Pipe .75",10ft                                         | Very Good<br>Quality |  | 10 |
| 121 | PVC Pipe 1",10ft                                           | Very Good<br>Quality |  | 10 |
| 122 | PVC Pipe 1.5",10ft                                         | Very Good<br>Quality |  | 10 |
| 123 | PVC Pipe 2.0",10ft                                         | Very Good<br>Quality |  | 10 |
| 124 | Aluminium<br>channels (L, C,<br>Box, strip length<br>12ft) | Very Good<br>Quality |  | 2  |
| 125 | PCB Drill Bit<br>0.4mm                                     | Very Good<br>Quality |  | 10 |
| 126 | PCB Drill Bit<br>0.8mm                                     | Very Good<br>Quality |  | 10 |
| 127 | PCB Drill Bit 1mm                                          | Very Good<br>Quality |  | 10 |
| 128 | Drill Bit 4mm                                              | Very Good<br>Quality |  | 10 |
| 129 | Drill Bit 5mm                                              | Very Good<br>Quality |  | 10 |
| 130 | Drill Bit 6mm                                              | Very Good<br>Quality |  | 10 |
| 131 | Arduino UNO R3                                             | Very Good<br>Quality |  | 5  |
| 132 | Arduino NANO                                               | Very Good<br>Quality |  | 5  |

|     |                                   |                   |  |   |
|-----|-----------------------------------|-------------------|--|---|
| 133 | Arduino Mega                      | Very Good Quality |  | 3 |
| 134 | Raspberry Pi Model 4B, 4GB        | Very Good Quality |  | 3 |
| 135 | ESP8266 NodeMCU                   | Very Good Quality |  | 2 |
| 136 | ESP32 Development Board           | Very Good Quality |  | 2 |
| 137 | Beaglebone blu                    | Very Good Quality |  | 1 |
| 138 | Beaglebone Black                  | Very Good Quality |  | 1 |
| 139 | Voltage Regulator Module          | Very Good Quality |  | 2 |
| 140 | Mini Micro submersible Water Pump | Very Good Quality |  | 2 |
| 141 | Piezoelectric Plate               | Very Good Quality |  | 2 |
| 142 | 8*8 LED Matrix Module             | Very Good Quality |  | 2 |
| 143 | Bluetooth                         | Very Good Quality |  | 2 |
| 144 | 7 Segment LED Display             | Very Good Quality |  | 2 |
| 145 | GSM/GPRS/GPS Module               | Very Good Quality |  | 2 |
| 146 | Laser Module                      | Very Good Quality |  | 2 |
| 147 | LDR Module                        | Very Good Quality |  | 2 |
| 148 | 4×4 Matrix Keypad                 | Very Good Quality |  | 2 |
| 149 | Joy Stick Module                  | Very Good Quality |  | 2 |

|     |                               |                   |  |    |
|-----|-------------------------------|-------------------|--|----|
| 150 | Active Buzzer (BIG)           | Very Good Quality |  | 2  |
| 151 | Active Buzzer (SMALL)         | Very Good Quality |  | 2  |
| 152 | Motor Driver                  | Very Good Quality |  | 2  |
| 153 | Sound Playback Module         | Very Good Quality |  | 2  |
| 154 | BO Motors                     | Very Good Quality |  | 10 |
| 155 | Vibrating Motor               | Very Good Quality |  | 10 |
| 156 | Capacitive Touch Switch       | Very Good Quality |  | 2  |
| 157 | IR Sensors (Obstacle Sensors) | Very Good Quality |  | 2  |
| 158 | Triple Axis Magnetometer      | Very Good Quality |  | 2  |
| 159 | Humidity Sensor               | Very Good Quality |  | 2  |
| 160 | MQ-2                          | Very Good Quality |  | 2  |
| 161 | MQ-3                          | Very Good Quality |  | 2  |
| 162 | MQ-4                          | Very Good Quality |  | 2  |
| 163 | MQ-5                          | Very Good Quality |  | 2  |
| 164 | MQ-7                          | Very Good Quality |  | 2  |
| 165 | Ultrasonic Sensor Module      | Very Good Quality |  | 2  |
| 166 | Triple Axis accelerometer     | Very Good Quality |  | 2  |

|     |                                    |                   |  |    |
|-----|------------------------------------|-------------------|--|----|
| 167 | PIR Motion Detector Module         | Very Good Quality |  | 2  |
| 168 | Pulse Rate Heart Sensor            | Very Good Quality |  | 2  |
| 169 | Relay Module                       | Very Good Quality |  | 2  |
| 170 | Soil Moisture Sensor               | Very Good Quality |  | 2  |
| 171 | Touch Sensor                       | Very Good Quality |  | 2  |
| 172 | Rain Drop Sensor                   | Very Good Quality |  | 2  |
| 173 | Flex Sensor                        | Very Good Quality |  | 2  |
| 174 | Temperature Sensor                 | Very Good Quality |  | 2  |
| 175 | Force Pressure Sensor              | Very Good Quality |  | 2  |
| 176 | Colour Recognition Sensor          | Very Good Quality |  | 2  |
| 177 | Water Flow Sensor                  | Very Good Quality |  | 2  |
| 178 | Sound Sensor                       | Very Good Quality |  | 2  |
| 179 | IR Sensor Array for Line Following | Very Good Quality |  | 2  |
| 180 | RFID Reader-Tags                   | Very Good Quality |  | 2  |
| 181 | RF Modules Tx& Rx 315 MHz ASK      | Very Good Quality |  | 2  |
| 182 | Stepper motor with Driver Board    | Very Good Quality |  | 2  |
| 183 | Servo Motor 360 rotation           | Very Good Quality |  | 10 |

|     |                                        |                   |  |    |
|-----|----------------------------------------|-------------------|--|----|
| 184 | Servo Motor 180 rotation               | Very Good Quality |  | 10 |
| 185 | Metal Gear Servo Motor (180° Rotation) | Very Good Quality |  | 10 |
| 186 | Solder Wire 100grm                     | Very Good Quality |  | 10 |
| 187 | Solder Flux                            | Very Good Quality |  | 10 |
| 188 | 830 Points Solderless Breadboard       | Very Good Quality |  | 5  |
| 189 | 400 Points Solderless Breadboard       | Very Good Quality |  | 5  |
| 190 | Copper Clad Board single side          | Very Good Quality |  | 10 |
| 191 | Copper clad board double side          | Very Good Quality |  | 10 |
| 192 | Male to Male Breadboard Jumper         | Very Good Quality |  | 10 |
| 193 | Female to Female Breadboard Jumper     | Very Good Quality |  | 10 |
| 194 | Male to Female Breadboard Jumper       | Very Good Quality |  | 10 |

### Terms and Conditions

The following Terms and Conditions apply to all bidders participating in the tender for the supply, installation, and commissioning of equipment, tools, and machines for the establishment of an AICTE IDEA Lab. All prospective vendors are required to read and comply with these terms in their entirety.

#### 1. General Information

All equipment and materials must be delivered in the quantities and specifications as mentioned in the purchase order issued by the purchaser. The delivery location will be specified in the purchase order (Mount Zion College of Engineering Technology, Lenavillakku, Pilivalam P.O, Thirumayam Tk, Pudukkottai, Tamil Nadu 622507). The entire contract shall remain valid for a period of three (3) months from the date of award.

Quotations submitted by bidders must remain valid for a minimum of 90 days from the final date of submission. Any quotation that does not meet this validity period will be considered non-compliant.

## **2. Bid Submission Guidelines**

Bids may be submitted either via email (digitally signed) or in hard copy form, as specifically mentioned in the tender notice. All quotations must be printed on the bidder's official letterhead and duly signed by an authorized representative.

Each bid must be complete in all respects and must include the following mandatory documents:

- Detailed Profile of the Bidder, highlighting experience and key competencies.
- Copy of the Company/Firm Registration Certificate.
- Copy of valid GST Registration Certificate.
- Copy of submitted GST return (at least up to November 2024).
- Copy of valid PAN Card.
- Chartered Accountant's Certificate for turnover for FY 2021-22, 2022-23, and 2023-24.
- CA-certified and audited Balance Sheets and Financial Statements (Form 3CB/3CA) for the last three financial years.
- Copies of Work Completion or Experience Certificates of similar completed works.
- Valid Shop Establishment License or Factory License.
- Genuine Manufacturer Authorization Form (MAF), which will be subject to verification with the respective OEM.
- Bidder should provide an Escalation Matrix for service and after sales support.
- Valid EPF, ESIC, and Professional Tax Registration Certificates (where applicable).
- Income Tax Return Acknowledgements for FY 2021-22, 2022-23, and 2023-24.
- Declaration/Affidavit (on ₹500/- Stamp Paper) regarding no blacklisting from IITs/NITs/Govt. Offices/PSUs/Autonomous Bodies.
- Complete, signed, and stamped tender document including amendments and deviation sheets, if any (to be uploaded online only).
- Declaration of agreed specifications on company letterhead, duly signed and stamped.
- Any other documents in support of technical eligibility.

All bidders are required to quote for all the items listed in the BoQ. Partial or item-wise quotations will be summarily rejected. Each bidder is allowed to submit only one quotation per package; multiple submissions from a single bidder will lead to disqualification.

## **3. Technical Documentation and Compliance**

The bidder must furnish complete technical documentation for each quoted item. This includes detailed product specifications, installation manuals, operation and maintenance manuals. The

bidder is also required to submit a layout/design proposal aligned with the lab setup requirements, highlighting compliance points against the tender specifications.

Original technical brochures or scanned versions of product catalogs should be submitted with the bid. Wherever available, URLs to the OEM's official product page should also be provided for cross-verification.

Each bidder must clearly mention the make, model, and complete technical specifications for the equipment being offered. A compliance sheet responding to each technical requirement outlined in the tender must be prepared and duly signed.

#### **4. Eligibility and Qualification Criteria**

All bidders must be OEMs or authorized partners/distributors with valid authorization for the products they are quoting. Authorization letters must be submitted on the OEM's official letterhead.

Bidders must demonstrate relevant experience by submitting a minimum of three Purchase Orders (executed within the last five years) for similar equipment supplied to academic, R&D, or industrial institutions. A list of at least five institutional clients (with contact information) must be provided as a reference.

It is mandatory that the bidder or OEM has a registered support office in India to provide warranty and after-sales support. In the case of imported equipment, either the OEM or their authorized seller must submit a certificate confirming the presence of such a service support facility in India.

The OEM must also submit a declaration confirming the availability of spare parts for the quoted products for a minimum of one year and authorize the bidder to participate in the tender.

#### **5. Financial Criteria**

Each bidder must have an average annual turnover of ₹5 Crores or more over the last three financial years (FY 2022–23, 2023–24, 2024–25). The turnover must be supported by a CA certificate or audited financial statements.

Prices quoted must be inclusive of all taxes (GST, customs, etc.), transportation, packaging, insurance, unloading, installation, commissioning, and training charges. There shall be no extra claim under any circumstances after the finalization of the bid.

The quoted prices must be firm and fixed throughout the duration of the contract. No escalation in price will be allowed under any pretext.

#### **6. Evaluation and Award of Contract**

All bids will be evaluated on the basis of compliance with the technical specifications, completeness of submitted documentation, financial eligibility, and price competitiveness. The contract shall be awarded to the bidder whose offer is determined to be technically responsive and lowest in cost.

The purchaser reserves the absolute right to reject any or all bids without assigning any reason. The final decision on selection will be at the sole discretion of the purchaser and shall be binding on all parties.

## **7. Warranty and After-Sales Service**

All equipment must carry a minimum onsite warranty of at least **three years** from the date of successful installation and commissioning. During this warranty period, the bidder shall repair or replace any defective items at no additional cost to the purchaser. All associated transportation, testing, and labor costs shall be borne by the bidder.

In case of any service delay or failure to resolve issues during the warranty period, the purchaser reserves the right to invoke penalties or reject future business from the vendor.

## **8. Payment Terms**

Payment shall be released only after the successful supply, installation, and commissioning of the equipment. Final inspection and acceptance will be carried out by the purchaser's technical committee.

No payment shall be made for equipment that is received in damaged condition, is non-functional, or fails to meet the required specifications. The bidder must submit all necessary documentation (delivery challans, installation report, warranty documents, training certificate, invoice, etc.) to process payment.

## **9. Other Conditions**

No bidder shall be given preference based on category, class, or affiliation. The procurement may be extended to additional phases (e.g., Phase II) depending on availability of funds and institutional requirements.

Delayed delivery or installation may result in cancellation of order or imposition of penalties, as deemed fit by the purchaser. The scope of the supply and service must be entirely as per the BoQ and technical specifications. Bids with partial compliance or deviations shall not be entertained.

## **10. Submission Deadline and Contact Details**

All quotations must be submitted by [05.10.2025 and 11.59 pm] to the email ID [idealab@mountzion.ac.in] or sent in hard copy to:

The Principal ,

Mount Zion College of Engineering and Technology ,  
Lenavillakku ,Pilivalam P.O, Thirumayam Tk, Pudukkottai,  
Tamil Nadu - 622507  
Contact: [D.Thivya Prasad & Ph.no: 9789541354]  
Email: [idealab@mountzion.ac.in]