



ASTI-FM 03-11
REV 1/13 January 2020

**DOST-ASTI Bids and Awards Committee
Invitation to Bid (Public Bidding)**

ITB No:	22-04-3810	Date:	April-25-2022
PR No:	GAA-22-03-13378	Date:	March-31-2022
Source of Funds:			
Total ABC:	Php 1,524,712.44		
Time, Date & Venue of Pre-bid Conference:	May 11, 2022, 9:00 AM at Via videoconferencing		
Time and Date of Submission of Bids:	May 23, 2022, 09:00 AM		
Time, Date & Venue of Opening Bids:	May 23, 2022, 9:30 AM at DOST-ASTI and Videoconferencing		
Date of availability of Complete Set of Documents:	May 03, 2022		
Deadline of Potential Bidder's Clarifications:	May 13, 2022		
Deadline of ASTI's Supplemental Bid Bulletin:	May 16, 2022		
Delivery Schedule:			

The Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), hereby invites all interested bidders to submit their bids for the item(s) listed below. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction to Bidders of the Philippine Bidding Documents

Bidding will be conducted through open competitive bidding procedures using a non discretionary "pass/fail" criterion as specified in the 2016 R-IRR of RA 9184.

A complete set of Bidding Documents may be purchased by interested bidders upon payment of a fee for the Bidding Documents. It is also downloadable for free of charge at DOST-ASTI's website - www.asti.dost.gov.ph

For further inquiries, contact ASTI's BAC Secretariat via email at bac-sec@asti.dost.gov.ph. Interested bidders may also call the number - (632)-426-7423 and look for ASTI's BAC Secretariat.

Respectfully,

BAYANI BENJAMIN R. LARA
BAC Chairperson

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	Tool box 1. GENERAL: 1.1. Storage and transporting of tools, components and accessories. 2. TECHNICAL SPECS: 2.1. Material: Plastic 2.2. Dimensions (L x W x H): 482 x 254 x 250 mm 2.3. Lock Type: Metal Latch 2.4. Color: Black, Yellow 2.5. With removable tool-holder tray 2.6. With small top compartments 2.7. Can be secured with a padlock 3. PACKAGE INCLUSION: 3.1. One (1) pc - Tool box 4. NOTES: 4.1. The Bidder shall supply all items with the	4	pc	3598.80	14,395.20

	<p>specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
2	<p>65L Co-Polymer Container with Lid (600mm x 460mm x 350mm)</p> <p>1. GENERAL:</p> <p>1.1. 65L Co-Polymer Container for storage of 3D Printer consumables.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Material: Co-Polymer</p> <p>2.2. Dimensions (H x W x D): 600mm x 460mm x 350mm</p> <p>2.3. Volume Capacity: 65L</p> <p>2.4. Color: Transparent</p> <p>2.5. Lockable (with durable clip on lid)</p> <p>2.6. Stackable</p> <p>2.7. With half-opening lid for quick access</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 65L Co-Polymer Container with Lid (600mm x 460mm x 350mm)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	pc	5490.00	10,980.00
3	<p>4mm Anti-Static Wrist Strap</p> <p>1. GENERAL:</p> <p>1.1. ESD Grounding Wrist Strap with 4mm male snap and 5' Coil Cord.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Single-Wire Thermoplastic Wrist Strap</p> <p>2.2. Band Material: Thermoplastic</p> <p>2.3. Band Color: Blue</p> <p>2.4. Includes 1.5m Cord</p> <p>2.4.1. Cord Style: Coiled</p> <p>2.4.2. Cord Color: Black</p> <p>2.5. Stud Size: 4mm</p> <p>2.6. Wrist Strap Size: Adjustable</p> <p>2.7. Lead Resistance: 1MΩ</p> <p>2.8. Reusable</p> <p>2.9. Complies with EN 61340-5-1</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 4mm Anti-Static Wrist Strap</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p>	6	pc	5070.00	30,420.00

	4.4. Payment upon full delivery.				
4	<p>ABS+ 1.75mm 1kg</p> <p>1. GENERAL:</p> <p>1.1. Filament for 3D Printer.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. ABS, 1.75mm (Accuracy: 1.7–1.8mm)</p> <p>2.2. Packaging: 1.0kg/spool</p> <p>2.3. Color: Black</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) roll - ABS+ 1.75mm 1kg</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	roll	1610.85	8,054.25
5	<p>PLA 1.75mm 1kg</p> <p>1. GENERAL:</p> <p>1.1. Filament for 3D Printer.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. PLA, 1.75mm (Accuracy: ±0.02mm)</p> <p>2.2. Packaging: 1.0kg/spool</p> <p>2.3. Color: White</p> <p>2.4. Nozzle Temperature: 190–230°C</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) roll - PLA 1.75mm 1kg</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	roll	1610.85	8,054.25
6	<p>Drill Bit Set (0.3mm to 1.6mm)</p> <p>1. GENERAL:</p> <p>1.1. Set of multi-material twist drill bit set for prototyping tools/equipment.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Drill Bit Type: Twist Drill Bit</p> <p>2.2. Minimum Size: 0.3mm</p> <p>2.3. Maximum Size: 1.6mm</p> <p>2.4. Drilling Application: Multi-Material</p> <p>2.5. Material: HSS (high-speed steel)</p> <p>2.6. Number of Pieces: 20</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Drill Bit Set (0.3mm to 1.6mm)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon</p>	3	set	1890.00	5,670.00

	issuance of NTP. 4.4. Payment upon full delivery.				
7	3pc Wire Brush Set 1. GENERAL: 1.1. Set of different 180mm brush (nylon, steel & stainless) for daily work in laboratory. 2. TECHNICAL SPECS: 2.1. With plastic handle 2.2. Length: atleast 180mm 2.3. Packaging: blister card 3. PACKAGE INCLUSION: 3.1. One (1) pc - 180mm nylon brush 3.2. One (1) pc - 180mm steel brush 3.3. One (1) pc - 180mm stainless brush 4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.	8	set	302.50	2,420.00
8	Safety Goggles 1. GENERAL: 1.1. Impact-resistant protective eyewear with direct ventilation and UV protection. 2. TECHNICAL SPECS: 2.1. Frame Material: PVC 2.2. Lens Material: Polycarbonate (PC) 2.3. With 99% UV Protection 2.4. Lens Color: Clear 2.5. EN166 Eye Protection: B 2.6. EN166 Frame Marking: B 2.7. EN166 Lens Marking: B 2.8. Vented (Direct Ventilation): Yes 3. PACKAGE INCLUSION: 3.1. One (1) pc - Safety Goggles with Clear Lenses 4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.	8	pc	467.50	3,740.00
9	Wire Stripper 1. GENERAL: 1.1. Tool for stripping wire sizes of 10 to 20 AWG. 2. TECHNICAL SPECS: 2.1. Cable Type: Solid 2.2. Stripping Range: 0.8 – 2.6mm 2.3. Minimum Size: 0.8mm 2.4. Maximum Size: 2.6mm 2.5. Overall Length: 155mm 2.6. With contoured comfort grips 2.7. With lock lid design for easy storage	4	pc	2400.00	9,600.00

	<p>3. PACKAGE INCLUSION: 3.1. One (1) pc - Wire Stripper</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.</p>				
10	<p>Blue Table ESD-Safe Mat, 914.4mm x 609.6mm x 3.43mm</p> <p>1. GENERAL: 1.1. 3-layer ESD grounding vinyl worksurface mat.</p> <p>2. TECHNICAL SPECS: 2.1. Mat Type: Table, Workbench 2.2. Shape: Rectangle 2.3. Length: 3' (0.91m) 2.4. Width: 2' (0.61m) 2.5. Color: Blue 2.6. Material: Vinyl 2.7. Number of Layers: 3 2.7.1. Top Layer: Dissipative Vinyl 2.7.2. Center Layer: Conductive Metal Scrim 2.7.3. Bottom Layer: Dissipative Cushion 2.8. Features: Dissipative 2.9. Includes: Ground Cord</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) pc - Blue Table ESD-Safe Mat, 914.4mm x 609.6mm x 3.43mm 3.2. One (1) pc - 4.6 m Low-Profile Common Ground Cord, 10mm stud snap, 1MΩ Resistor 3.3. Two (2) Female 3/8" Snaps (installed)</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.</p>	2	pc	8800.00	17,600.00
11	<p>PCB Clamp Holder</p> <p>1. GENERAL: 1.1. Tool for holding PCBs while soldering operations on thin components.</p> <p>2. TECHNICAL SPECS: 2.1. Type: PCB Holder 2.2. Vice Type: PCB Vice 2.3. Jaw Opening: 10mm</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) set - PCB Clamp Holder 3.1.1. One (1) pc - PCB Clamp Holder Base 3.1.2. Two (2) pcs - Crocodile/Alligator Clips 3.1.3. One (1) pc - Magnifier Head with x 2 enlargements</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the</p>	4	pc	1250.00	5,000.00

	<p>specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
12	<p>Pinsets</p> <p>1. GENERAL:</p> <p>1.1. Set of anti-acid and anti-magnetic tweezers for laboratory.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Material: Stainless Steel</p> <p>2.2. Number of Pieces: 7</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Pinsets</p> <p>3.1.1. 1x - 5.SA.BS</p> <p>3.1.2. 1x - 31.SA.5</p> <p>3.1.3. 1x - SS.SA.BS</p> <p>3.1.4. 1x - 574.SA.1</p> <p>3.1.5. 1x - 29.SA.5</p> <p>3.1.6. 1x - 3.SA.BS</p> <p>3.1.7. 1x - 122.SA.1</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	6	set	3530.00	21,180.00
13	<p>30 Slots Plastic Drawer</p> <p>1. GENERAL:</p> <p>1.1. Container for safely storing small components.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Drawers: 30</p> <p>2.2. Case Material: Plastic</p> <p>2.3. Height: 420mm</p> <p>2.4. Width: 270mm</p> <p>2.5. Depth: 130mm</p> <p>2.6. Transparent Drawers: No</p> <p>2.7. Drawer Material: Plastic</p> <p>2.8. Tilt Drawers: No</p> <p>2.9. Color: Black</p> <p>2.10. Wall Mounted: Yes</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 30 Slots Plastic Drawer</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	pc	3500.00	7,000.00
14	<p>10-piece Breadboard Jumper Wire Kit (F-F)</p>	2	set	440.00	880.00

	<p>1. GENERAL:</p> <p>1.1. Used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Connector Type: Female to Female</p> <p>2.2. Length: 15cm</p> <p>2.3. Colors included: Black, Blue, Green, Grey, Orange, Pink, Purple, Red, Yellow, White</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 10-piece Breadboard Jumper Wire Kit (F-F)</p> <p>4. NOTES:</p> <p>4.1 The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2 Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3 Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4 Payment upon full delivery.</p>				
15	<p>10-piece Breadboard Jumper Wire Kit (M-M)</p> <p>1. GENERAL:</p> <p>1.1. Used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Connector Type: Male to Male</p> <p>2.2. Length: 15cm</p> <p>2.3. Colors included: Black, Blue, Green, Grey, Orange, Pink, Purple, Red, Yellow, White</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 10-piece Breadboard Jumper Wire Kit (M-M)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	set	440.00	880.00
16	<p>10-piece Breadboard Jumper Wire Kit (M-F)</p> <p>1. GENERAL:</p> <p>1.1. Used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Connector Type: Male to Female</p> <p>2.2. Length: 15cm</p> <p>2.3. Colors included: Black, Blue, Green, Grey, Orange, Pink, Purple, Red, Yellow, White</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 10-piece Breadboard Jumper Wire Kit (M-F)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p>	2	set	440.00	880.00

	<p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
17	<p>Black, 0.05 mm² Equipment Wire, 100m</p> <p>1. GENERAL:</p> <p>1.1. A reel of wire used for electrical connection between electronic components and modules.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Cross Sectional Area: 0.05 mm²</p> <p>2.2. Sheath Color: Black</p> <p>2.3. American Wire Gauge: 30 AWG</p> <p>2.4. Core Strands: 1/0.25 mm</p> <p>2.5. Insulation Material: ETFE</p> <p>2.6. Outer Diameter: 0.56mm</p> <p>2.7. Length: 100m</p> <p>2.8. Voltage Rating: 375 V</p> <p>2.9. Conductor Material: Tinned Copper</p> <p>2.10. Maximum Operating Temperature: +150°C</p> <p>2.11. Minimum Operating Temperature: -90°C</p> <p>2.12. Insulation Wall Thickness: 0.5mm</p> <p>2.13. Standards Met: RoHS Compliant</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) reel - Black, 0.05 mm² Equipment Wire, 100m</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	roll	6320.00	6,320.00
18	<p>Red, 0.05 mm² Equipment Wire, 100m</p> <p>1. GENERAL:</p> <p>1.1. A reel of wire used for electrical connection between electronic components and modules.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Cross Sectional Area: 0.05 mm²</p> <p>2.2. Sheath Color: Red</p> <p>2.3. American Wire Gauge: 30 AWG</p> <p>2.4. Core Strands: 1/0.25 mm</p> <p>2.5. Insulation Material: ETFE</p> <p>2.6. Outer Diameter: 0.56mm</p> <p>2.7. Length: 100m</p> <p>2.8. Voltage Rating: 375 V</p> <p>2.9. Conductor Material: Tinned Copper</p> <p>2.10. Maximum Operating Temperature: +150°C</p> <p>2.11. Minimum Operating Temperature: -90°C</p> <p>2.12. Insulation Wall Thickness: 0.5mm</p> <p>2.13. Standards Met: RoHS Compliant</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) reel - Red, 0.05 mm² Equipment Wire, 100m</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes</p>	1	roll	6320.00	6,320.00

	<p>and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
19	<p>Green, 0.05 mm² Equipment Wire, 100m</p> <p>1. GENERAL:</p> <p>1.1. A reel of wire used for electrical connection between electronic components and modules.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Cross Sectional Area: 0.05 mm²</p> <p>2.2. Sheath Color: Green</p> <p>2.3. American Wire Gauge: 30 AWG</p> <p>2.4. Core Strands: 1/0.25 mm</p> <p>2.5. Insulation Material: ETFE</p> <p>2.6. Outer Diameter: 0.56mm</p> <p>2.7. Length: 100m</p> <p>2.8. Voltage Rating: 375 V</p> <p>2.9. Conductor Material: Tinned Copper</p> <p>2.10. Maximum Operating Temperature: +150°C</p> <p>2.11. Minimum Operating Temperature: -90°C</p> <p>2.12. Insulation Wall Thickness: 0.5mm</p> <p>2.13. Standards Met: RoHS Compliant</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) reel - Green, 0.05 mm² Equipment Wire, 100m</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	roll	6320.00	6,320.00
20	<p>Blue, 0.05 mm² Equipment Wire, 100m</p> <p>1. GENERAL:</p> <p>1.1. A reel of wire used for electrical connection between electronic components and modules.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Cross Sectional Area: 0.05 mm²</p> <p>2.2. Sheath Color: Blue</p> <p>2.3. American Wire Gauge: 30 AWG</p> <p>2.4. Core Strands: 1/0.25 mm</p> <p>2.5. Insulation Material: ETFE</p> <p>2.6. Outer Diameter: 0.56mm</p> <p>2.7. Length: 100m</p> <p>2.8. Voltage Rating: 375 V</p> <p>2.9. Conductor Material: Tinned Copper</p> <p>2.10. Maximum Operating Temperature: +150°C</p> <p>2.11. Minimum Operating Temperature: -90°C</p> <p>2.12. Insulation Wall Thickness: 0.5mm</p> <p>2.13. Standards Met: RoHS Compliant</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) reel - Blue, 0.05 mm² Equipment Wire, 100m</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p>	1	roll	6690.00	6,690.00

	<p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
21	<p>Lead-Free Soldering Iron Tips</p> <p>1. GENERAL:</p> <p>1.1. Electronic accessories solder tip for existing Soldering Iron.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Must be compatible with the following Hakko Soldering Stations and Systems:</p> <p>2.1.1. Hakko FX-888 Soldering Station</p> <p>2.1.2. Hakko 913 ESD Safe Fume Extraction Iron (Requires a Fume Extraction System)</p> <p>2.1.3. Hakko 907 Soldering Iron</p> <p>2.1.4. Hakko 907-ESD Soldering Iron</p> <p>2.1.5. Hakko 900M Soldering Iron</p> <p>2.1.6. Hakko 900M-ESD Soldering Iron</p> <p>2.1.7. Hakko 928 Soldering Station</p> <p>2.1.8. Hakko 936 Soldering Station</p> <p>2.1.9. Hakko 936-ESD Soldering Station</p> <p>2.1.10. Hakko 937 Soldering Station</p> <p>2.1.11. Hakko 703 Soldering Station</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Knife-shaped Tip</p> <p>3.2. One (1) pc - 0.2mm Radius Sharp Conical-shaped Tip</p> <p>3.3. One (1) pc - 0.2mm Radius Sharp Short Conical-shaped Tip</p> <p>3.4. One (1) pc - 0.5mm Radius Conical-shaped Tip</p> <p>3.5. One (1) pc - 0.2mm Radius Long Conical-shaped Tip</p> <p>3.6. One (1) pc - 0.2mm Radius Conical-shaped Tip</p> <p>3.7. One (1) pc - 1mm Bevel-shaped Tip</p> <p>3.8. One (1) pc - 2.1mm Bevel-shaped Tip</p> <p>3.9. One (1) pc - 3.2mm Bevel-shaped Tip</p> <p>3.10. One (1) pc - 4.2mm Bevel-shaped Tip</p> <p>3.11. One (1) pc - 0.8mm Chisel-shaped Tip</p> <p>3.12. One (1) pc - 1.2mm Chisel-shaped Tip</p> <p>3.13. One (1) pc - 1.6mm Chisel-shaped Tip</p> <p>3.14. One (1) pc - 2.4mm Chisel-shaped Tip</p> <p>3.15. One (1) pc - 3.2mm Chisel-shaped Tip</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	set	8170.00	16,340.00
22	<p>10g Syringe Lead Free Solder Flux</p> <p>1. GENERAL:</p> <p>1.1. For rework, solder, de-solder and reflow applications in PCB.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Lead Free</p> <p>2.2. Package Type: 10cc Syringe</p>	3	pc	2280.00	6,840.00

	<p>2.3. Package Size: 10g</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 10g Syringe Lead Free Solder Flux</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
23	<p>1.5m Desoldering Braid, Width 2.5mm</p> <p>1. GENERAL:</p> <p>1.1. A pre-fluxed copper braid for clean removal of solder (for replacement of components and removal of excess solder).</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Width: 2.5mm</p> <p>2.2. Length: 1.5m</p> <p>2.3. Flux Type: Grade WW, Type-R</p> <p>2.4. Clean-up Required: No</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 1.5m Desoldering Braid, Width 2.5mm</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	roll	630.00	3,150.00
24	<p>Breadboard</p> <p>1. GENERAL:</p> <p>1.1. Tool that is used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Type: Prototyping Board</p> <p>2.2. Length: 80mm</p> <p>2.3. Width: 60mm</p> <p>2.4. Height: 10mm</p> <p>2.5. With 390 connection points</p> <p>2.6. With 58 horizontal interconnections</p> <p>2.7. With 4 vertical interconnections</p> <p>2.8. With 4 switchable integrated circuits (ICs)</p> <p>2.9. With 2.54mm hole pitch</p> <p>2.10. With Strong ABS polymer body</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Breadboard</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p>	2	pc	2124.00	4,248.00

	4.4. Payment upon full delivery.				
25	<p>Breadboard Prototyping Board (240 x 195 x 21mm)</p> <p>1. GENERAL:</p> <p>1.1. Tool that is used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Type: Prototyping Board</p> <p>2.2. Length: 240mm</p> <p>2.3. Width: 195mm</p> <p>2.4. Height: 21mm</p> <p>2.5. With 2,420 connection points</p> <p>2.6. With 1,920 horizontal connections</p> <p>2.7. With 500 vertical connections</p> <p>2.8. With 24 switchable integrated circuits (ICs)</p> <p>2.9. Conforms to ANSI/ESD S20.20:2014 and BS EN 61340-5-1:2007 Electrostatic Control Standards</p> <p>2.10. RoHS (Restriction of Hazardous Substances) compliant</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) unit - Breadboard Prototyping Board (240 x 195 x 21mm)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	set	8800.00	8,800.00
26	<p>Neodymium Magnet 4.9kg, (L25mm, W 10mm 5mm)</p> <p>1. GENERAL:</p> <p>1.1. Tool that is used for holding applications (attaching and mounting) in development and prototyping.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Magnet Type: Block</p> <p>2.2. Width/Diameter: 10mm</p> <p>2.3. Pull Force: 4.9kg</p> <p>2.4. Thickness: 5mm</p> <p>2.5. Length: 25mm</p> <p>2.6. Attachment Type: None</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) box - Neodymium Magnet 4.9kg, (L25mm, W 10mm 5mm)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	10	set	4230.00	42,300.00
27	<p>Stepper Motor Nema 17 4500g-cm</p> <p>1. GENERAL:</p> <p>1.1. Stepper motor with Nema 17 form factor for precise position control applications.</p>	5	pc	1280.00	6,400.00

	<p>2. TECHNICAL SPECS:</p> <p>2.1. Form Factor: Nema 17</p> <p>2.2. Step Angle: 1.8 degrees</p> <p>2.3. Motor Length: 48 mm</p> <p>2.4. Rated Voltage: 3.6 V</p> <p>2.5. Rated Current: 1.2 A</p> <p>2.6. Phase Resistance: 3 Ω</p> <p>2.7. Phase Inductance: 5 mH</p> <p>2.8. Holding Torque: 4500 g-cm</p> <p>2.9. No. of Lead Wires: 4</p> <p>2.10. Rotor Inertia: 68 g-cm²</p> <p>2.11. Detent Torque: 280 g-cm</p> <p>2.12. Motor Weight: 0.36 kg</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Stepper Motor Nema 17 4500g-cm</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
28	<p>Stepper Motor 28BYJ-48 with ULN2003 driver</p> <p>1. GENERAL:</p> <p>1.1. A stepper motor with driver that can be used for accurate control.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Stepper Motor 28BYJ-48</p> <p>2.1.1. Diameter: 28mm</p> <p>2.1.2. Voltage: 5V</p> <p>2.1.3. Step Angle: 5.625 x 1 / 64</p> <p>2.1.4. Reduction Ratio: 1 / 64</p> <p>2.2. ULN2003 Driver</p> <p>2.2.1. Logic Control Voltage: 3 – 5.5V</p> <p>2.2.2. Motor Supply Voltage: 5 – 15V</p> <p>2.2.3. Can sink 500mA from a 50V supply, but better to limit the driver voltage under 15V.</p> <p>2.2.4. Operating Temperature: -25°C to +90°C</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Stepper Motor 28BYJ-48 with ULN2003 Driver</p> <p>3.1.1. One (1) pc - stepper motor 28BYJ-48</p> <p>3.1.2. One (1) pc - ULN2003 driver</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	set	400.00	2,000.00
29	<p>Stepper Motor Nema 23 9kg-cm (125 oz-in)</p> <p>1. GENERAL:</p> <p>1.1. Stepper motor with Nema 23 form factor for precise position control applications</p> <p>2. TECHNICAL SPECS:</p>	5	pc	1600.00	8,000.00

	<p>2.1. Form Factor: Nema 23 2.2. Step Angle: 1.8 degrees 2.3. Motor Length: 56 mm 2.4. Rated Voltage: 3.6 V 2.5. Rated Current: 2 A 2.6. Phase Resistance: 1.8 Ω 2.7. Phase Inductance: 2.5 mH 2.8. Holding Torque: 9 kg-cm 2.9. No. of Lead Wires: 6 2.10. Rotor Inertia: 300 g-cm² 2.11. Detent Torque: 400 g-cm 2.12. Motor Weight: 0.7 kg</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) pc - Stepper Motor Nema 23 9kg-cm (125 oz-in)</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.</p>				
30	<p>Aluminum Extrusion 2020 1500L</p> <p>1. GENERAL: 1.1. 20mm x 20mm Aluminum extrusion.</p> <p>2. TECHNICAL SPECS: 2.1. Mass (kg/m): 0.53 2.2. Number of Flutes: 1 row groove x 1 row groove 2.3. Length (mm): 1500 2.4. Cross-sectional Area (mm²): 194.7 2.5. Frame Width (mm): 20 2.6. Size (mm): 20x20 2.7. Yield Strength (N/mm²): 215 or more 2.8. Tensile Strength (N/mm²): 245 or more 2.9. Type: 4-sided groove 2.10. Elongation (%): 8 or more 2.11. Material (Main Unit): A6063S-T5 2.12. Sectional Secondary Moment: $I_x=7.87 \times 10^3 \text{mm}^4$ $I_y=7.87 \times 10^3 \text{mm}^4$ 2.13. Shape: Square 2.14. Surface Treatment (Main Unit): White anodized</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) pc - Aluminum Extrusion 2020 1500L</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.</p>	10	pc	1780.00	17,800.00
31	<p>Aluminum Extrusion 2040 900L</p> <p>1. GENERAL: 1.1. 20mm x 40mm Aluminum extrusion.</p> <p>2. TECHNICAL SPECS: 2.1. Length (mm): 900</p>	10	pc	1030.00	10,300.00

	<p>2.2. Frame Width (mm): 20</p> <p>2.3. Size (mm): 20x40</p> <p>2.4. Type: 4-sided groove</p> <p>2.5. Shape: Rectangle</p> <p>2.6. Surface Treatment (Main Unit): Black anodized</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Aluminum Extrusion 2040 900L</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
32	<p>Aluminum Extrusion 3030 1500L (30 x 30 x 1500mm)</p> <p>1. GENERAL:</p> <p>1.1. 30mm x 30mm Aluminum extrusion.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Mass (kg/m): 0.98</p> <p>2.2. Number of Flutes: 1 row groove x 1 row groove</p> <p>2.3. Length (mm): 1500</p> <p>2.4. Cross-sectional Area (mm²): 327</p> <p>2.5. Frame Width (mm): 30</p> <p>2.6. Size (mm): 30x30</p> <p>2.7. Yield Strength (N/mm²): 215 or more</p> <p>2.8. Tensile Strength (N/mm²): 245 or more</p> <p>2.9. Type: 4-sided groove</p> <p>2.10. Elongation (%): 8 or more</p> <p>2.11. Material (Main Unit): A6063S-T5</p> <p>2.12. Sectional Secondary Moment: I_x=2.99x10⁴mm⁴I_y=2.99x10⁴mm⁴</p> <p>2.13. Shape: Square</p> <p>2.14. Surface Treatment (Main Unit): White anodized</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Aluminum Extrusion 3030 1500L (30 x 30 x 1500mm)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	10	pc	2640.00	26,400.00
33	<p>Seamless Corner Connector for 2020 aluminum profile</p> <p>1. GENERAL:</p> <p>1.1. Seamless corner connector for 20mm x 20mm aluminum profile.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: For aluminum profile 20mm x 20mm</p> <p>2.2. Material: Aluminum</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Seamless Corner Connector for 2020 aluminum profile</p>	50	pc	70.00	3,500.00

	<p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
34	<p>Seamless Corner Connector for 3030 aluminum profile</p> <p>1. GENERAL:</p> <p>1.1. Seamless corner connector for 30mm x 30mm aluminum profile.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: For aluminum profile 30mm x 30mm</p> <p>2.2. Material: Aluminum</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Seamless Corner Connector for 3030 aluminum profile</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	50	pc	80.00	4,000.00
35	<p>End Cap for 2020 Al profile (Black)</p> <p>1. GENERAL:</p> <p>1.1. End cap for 20mm x 20mm Aluminum profile.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: For aluminum profile 20mm x 20mm</p> <p>2.2. Color: Black</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - End Cap for 2020 Al profile (Black)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	20	pc	10.00	200.00
36	<p>End Cap for 3030 Al profile (Black)</p> <p>1. GENERAL:</p> <p>1.1. End cap for 30mm x 30mm Aluminum profile.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: For aluminum profile 30mm x 30mm</p> <p>2.2. Color: Black</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - End Cap for 3030 Al profile (Black)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p>	20	pc	20.00	400.00

	<p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
37	<p>M4 x 10mm Hex Socket Cap Screw</p> <p>1. GENERAL:</p> <p>1.1. An M4 x 10mm Hex socket cap screw.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Thread Size: M4 x 10mm</p> <p>2.2. Exterior Finish: Stainless Steel</p> <p>2.3. Thread Style: Right Hand</p> <p>2.4. Drive System: Internal Hex</p> <p>2.5. Grade Rating: 304</p> <p>2.6. Specification Met: Din 912</p> <p>2.7. Head Style: Socket Cap</p> <p>2.8. Material: Stainless Steel</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - M4 x 10mm Hex Socket Cap Screw</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	100	pc	10.00	1,000.00
38	<p>M5 x 10mm Hex Socket Cap Screw (50pcs)</p> <p>1. GENERAL:</p> <p>1.1. 50 pcs of M5 x 10mm hex socket cap screw.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Thread Size: M5 x 10mm</p> <p>2.2. Exterior Finish: Plain</p> <p>2.3. Material: Stainless Steel</p> <p>2.4. Head Type: Hex Socket Cap</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) box - Fifty (50) pcs - M4 x 10mm Hex Socket Cap Screw</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	set	780.00	1,560.00
39	<p>Electric Handheld Corded Rotary Kit</p> <p>1. GENERAL:</p> <p>1.1. Features 175 watt motor with an RPM of 5000-35000.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Rated power input: 175 W</p> <p>2.2. Voltage: 230 V</p> <p>2.3. Weight: 0.66 kg</p> <p>2.4. Length: 23 cm</p> <p>2.5. Width: 4.1 cm</p>	4	pc	14999.00	59,996.00

	<p>2.6. Depth: 4.3 cm</p> <p>2.7. No load speed: 5,000 - 35,000 1/min</p> <p>2.8. Speed setting: Fully Variable</p> <p>2.9. Accessory quick-change system: EZ Twist</p> <p>2.10. Sound pressure: 77.9 dB(A)</p> <p>2.11. Sound power: 88.9 dB(A)</p> <p>2.12. Vibration: $2.6 \pm 11.4 \text{ m/s}^2$</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Electric Handheld Corded Rotary Tool Kit</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
40	<p>Bench Drill Press</p> <p>1. GENERAL:</p> <p>1.1. Electronic tool used to bore precise holes with minimal effort.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Voltage: 220V</p> <p>2.2. Continuous rating input: 250W</p> <p>2.3. HP: 1/3</p> <p>2.4. Drilling capacity</p> <p>2.4.1. Steel: 13 mm (1/2")</p> <p>2.4.2. Wood: 24 mm (15/16")</p> <p>2.5. Rotation (RPM)</p> <p>2.5.1. 50Hz: 570, 890, 1,300, 1,900, 2,670</p> <p>2.5.2. 60Hz: 690, 1,070, 1,560, 2,280, 3,200</p> <p>2.6. No Load Speed (RPM): 3,200 (60Hz)</p> <p>2.7. Net weight: 20 kg (44.1 lbs)</p> <p>2.8. Power supply cord: 1.75 m (5.7 ft)</p> <p>2.9. With 5 mode speed</p> <p>2.10. Turn table (right or left: 45°)</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) unit - Bench Drill Press</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	pc	14999.00	14,999.00
41	<p>Desktop Label Printer</p> <p>1. GENERAL:</p> <p>1.1. Electronic device for printing on self-adhesive label material.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Keyboard: QWERTY</p> <p>2.2. Media Type: TZe Tape</p> <p>2.3. Tape Widths: 3.5, 6, 9, 12mm</p> <p>2.4. Dimension (W x D x H): 157 mm x 149 mm x 68 mm</p>	1	pc	6150.00	6,150.00

	<p>2.5. Weight: 0.49 kg</p> <p>2.6. With at least 6 months Warranty</p> <p>2.7. Print Output</p> <p>2.7.1. Print Resolution: 180 dpi</p> <p>2.7.2. Print Speed: 20mm/s</p> <p>2.7.3. No. of Lines Printable: 2</p> <p>2.7.4. No. of Symbols: 617</p> <p>2.7.5. Bar Code: No</p> <p>2.8. Functions</p> <p>2.8.1. Cutter: Manual</p> <p>2.8.2. Mirror Printing: Yes</p> <p>2.8.3. Preview: Yes</p> <p>2.9. Memory Buffer Size: Up to 2,400 characters</p> <p>2.10. Power Supply</p> <p>2.10.1. AAA x 6 pcs (LR03 / Ni-MH x 6 pcs)</p> <p>2.10.2. Auto Power-off: Yes</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) unit - Desktop Label Printer</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
42	<p>Anti Static Gloves</p> <p>1. GENERAL:</p> <p>1.1. ESD safe gloves made from an elastic, non-bright processed fabric containing a continuous filament knitted with a carbon core.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: 8 - M</p> <p>2.2. Palm Material: PET</p> <p>2.3. Lining: 100% Polyester with conductive carbon line every 10mm</p> <p>2.4. Latex Free: Yes</p> <p>2.5. Number of Gloves: 2</p> <p>2.6. Reusable</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pair - Anti Static Gloves</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	10	pair	630.00	6,300.00
43	<p>Small Single-Board x64-x86 Microcomputer</p> <p>1. GENERAL:</p> <p>1.1. Development Board for x64-x86 Microcomputer small scale product testing and development.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Processor: Intel 7th Gen Core M3-7Y30</p> <p>2.2. Frequency: 1.6 GHz to 2.6 GHz, Four-Thread</p> <p>2.3. Benchmark (PassMark): Up to 3500</p>	2	pc	36510.00	73,020.00

	<p>2.4. Maximum RAM Capacity: 8 GB</p> <p>2.5. Installed RAM: 8 GB</p> <p>2.6. Graphics: Intel HD Graphics 615, 300-900MHz</p> <p>2.7. Interface Type: Bluetooth, Ethernet, GPIO, HDMI, I2C, I2S, PCIe, UART, USB 3.0, USB Type-C, WiFi</p> <p>2.8. Memory Type: LPDDR3 1866MHz Dual-Channel</p> <p>2.9. Type: Single Board Computers, Computing</p> <p>2.10. OS Support: Windows 10 Pro, Linux Ubuntu</p> <p>2.11. Unit Weight: 1.181 lbs</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) Unit - Development board</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
44	<p>Digital Microscope USB</p> <p>1. GENERAL:</p> <p>1.1. 3.5in Standalone LCD digital microscope for inspection of micro-electronics components.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Magnification Power: 10x to 300x</p> <p>2.2. Frame Rate: 30fps</p> <p>2.3. Resolution: 5M pixels</p> <p>2.4. Illuminated: Yes</p> <p>2.5. Illumination Type: LED</p> <p>2.6. Interface Type: USB</p> <p>2.7. Battery Operated: Yes</p> <p>2.8. Battery Type: Rechargeable Li-ion</p> <p>2.9. Plug Type: USB</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Digital microscope USB</p> <p>3.1.1. One (1) pc - Digital Microscope USB</p> <p>3.1.2. One (1) pc - Adaptor 1A with VDE, BS, Aus & USA interchangeable faces</p> <p>3.1.3. One (1) pc - USB cable</p> <p>3.1.4. One (1) pc - TV cable</p> <p>3.1.5. One (1) pc - Manual</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	pc	18681.87	37,363.74
45	<p>Metal Film Through Hole 144 Resistor Kit, with 3080 pieces, 1 → 10MΩ</p> <p>1. GENERAL:</p> <p>1.1. Set of 1Ω to 10MΩ metalfilm resistor kit in a ring binder.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Mounting Type: Through Hole</p>	1	set	43420.00	43,420.00

	<p>2.2. Number of Values: 144</p> <p>2.3. Resistance Range: 1Ω to 10MΩ</p> <p>2.4. Technology: Metal Film</p> <p>2.5. Series: CBR-14, Axial</p> <p>2.6. Number of Pieces: 3,080</p> <p>2.7. Resistance Tolerance: ±1%</p> <p>2.8. Maximum Power Rating: 0.6W</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Metal Film Through Hole 144 Resistor Kit, with 3080 pieces, 1 → 10MΩ</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
46	<p>0603 Thick Film SMT 120 Resistor Kit, with 18100 pieces, 10 → 1MΩ</p> <p>1. GENERAL:</p> <p>1.1. Set of 10Ω to 1MΩ SMT thick film chip resistor kit in a ring binder.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Mounting Type: Surface Mount</p> <p>2.2. Number of Values: 120</p> <p>2.3. Resistance Range: 10Ω to 1MΩ</p> <p>2.4. Technology: Thick Film</p> <p>2.5. Series: SMR-61</p> <p>2.6. Number of Pieces: 18,100</p> <p>2.7. Resistance Tolerance: ±1%</p> <p>2.8. Maximum Power Rating: 0.1W</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 0603 Thick Film SMT 120 Resistor Kit, with 18100 pieces, 10 → 1MΩ</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	set	26400.00	26,400.00
47	<p>1206 Thick Film SMT 144 Resistor Kit, with 16260 pieces, 1 → 10MΩ</p> <p>1. GENERAL:</p> <p>1.1. Set of 1KΩ to 1MΩ SMT chip metalfilm resistor kit in a ring binder.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Mounting Type: Surface Mount</p> <p>2.2. Number of Values: 144</p> <p>2.3. Resistance Range: 1KΩ to 10MΩ</p> <p>2.4. Technology: Thick Film</p> <p>2.5. Series: SMR-03</p> <p>2.6. Number of Pieces: 16,260</p> <p>2.7. Resistance Tolerance: ±1%</p> <p>3. PACKAGE INCLUSION:</p>	1	set	37200.00	37,200.00

	<p>3.1. One (1) set - 1206 Thick Film SMT 144 Resistor Kit, with 16260 pieces, 1 → 10MΩ</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
48	<p>Small Single-Board Computer</p> <p>1. GENERAL</p> <p>1.1. 8GB memory with true Gigabit Ethernet, USB-C power, USB 3.0, dual 4k display output and a quad-core CPU</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Processor: Broadcom BCM2711, quad-core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz</p> <p>2.2. Memory: 8GB</p> <p>2.3. Connectivity:</p> <p>2.3.1. 2.4 GHz and 5.0 GHz IEEE 802.11b/g/n/ac wireless LAN, Bluetooth 5.0, BLE Gigabit Ethernet</p> <p>2.3.2. 2 × USB 3.0 ports</p> <p>2.3.3. 2 × USB 2.0 ports.</p> <p>2.4. GPIO: Standard 40-pin GPIO header (fully backwards-compatible with previous boards)</p> <p>2.5. Video & sound:</p> <p>2.5.1. 2 × micro HDMI ports (up to 4Kp60 supported)</p> <p>2.5.2. 2-lane MIPI DSI display port</p> <p>2.5.3. 2-lane MIPI CSI camera port</p> <p>2.5.4. 4-pole stereo audio and composite video port</p> <p>2.6. Multimedia:</p> <p>2.6.1. H.265 (4Kp60 decode);</p> <p>2.6.2. H.264 (1080p60 decode, 1080p30 encode);</p> <p>2.6.3. OpenGL ES, 3.0 graphics</p> <p>2.7. SD card support: Micro SD card slot for loading operating system and data storage</p> <p>2.8. Input power:</p> <p>2.8.1. 5V DC via USB-C connector (minimum 3A1)</p> <p>2.8.2. 5V DC via GPIO header (minimum 3A1)</p> <p>2.8.2. Power over Ethernet (PoE)-enabled (requires separate PoE HAT)</p> <p>2.9. Environment: Operating temperature 0–50°C</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) Unit - Small Single-Board Computer</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	unit	6570.00	6,570.00
49	<p>LCD Touch Display</p> <p>1. GENERAL</p>	1	unit	5610.00	5,610.00

	<p>1.1. 7 inches Capacitive touch screen for small single-board computer</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. 7 Inches Touch screen Display.</p> <p>2.2. Screen Dimensions: 194mm x 110mm x 20mm (including standoffs)</p> <p>2.3. Weight incl Packaging: 336 gram</p> <p>2.4. Viewable screen size: 155mm x 86mm</p> <p>2.5. Screen Resolution 800 x 480 pixels</p> <p>2.6. 10 finger capacitive touch.</p> <p>2.7. Connects to the Raspberry Pi board using a ribbon cable connected to the DSI port.</p> <p>2.8. Adapter board is used to power the display and convert the parallel signals from the display to the serial (DSI) port on the Raspberry Pi.</p> <p>2.9. Will require the latest version of Raspbian OS to operate correctly.</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) unit - 7" Touch screen Display</p> <p>3.2. One (1) unit - Adapter Board</p> <p>3.3. One (1) pc - DSI Ribbon cable</p> <p>3.4. Four (4) pcs - stand-offs and screws</p> <p>3.5. Four (4) pcs - jumper wires</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
50	<p>Thermocouple, AC/DC Load, Motor Interface Development Board Module</p> <p>1. GENERAL</p> <p>1.1. Development board shield with 4-channel, high-resolution thermocouple interface.</p> <p>1.2. For temperature measurement, logging and control applications.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. With 4-channel, high-resolution thermocouple interface.</p> <p>2.2. With 2-channel SSR drivers for AC loads, and single-channel DC driver for DC fan motors.</p> <p>2.3. Full compatibility with TC4-based Arduino sketches and established software ecosystem.</p> <p>2.4. Highly simplified control of popcorn machine based roasters: On-board voltage regulator and DC PWM driver allow popcorn roaster setup with just the TC4+, a single DC power supply and one solid state relay.</p> <p>2.5. Designed with a high degree of flexibility in mind. Wide range of voltage regulators supported; extra I2C headers for displays and other peripherals; retains all TC4 features and full Arduino pinout.</p> <p>2.6. Wireless control with optional Bluetooth module.</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) Unit - Thermocouple, AC/DC Load, Motor Interface Development Board Module</p> <p>4. NOTES:</p>	1	unit	4860.00	4,860.00

	<p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
51	<p>Development Board</p> <p>1. GENERAL</p> <p>1.1. Development board with ATmega328 single-chip microcontroller</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Microcontroller: ATmega328</p> <p>2.2. Operating Voltage: 5V</p> <p>2.3. Supply Voltage (recommended): 7-12V</p> <p>2.4. Maximum supply voltage (not recommended): 20V</p> <p>2.5. Digital I/O Pins: 14 (of which 6 provide PWM output)</p> <p>2.6. Analog Input Pins: 6</p> <p>2.7. DC Current per I/O Pin: 40 mA</p> <p>2.8. DC Current for 3.3V Pin: 50 mA</p> <p>2.9. Flash Memory: 32 KB (ATmega328) of which 0.5 KB used by bootloader</p> <p>2.10. SRAM: 2 KB (ATmega328)</p> <p>2.11. EEPROM: 1 KB (ATmega328)</p> <p>2.12. Clock Speed: 16 MHz</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) Unit - Development Board</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	unit	1830.00	1,830.00
52	<p>Full size breadboard – 800 Tie Points</p> <p>1. GENERAL:</p> <p>1.1. Tools used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Type: Prototyping Board</p> <p>2.2. Length: 170mm</p> <p>2.3. Width: 55mm</p> <p>2.4. Height: 10mm</p> <p>2.5. Weight: 80g</p> <p>2.6. With 800 tie points</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Full size breadboard – 800 Tie Points</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p>	1	pc	110.00	110.00

	<p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
53	<p>Half size breadboard – 400 Tie Points</p> <p>1. GENERAL:</p> <p>1.1. Tools used as alternative low cost of initial prototyping before finally using PCB technology.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Type: Prototyping Board</p> <p>2.2. Length: 85mm</p> <p>2.3. Width: 55mm</p> <p>2.4. Height: 10mm</p> <p>2.5. Weight: 40g</p> <p>2.6. With 400 tie points</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - Half size breadboard – 400 Tie Points</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	3	pc	80.00	240.00
54	<p>M2.5 / M3 Nylon M-F Hex Spacers Screw Nut Assortment Kit</p> <p>1. GENERAL:</p> <p>1.1. Prototyping Accessories</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: M2.5 / M3</p> <p>2.2. Material: Nylon</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - M2.5 / M3 Nylon M-F Hex Spacers Screw Nut Assortment Kit</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	kit	260.00	260.00
55	<p>530 pcs 2:1 Heat Shrink Tubing Insulation Wire Cable Sleeve Kit</p> <p>1. GENERAL:</p> <p>1.1. 530 pcs of Heat shrink tubing with 8 different diameter sizes.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Specification: 1.5mm / 2mm / 3mm / 4mm / 5mm / 6mm / 8mm / 10mm</p> <p>2.2. Material: Polyolefin</p> <p>2.3. Shrinkage Ratio: 2:1 (will maximum shrink to 1/2 its supplied diameter)</p> <p>2.4. Minimum Shrinkage Temp.: ≥84°C</p> <p>2.5. Full Shrinkage Temp.: ≥120°C</p>	1	kit	320.00	320.00

	<p>2.6. Operating Temp.: -55°C to +125°C</p> <p>2.7. Tensile Strength: 10.4 Mpa</p> <p>2.8. Dielectric Strength: 15 KV/mm</p> <p>2.9. Manufacture Specification: ISO9001</p> <p>2.10. Flammability: Flame Retardant</p> <p>2.11. Approvals: UL Approved</p> <p>2.12. Supplied Format: Product is supplied flat</p> <p>2.13. Cutting Method: Scissors or sharp knife</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 530 pcs 2:1 Heat Shrink Tubing Insulation Wire Cable Sleeve Kit</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
56	<p>Etching Agent NaPS 0.5kg</p> <p>1. GENERAL:</p> <p>1.1. Chemical consumable that serves as oxidizer for copper.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Chemical Composition: Sodium Persulfate</p> <p>2.2. Molecular Weight: 238.03</p> <p>2.3. Solubility in water: 700 g / liter (20 °C)</p> <p>2.4. The acidity (pKa): 6.0 (1% solution)</p> <p>2.5. Form: Crystals</p> <p>2.6. Color: White</p> <p>2.7. Specific Weight: 2.4</p> <p>2.8. Odor: Odorless</p> <p>2.9. Expiration: 24 months</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) jar - 0.5 kg (sufficient for approx. 2 liters of etching solution)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	10	jar	850.00	8,500.00
57	<p>Negative Developer (2x 10L)</p> <p>1. GENERAL:</p> <p>1.1. Used for removing exposed resist during the positive photofabrication process.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Processing Time: 3'15"</p> <p>2.2. Starting Replenishment Rate: 135-24 40 ml/roll36 ml/m</p> <p>2.3. Working temperature: 37.8° ~ 0.14° C</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) box - Negative Developer (2x 10L)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the</p>	1	box	5100.00	5,100.00

	<p>specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
58	<p>Cation Exchange Resin 5L</p> <p>1. GENERAL:</p> <p>1.1. For replacement of ion exchange type pure water equipment. It can also be used for soft water.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Ion Exchange Resin (L): 5</p> <p>2.2. Ratio (Cation : Anion) = 1 : 1.5 (for pure water)</p> <p>2.3. Suitable Model: MKTP-5-CT</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pack - Ion Exchange Resin 5L</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	pack	10520.00	21,040.00
59	<p>Anion Exchange Resin 5L</p> <p>1. GENERAL:</p> <p>1.1. For replacement of ion exchange type pure water equipment. It can also be used for soft water.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Ion Exchange Resin (L): 5</p> <p>2.2. Ratio (Cation : Anion) = 1 : 1.5 (for pure water)</p> <p>2.3. Suitable Model: MKTP-5-CT</p> <p>3. PACKAGE INCLUSION</p> <p>3.1. One (1) pack - Ion Exchange Resin 5L</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	pack	10520.00	21,040.00
60	<p>Filmstar Developer Concentrate 5L</p> <p>1. GENERAL:</p> <p>1.1. Workshop consumable use as a photographic developer for silver halide films used as artwork in all phases of the production of printed circuit boards and photo-etching panels.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Film use: 250 ml/m² (23 cc/ft²)</p> <p>2.2. Oxidation: 2000 ml/day (83 cc/hour)</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) bottle - 5 liter (1.32 gal.) Filmstar Developer Concentrate</p> <p>4. NOTES:</p>	1	btl	4400.00	4,400.00

	<p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
61	<p>Filmstar Fixer 5L</p> <p>1. GENERAL:</p> <p>1.1. Workshop consumable use as a photographic developer for silver halide films used as artwork in all phases of the production of printed circuit boards and photo-etching panels.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Film use: 250 ml/m² (23 cc/ft²)</p> <p>2.2. Oxidation: 2000 ml/day (83 cc/hour)</p> <p>2.3. High dilution ratio</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) bottle - 5 liter (1.32 gal.) Filmstar Fixer</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	3	btl	3894.00	11,682.00
62	<p>Ferric (III) - Chloride Solution 25L</p> <p>1. GENERAL:</p> <p>1.1. An etching agent for engraving circuit boards.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Optimum working temperature: 40-50 °C</p> <p>2.2. Full strength: 40%</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) container - 25 Liter of Ferric chloride solution</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	3	btl	7810.00	23,430.00
63	<p>280pcs Assorted Crimp Spade Terminal Insulated Electrical Wire Connector</p> <p>1. GENERAL:</p> <p>1.1. Electrical Accessories used as connection plug for wires</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Colors: Red, blue and yellow</p> <p>2.2. Type: Spade terminal</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 280 pcs spade crimp terminal assorted insulated electrical wire connectors</p>	1	kit	580.00	580.00

	<p>3.1.1. 20pcs 2.8mm Female Insulated Terminals Red 22-16 Gauge AWG</p> <p>3.1.2. 20pcs 2.8mm male Insulated Terminals Red 22-16 Gauge AWG</p> <p>3.1.3. 20pcs 4.8mm Female Insulated Terminals Red 22-16 Gauge AWG</p> <p>3.1.4. 20pcs 4.8mm Male Insulated Terminals Red 22-16 Gauge AWG</p> <p>3.1.5. 20pcs 4.8mm Female Insulated Terminals Blue 16-14 Gauge AWG</p> <p>3.1.6. 20pcs 4.8mm Male Insulated Terminals Blue 16-14 Gauge AWG</p> <p>3.1.7. 20pcs 6.3mm Female Insulated Terminals Red 22-16 Gauge AWG</p> <p>3.1.8. 20pcs 6.3mm Male Insulated Terminals Red 22-16 Gauge AWG</p> <p>3.1.9. 20pcs 6.3mm Female Insulated Terminals Blue 16-14 Gauge AWG</p> <p>3.1.10. 20pcs 6.3mm Male Insulated Terminals Blue 16-14 Gauge AWG</p> <p>3.1.11. 10pcs 6.3mm Female Insulated Terminals Yellow 12-10 Gauge AWG</p> <p>3.1.12. 10pcs 6.3mm Male Insulated Terminals yellow 12-10 Gauge AWG</p> <p>3.1.13. 20pcs Crimp Spade Wire Connector 22-16AWG #4 19AMP Blue Fork Terminal</p> <p>3.1.14. 20pcs Crimp Spade Wire Connector 22-16AWG #8 19AMP Red Fork Terminal</p> <p>3.1.15. 20pcs Crimp Spade Wire Connector 22-16AWG #8 19AMP Red Ring Terminal</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
64	<p>Electric Red Male Banana Plug - Screw Termination, 15A</p> <p>1. GENERAL</p> <p>1.1. Red male 4mm banana plug with set screw for wire connection.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Colour: Red</p> <p>2.2. Gender: Male</p> <p>2.3. Termination: Method Screw</p> <p>2.4. Current Rating: 15A</p> <p>2.5. Contact Plating: Nickel</p> <p>2.6. Spring Contact: Yes</p> <p>2.7. Length: 41.3mm</p> <p>2.8. Type: Banana Plug</p> <p>2.9. Contact Material: Phosphor Bronze (Spring)</p> <p>2.10. Insulation Material: ABS</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pack - 10 pcs Electric Red Male Banana Plug - Screw Termination, 15A</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the</p>	1	pack	3300.00	3,300.00

	<p>specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
65	<p>Electric Black Male Banana Plug - Screw Termination, 15A</p> <p>1. GENERAL</p> <p>1.1. Black male 4mm banana plug with set screw for wire connection.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Color: Black</p> <p>2.2. Gender: Male</p> <p>2.3. Termination: Method Screw</p> <p>2.4. Current Rating: 15A</p> <p>2.5. Contact Plating: Nickel</p> <p>2.6. Spring Contact: Yes</p> <p>2.7. Length: 43mm</p> <p>2.8. Contact: Material Phosphor Bronze (Spring)</p> <p>2.9. Type: Banana Plug</p> <p>2.10. Insulation Material: ABS</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pack - 10 pcs Electric Black Male Banana Plug - Screw Termination, 15A</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	pack	3290.00	3,290.00
66	<p>3.6V 1.5AH Li-ion Cordless Screwdriver Kit</p> <p>1. GENERAL</p> <p>1.1. Lightweight in-line cordless screwdriver powered by 3.6V/1.5Ah built-in Li-ion battery.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Voltage: 3.6V</p> <p>2.2. Battery Type: In-built Li-on</p> <p>2.3. Charge Time: 3-5 hrs</p> <p>2.4. No Load Speed: 220rpm</p> <p>2.5. Driving shank: 1/4" Hex</p> <p>2.6. Max Fastening Torque: 4Nm</p> <p>2.7. Max Capacity (wood screw): Ø3.8mm x 32mm</p> <p>2.8. Length: 287mm</p> <p>2.9. Weight: 0.36kg</p> <p>2.10. Vibration (no load): 2.5m/s²</p> <p>2.11. Vibration K: 1.5m/s²</p> <p>2.12. Noise Sound Pressure: 70dB (A)</p> <p>2.13. Noise K: 3 dB (A)</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - Cordless Screwdriver</p> <p>3.1.1. One (1) pc - 3.6V 1.5AH Li-ion Cordless Screwdriver</p> <p>3.1.2. One (1) pc - AC Adaptor</p> <p>3.1.3. Eighty-One (81) pcs - Drill bit pieces</p>	1	set	4080.00	4,080.00

	<p>3.1.4. One (1) pc - Carry case</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
67	<p>25pcs 3 Inch Buffing Waxing Polishing Sponge Pads Kit Set For Car Polisher Drill</p> <p>1. GENERAL</p> <p>1.1. 3-inch single sided foam polishing pad designed to remove fine swirls left from compounding headlight lenses.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Sponge Pads Diameter: 3"</p> <p>2.2. Thickness: 25-30 (mm)</p> <p>2.3. Material: Sponge, woolen</p> <p>2.4. Application: Buffing pad can be used for car waxing, polishing, sealing glaze</p> <p>2.5. Quantity: 25pcs</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. Two (2) pcs - Orange Hard Wave Polishing Pad</p> <p>3.2. Two (2) pcs - Orange Hard Flat Polishing Pad</p> <p>3.3. Two (2) pcs - Yellow Soft Flat Polishing Pad</p> <p>3.4. Two (2) pcs - Yellow Soft Wave Polishing Pad</p> <p>3.5. Two (2) pcs - Black Soft Wave Buff Polishing Pad</p> <p>3.6. Two (2) pcs - Black Soft Flat Buff Polishing Pad</p> <p>3.7. Two (2) pcs - Blue Medium Hard Wave Polishing Pad</p> <p>3.8. Two (2) pcs - White Soft Flat Polishing Pad</p> <p>3.9. Three (3) pcs - Adhesive Suction Cup</p> <p>3.10. Three (3) pcs - M10 thread Drill adaptor</p> <p>3.11. Three (3) pcs - Woolen Polishing Pad</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	1	set	1570.00	1,570.00
68	<p>10 Sets 4mm Male Sheath Stackable Banana Plug Wire Solder Connector</p> <p>1. GENERAL</p> <p>1.1. Shrouded, Stackable 4mm Banana Plug</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Type: Stackable Solder Type 4mm Banana Plug</p> <p>2.2. Color: Red and Black</p> <p>2.3. Connection: Solder (max cable Outer diameter 4mm)</p> <p>2.4. Quantity: 10 Sets</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. Five (5) sets - Red 4mm Male Sheath Stackable Banana Plug Wire Solder Connector</p>	1	set	5370.00	5,370.00

	<p>3.2. Five (5) sets - Black 4mm Male Sheath Stackable Banana Plug Wire Solder Connector</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
69	<p>94 Pieces Mechanical Tool Kit with Case</p> <p>1. GENERAL</p> <p>1.1. Mechanical tools that contains useful selection of sockets, spanners, universal joints, hex bit couplers, hex bits, precision screwdrivers and extension bars in various sizes.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Set type: Mechanical</p> <p>2.2. Set contents: Bits, Precision Screwdriver, Ratchet, Screwdriver, Sockets, Spanners</p> <p>2.3. Number of pieces: 94</p> <p>2.4. Storage type: Case</p> <p>2.5. Tool Case Dimension: 400mm x 315mm x 86mm</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) set - 94 Piece Mechanical Tool Kit with Case</p> <p>4. NOTES:</p> <p>4.1 The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2 Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3 Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4 Payment upon full delivery.</p>	1	set	12150.00	12,150.00
70	<p>Multi-purpose Respirator</p> <p>1. GENERAL:</p> <p>1.1. Protection for workplace/occupational applications.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: M</p> <p>2.2. Color: Preferably black</p> <p>2.3. Filtration: 95 percent</p> <p>2.4. NIOSH Rating: P95</p> <p>2.5. Reusable: Yes</p> <p>2.6. Valved: No</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pack - Multi-purpose Respirator</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	4	pc	4530.00	18,120.00

71	<p>Soldering Iron Tip Sleeve (Yellow)</p> <p>1. GENERAL: 1.1. Soldering Iron Tip Sleeve compatible with existing (Hakko) soldering station.</p> <p>2. TECHNICAL SPECS: 2.1. Must be compatible with Hakko soldering station 2.2. Anti-bacterial 2.3. Type: Sleeve assembly 2.4. Color: Yellow 2.5. Height: approx. 0.50 in 2.6. Length: approx. 2.25 in 2.7. Width: 2.00 in</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) pc - Soldering Iron Tip Sleeve (Yellow)</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.</p>	5	pc	730.00	3,650.00
72	<p>Omnivise PCB Holder</p> <p>1. GENERAL: 1.1. ESD safe PCB holder</p> <p>2. TECHNICAL SPECS: 2.1. Type: PCB Holder 2.2. To hold PCBs level while reworking 2.3. Can adapt easily to anything in the horizontal plane 2.4. Adjustable height from bottom base to top of riser: 2.8, 3.1, 3.3, 3.6, 3.8 in. increments (72.5, 78.0, 84.5, 91.0, 97.5 mm) 2.5. Adjustable opening from 0 to 0.8 in (0 to 20mm) 2.6. With padded jaws to protect from damage to delicate surfaces 2.7. ESD safe 2.8. RoHS Compliant 2.9. Moisture Sensitivity Level (MSL): 1 (Unlimited)</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) pc - Omnivise PCB Holder</p> <p>4. NOTES: 4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above. 4.2. Price is inclusive of all government fees, taxes and other fees. 4.3. Must be delivered sixty (60) calendar days upon issuance of NTP. 4.4. Payment upon full delivery.</p>	4	pc	5550.00	22,200.00
73	<p>Roller Kit, 4"</p> <p>1. GENERAL: 1.1. Tool used for painting smooth surfaces.</p> <p>2. TECHNICAL SPECS: 2.1. Width (mm): 100</p> <p>3. PACKAGE INCLUSION: 3.1. One (1) pc - roller head for flat/matt 3.2. One (1) pc - roller for gloss and varnish</p>	10	set	360.00	3,600.00

	<p>3.3. One (1) pc - tray</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
74	<p>Foam Roller Refill, 4", 2pcs per set</p> <p>1. GENERAL:</p> <p>1.1. High density foam refill</p> <p>1.2. For use with water based gloss paints on smooth surfaces</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Size: 4in (100mm)</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. Two (2) pcs - Foam Roller Refill, 4"</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	10	set	220.00	2,200.00
75	<p>6 Gang Extension Cord with Switch</p> <p>1. GENERAL:</p> <p>1.1. 6 Gang Extension Cord with Switch</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Max. Capacity: 2500W</p> <p>2.2. Voltage Surge Protector (protects appliances from voltage spikes)</p> <p>2.3. One (1) Neon Switch w/ Circuit Breaker (protects appliance from overload)</p> <p>2.4. Six (6) Parallel Outlets w/ Grounding</p> <p>2.5. With line/noise filter</p> <p>2.6. Royal Cord #16/3 (1.75 meters)</p> <p>2.7. Metal casing: Powder-coated</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1 .One (1) pc - 6 Gang Extension Cord with Switch</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	pc	1030.00	5,150.00
76	<p>Replacement Sponge Solder Fume Extractor Accessory, 5pcs per set</p> <p>1. GENERAL:</p> <p>1.1. A single layer sponge used for cleaning soldering iron tips.</p> <p>2. TECHNICAL SPECS:</p>	14	set	850.00	11,900.00

	<p>2.1. Type: Replacement Sponge</p> <p>2.2. Depth: 16mm</p> <p>2.3. Height: 70mm</p> <p>2.4. Width: 55mm</p> <p>2.5. Packaging: 5 pcs per set</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. Five (5) pcs - Replacement Sponge Solder Fume Extractor Accessory</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
77	<p>Solder Flux Gel, 10cm³ Syringe</p> <p>1. GENERAL:</p> <p>1.1. For descaling surfaces prior to application of solder paste in stencil printing or spot application processes.</p> <p>1.2. Used for repairing printed circuit boards.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Package Type: Syringe</p> <p>2.2. Package Size: 10cm³</p> <p>2.3. Appearance: Gelatinous</p> <p>2.4. Color: Transparent Honey</p> <p>2.5. Density: 1.01</p> <p>2.6. Chlorine rate: < 0.05%</p> <p>2.7. Non volatile Content: 70%</p> <p>2.8. Viscosity: 400 Pas</p> <p>2.9. Flash Point: 100°C</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) pc - Solder Flux Gel, 10cm³ Syringe</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	10	pc	2420.00	24,200.00
78	<p>Wooden Popsicle Stick, Big</p> <p>1. GENERAL:</p> <p>1.1. Workshop consumable used for crafting that involve model construction</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Weight: 0.142kg</p> <p>2.2. Length: 4 cm</p> <p>2.3. Width: 4 cm</p> <p>2.4. Height: 12 cm</p> <p>2.5. Color: Natural</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) pack - Wooden popsicles</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified</p>	12	pack	80.00	960.00

	<p>above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
79	<p>Pointed Paint Brush (for PCB)</p> <p>1. GENERAL:</p> <p>1.1. Consumables for PCB manufacturing</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Material: weasel's hair</p> <p>2.2. Length: about 8 - 9.2cm</p> <p>2.3. Size: 000# 00# 0# 1# 2# 3# 4# 5# 6#</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) set of 9pcs - Brush pen</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	set	300.00	1,500.00
80	<p>Smock Gown Small</p> <p>1. GENERAL:</p> <p>1.1. Anti static clothing used to prevent ESD to build up on fabric for static sensitive places in the electronics industry</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Fabric: 5mm grid, Royal Blue</p> <p>2.2. Chinese collar, conductive ribbings, zipper front closure with attached bag</p> <p>2.3. Pen pocket on left arm, 2 Patch pockets in front and 2 real side pockets</p> <p>2.4. Hanger loop in Collar, Embroidery of Logo</p> <p>2.5. Size: Small</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) pc of ESD Smockgown (S)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	pc	1570.00	7,850.00
81	<p>Smock Gown Medium</p> <p>1. GENERAL:</p> <p>1.1. Anti static clothing used to prevent ESD to build up on fabric for static sensitive places in the electronics industry</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Fabric: 5mm grid, Royal Blue</p> <p>2.2. Chinese collar, conductive ribbings, zipper front closure with attached bag</p> <p>2.3. Pen pocket on left arm, 2 Patch pockets in front</p>	5	pc	1570.00	7,850.00

	<p>and 2 real side pockets</p> <p>2.4. Hanger loop in Collar, Embroidery of Logo</p> <p>2.5. Size: Medium</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) pc of ESD Smockgown (M)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
82	<p>Smock Gown Large</p> <p>1. GENERAL:</p> <p>1.1. Anti static clothing used to prevent ESD to build up on fabric for static sensitive places in the electronics industry</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Fabric: 5mm grid, Royal Blue</p> <p>2.2. Chinese collar, conductive ribbings, zipper front closure with attached bag</p> <p>2.3. Pen pocket on left arm, 2 Patch pockets in front and 2 real side pockets</p> <p>2.4. Hanger loop in Collar, Embroidery of Logo</p> <p>2.5. Size: Large</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) pc of ESD Smockgown (L)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	pc	1570.00	7,850.00
83	<p>Smock Gown XL</p> <p>1. GENERAL:</p> <p>1.1. Anti static clothing used to prevent ESD to build up on fabric for static sensitive places in the electronics industry</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Fabric: 5mm grid, Royal Blue</p> <p>2.2. Chinese collar, conductive ribbings, zipper front closure with attached bag</p> <p>2.3. Pen pocket on left arm, 2 Patch pockets in front and 2 real side pockets</p> <p>2.4. Hanger loop in Collar, Embroidery of Logo</p> <p>2.5. Size: Extra Large</p> <p>3. PACKAGING INCLUSION:</p> <p>3.1. One (1) pc of ESD Smockgown (XL)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p>	5	pc	1570.00	7,850.00

	<p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
84	<p>Rubber Tubing (For Flamehood)</p> <p>1. GENERAL</p> <p>1.1. Rubber tubing for flamehood.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Rubber Latex Tubing 1/4 x 1/16</p> <p>2.2. 10ft per roll</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) roll - Rubber Tubing (For Flamehood)</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	5	roll	960.00	4,800.00
85	<p>Tenting Resist x 150m</p> <p>1. GENERAL</p> <p>1.1. Consumable for PCB wet process</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. 600mm Wide 2 x 150m Rolls 40 micron thick</p> <p>2.2. Negative working laminating dry film photo resist</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) roll - 150m Dry Film Photo resist</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	roll	55600.00	111,200.00
86	<p>Film Star sheets</p> <p>1. GENERAL</p> <p>1.1. Consumable for PCB wet process</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. 12" x 18" (305mm x 457mm)</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pack - Fifty (50) sheets of Photoplotter</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	2	pack	21750.00	43,500.00
87	<p>50Ω RF Attenuator Straight N Connector N Plug to N Socket 10dB, Operating Frequency 12.4GHz</p> <p>1. GENERAL</p> <p>1.1. 50Ω RF attenuator with straight 10dB N to N</p>	3	pc	10230.00	30,690.00

	<p>connector and operating frequency of 12.4GHz.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Interface Type: N Plug to N Socket</p> <p>2.2. Attenuation: 10dB</p> <p>2.3. Body Orientation: Straight</p> <p>2.4. Impedance: 50Ω</p> <p>2.5. Operating Frequency: 12.4GHz</p> <p>2.6. Contact Plating: Gold over Nickel</p> <p>2.7. Contact Material: Beryllium Copper</p> <p>2.8. Connector Type: N</p> <p>2.9. Gender A: Female</p> <p>2.10. Gender B: Male</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 50Ω RF Attenuator Straight N Connector N Plug to N Socket 10dB, Operating Frequency 12.4GHz</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
88	<p>50Ω RF Attenuator N Connector N Plug to N Socket 20dB, Operating Frequency 10GHz</p> <p>1. GENERAL</p> <p>1.1. 50Ω RF attenuator with straight 20dB N to N connector and operating frequency of 10GHz.</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Interface Type: N Plug to N Socket</p> <p>2.2. Attenuation: 20dB</p> <p>2.3. Impedance: 50Ω</p> <p>2.4. Operating Frequency: 10GHz</p> <p>2.5. Connector Type: N</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) pc - 50Ω RF Attenuator N Connector N Plug to N Socket 20dB, Operating Frequency 10GHz</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	3	pc	16500.00	49,500.00
89	<p>Solder Mask x 75m</p> <p>1. GENERAL</p> <p>1.1. Consumable for PCB wet process</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. 75m length roll x 305mm width</p> <p>2.2. negative working</p> <p>2.3. 75 micron thick</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) roll - 75m Dry Film Solder Mask Resist (DFSM)</p> <p>4. NOTES:</p>	2	roll	71660.00	143,320.00

	<p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>				
90	<p>Deionized Water x 200L</p> <p>1. GENERAL</p> <p>1.1. Consumable for PCB wet process</p> <p>2. TECHNICAL SPECS:</p> <p>2.1. Chemical Container Size: 200 L</p> <p>2.2. Chemical Container Type: Drum</p> <p>2.3. Chemical Grade: Reagent</p> <p>2.4. Chemical Container Material: Plastic</p> <p>2.5. Chemical Formula: H2O</p> <p>2.6. Product Type: Water, Deionized (ASTM Type II)</p> <p>3. PACKAGE INCLUSION:</p> <p>3.1. One (1) barrel -200L Deionized water</p> <p>4. NOTES:</p> <p>4.1. The Bidder shall supply all items with the specifications equal to or better than as specified above.</p> <p>4.2. Price is inclusive of all government fees, taxes and other fees.</p> <p>4.3. Must be delivered sixty (60) calendar days upon issuance of NTP.</p> <p>4.4. Payment upon full delivery.</p>	6	bbl	38500.00	231,000.00
TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):					Php 1,524,712.44
RESERVATION CLAUSE					
<p>The Advanced Science and Technology Institute reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.</p>					