Date: 29/08/2025

Tender Notice for Supply, Installation & Commissioning of Equipment for AICTE IDEA Lab at Kumaraguru College of Technology, Coimbatore

Ref. No: KCT / IDEA-Lab / 2025-26 / 2

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 KCT-AICTE IDEA Lab. All prospective vendors are required to read and comply with these terms in their entirety.

All equipment and materials must be delivered in the quantities and specifications mentioned in the purchase order issued by the purchaser. The delivery location will be specified in the purchase order. The entire contract shall remain valid for a period of three (3) months. 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 with this validity period will be considered non-compliant.

1. **Instructions to Bidders**

   Bids must be submitted in two sealed envelopes (Technical & Financial), super-scribed with Tender Ref. No., due date, and bidder's name. All quotations must be printed on the bidder's official letterhead and duly signed by an authorized representative.

   a) Bidders must be registered with valid PAN and GST and should produce copies along with details highlighting their experience and key competencies.

   b) The tender shall be conducted under a Two-Bid System: Technical & Financial Bid.

   c) The tender documents can be downloaded from the institution's website: https://kct.ac.in/.

   d) Bidders must not be blacklisted or under investigation by any government authority.

e) OEM authorization is mandatory where applicable.

f) All documents must be signed and stamped by the authorized signatory.

g) Incomplete or conditional bids will be rejected.

h) Bids must be submitted before the deadline specified in the tender notice.

i) All items must be delivered, installed, and commissioned within 60 days from Purchase Order (PO) date.

j) Partial deliveries may be accepted only with prior written approval from the signatory.

k) Failure to meet the delivery schedule may lead to penalties or cancellation of order.

l) Any faults during the warranty period must be rectified and replaced if required by the supplier at no additional cost.

m) Must provide Genuine Manufacturer Authorization Form (MAF), which will be subject to verification with the respective OEM.

n) Bidders must provide details of service support and escalation matrix.

o) All disputes shall be subject to arbitration in accordance with the Arbitration and Conciliation Act, 1996. Jurisdiction: Coimbatore Courts only.

p) The contract shall be governed by the General Financial Rules (GFR) 2017 (including latest amendments) and the terms set forth in this document.

q) Any other documents in support of technical eligibility can be added.

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

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

t) Original technical brochures or scanned versions of product catalogues should be submitted with the bid. Wherever available, URLs to the OEM's official product page should also be provided for cross- verification.

u) 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.

v) Bidders must demonstrate relevant experience by submitting a minimum of three Purchase Orders (executed within the last three years) for similar equipment supplied to academic, R&D, or industrial institutions, with each order value not less than ₹10 lakhs. At least five institutional clients (with contact information) must be provided as a reference.

2. 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.

3. Payment Terms

Payment terms shall be as follows: 80% of the payment will be released upon successful delivery and installation of the equipment. The remaining 20% will be released after final inspection, acceptance by the purchaser's technical committee, and completion of training.

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.

4. 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 the order or imposition of penalties

at 0.5% per week of the total order value, subject to a maximum of 10%, 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.

As per Ministry of Finance OM dated 12.11.2020, no EMD is required. Bid Security Declaration in Annexure-5 must be submitted instead.

5. Submission and Contact Details

a) The **Technical & Financial Bids** must be submitted strictly in the bid submission format provided (**Annexure 1**).

b) Bidders must submit the **Technical and Financial Bids** along with supporting documents listed in the checklist (**Annexure 2**).

c) Non-Blacklisting Form (**Annexure 3**)

d) Declaration on Non-Chinese and/or Pakistan Origin of Equipment / Instruments / Machinery (**Annexure 4**)

e) Bid Security Declaration (**Annexure 5**)

Bids along with annexures shall be submitted in **sealed hard copy**, clearly superscribed *"Quotation for KCT-IDEA Lab"*, on or before **12.09.2025**, to the following address:

> **The Principal,**
> Kumaraguru College of Technology
> Athipalayam Road, Chinnavedampatti
> Coimbatore – 641049, Tamil Nadu

For further details / queries contact:
Dr. S. Sasikala, Coordinator - +91 9443525425
Dr. A. P. Arun, Co Coordinator - +91 9994701386

6. Specifications and Allied Technical Details

All equipment, tools, and consumables shall be of branded company products with a minimum warranty of three years. The specifications mentioned are the minimum requirements; bidders may quote higher specifications, provided the quoted price does not exceed the cost of the specified specification.

1. Mandatory Equipment

S.No	Particulars	Specifications	Qty
1	Laser Cutter	Laser Type: CO2 DC Glass Laser Tube/RF Metal Laser Tube 100 watts, size - Marking Area 1200mm*900mm + laser cutting software +Water Cooling Chiller. Accessories: CO2 Focus Lens: 1 No. Mirror 25mm: 3 Nos. Acetone: 1 litre Acrylic sheet: 2 Nos including 5KVA stabilizer Stepper system	1
2	Vinyl Cutter	Dimensions: 1000× 310 × 265 mm or above Max cut size using machine mat: 11.5 inch x 23.5 inch or more Cut speed: up to 14.1 ips + STAND	1
3	3D Printer	**Printing Technology: FDM (Open type)** Build Volume: 300*300*330mm Product Dimensions: 410*445*577- mm Printing Speed: 600mm/s Filament Compatibility: PLA, TPU(95A), PETG, ABS, PLA-CF, PETG-CF, CR-carbon Printable File Format: G-code Auto-leveling system Power Loss Recovery: Yes, Filament Run-out Sensor: Yes File Transfer: USB drive, WLAN	3
		Printing Technology: FDM (Fully enclosed Machine), Multi colour Printable Area: The minimum printable area should be at least 310 x 310 x 310 mm or above Printer Design: Core XY or Cartesian. Temperature Range: Hot end: Up to 300°C or above Heat bed: Up to 120°C. or above. Nozzle: Compatible with All polymers, 0.4, 0.6 and 0.8mm Steel Sheet: Provided with satin or smooth PEI surface. Filament Diameter: 1.75mm (supports PLA, PETG, ASA, ABS, etc.). Extruder: Gearbox with 1/10 ratio, Speed : 550 MM/Sec or above Stepper Drivers for smooth motion. or equivalent, Stepper Motors: Choose between 1.8° or precise 0.9° X, Y stepper motors. LCD Screen: 3.5″ graphic 65k color screen or larger. Connectivity: USB drive, LAN, or internet. Supported Materials: PLA, PETG, ASA, ABS, PP, PC, flexible filaments, and more.	1

		Wi-Fi Module: Built-in (network connectivity not required for setup or operation). Compatibility: Windows, macOS, Linux. Printer Dimensions: The maximum physical dimensions of the system 700 X 700 X 700 or above.	
4	3D Scanner	Scanning Mode : Blue Light (Blue 7-line laser) & NIR Accuracy : Metrology Grade Accuracy upto 0.02mm Sharper Edges and Richer details Scanning speed : High Speed upto 60fds Capture Range (mm) : 250 x 150 x 300 (Blue Light mode) 900 x 550 x 1000 (NIR Mode) 3D camera resolution:1920 x 1200 Full HD Laser Safety : Class 1 (eye safe) Features : Anti Shaking for Smooth Scanning	1
5	CNC Router	Working Area: Min 1300 x 2500 mm Z Axis Working Area: 200 or above Resolution: ±0.03/300mm or more CNC Spindle: 3KW or more Lathe Structure : Welding Steel Structure or equivalent XYZ Structure: Rack Pinion , Ball Screw Linear Rails Max Spindle Speed : Min 18000RPM Table: T-Slot/Vacuum Bed/Water Bed Repeatability: ±0.03 Voltage: AC 220V/415V, 50/60 Hz, 3 Phase Drive Systems : Stepper Motor drive **Dust collector+ Stablizer**	1
6	Mini Desktop Lathe cum Milling	Swing over bed : 100 mm or more Distance between centres : 100 mm or more Motor output power : 230 W Spindle Speed Range 100-1000 +-10%RPM Hole through spindle: 10 mm or more Max drill capacity 6 mm or better	1
7	Drilling M/c 1 HP Motor	No Load Speed: 0 - 630 rpm Motor Power: 1 HP Max Torque: 11 Nm Drill Depth: 160 mm Drilling Diameter: 25mm Model: 1HP Driller"	1
8	Handheld High Speed Drilling.	Rated input power: 450 W	1
9	Benchtop Grinder Machine	Grinding wheel diameter: min 150 mm Rated input power: 350 W or more Grinding wheel widths: 20 mm or more No-load speed: upto 3,000 rpm Grinding wheel bore: 20 mm/2cm Grit 24, 60 or more Weight: 10 kg or less	1

10	Soldering Station	Power Rating: Approximately 60 W maximum output power. Temperature Range: Adjustable from approximately 200 °C up to 480 °C. Temperature Stability: Within ±2 °C under normal operating conditions. Heating Element: Ceramic heating element for rapid heat-up and efficient temperature maintenance. Display: Digital or analog temperature display (depending on variant) for precise temperature control. Temperature Control: Adjustable via knob or digital interface with fine resolution. Power Supply: AC 220 V ±10%, 50/60 Hz. Safety Features: Thermal cutoff and overload protection within required standards. Dimensions: Compact design with 100 mm × 100 mm × 90 mm (W × H × D) or above Weight: Approximately 1.5 kg for ease of portability and bench use.	5
11	Desoldering M/c	SMD rework station : 24 L / Min. (Max.), Temp. Range : 100 ºC ~ 420 ºC	3
12	Advanced motorized Sewing Machine	Usha Dream Maker 120 Computerised Sewing Machine (Built-in Stitches 120 Power: 35 watts; Operating voltage: 220-240 volts, Maximum Stitch Width: 7 mm Number of Buttonhole Styles:7 LCD Screen Display: Yes Bed Type Free Arm/Flatbed convertible Bobbin Type Drop & Sew Bobbin System	1
13	Wood Lathe	Wood lathe machine with chuck and accessories V 200 v 580 W Speed 5000 RPM 680*93*140 mm 6.5 kg	1
14	Power Tools	10 RE Professional Corded-Electric Drill Tool Kit MS & Plastic 100 Pcs	1
15	Portable Welding M/c	Welding Current (at 40°C, 10 min cycle): 120A @ 100%, 150A @ 60%, 200A @ 35% Supply Voltage: 240V +10%, -15%, 1 Phase, 50/60 Hz Open Circuit Voltage: 55V DC ±5V Welding Current Range: 15–200 Amps DC Insulation Class: F Type Ingress Protection: IP21 Dimensions (L×W×H) with Handle: upto 320×120×195 mm Weight (Approx.): 4.3 kg or less	1
16	Refrigerator	l 184 L 3 Star Direct-Cool Single Door Refrigerator with stabilizer	1
17	Normal and Microwave Oven	20 L Stainless steel cavity Solo Microwave Oven	1
18	Magnifying Glass with Stand	Power adapter: Input 110-240V50/60Hz	2
19	Digital Microscope	S2 USB 8 Led 1X-500X Digital Microscope Endoscope Magnifier Video Camera Real 2Mp	1

		Bandwidth: Up to 100 MHz Analog Channels: 4 or more Real-Time Sampling Rate: Maximum 1 GSa/s per channel Memory Depth: 10 Mpts per channel Waveform Update Rate: Approximately 120,000 wfms/s Vertical Resolution: 8 bits Vertical Scale: Ranging from 1 mV/div to 10 V/div Horizontal Scale: Spanning 1 ns/div to 100 s/div Spectrum Analyzer Frequency Range: DC to 500 MHz FFT Points: Up to 1M points for enhanced frequency domain resolution Waveform Math Functions: Includes addition, subtraction, multiplication, division, minimum, maximum, root, square, absolute, inverse, derivative, integral, and low-pass filter Trigger Types: Edge, Pulse Width, Video, Pulse Runt, Rise & Fall (slope), Alternate, 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 AWG Sample Rate: 200 MSa/s AWG Vertical Resolution: 14 bits Display: 8-inch WVGA TFT LCD (800 × 480 pixels) Data Logging Capability: Up to 1000 hours Segmented Memory: Supports up to 29,000 segments for efficient waveform storage and retrieval Connectivity: USB 2.0 (host and device), Ethernet (RJ45), and Go-NoGo BNC Dimensions (W × H × D): 380× 200× 125 mm or above Weight: 2 Kgs or above 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	1
20	Mixed Signal Oscilloscope		
21	Digital Storage Oscilloscope	Number of Channels: Up to 2 independent analog inputs Memory Record Length: Up to 10 Mpts for extended waveform capture Bandwidth Limiting: Selectable 20 MHz bandwidth filter Sampling Rate: Maximum of 1 GSa/s real-time equivalent per channel Rise Time: ≤ 3.5 ns depending on probe and settings Display: 7" TFT color LCD with 800×480 resolution Time Base Range: From 5 ns/div to 100 s/div, user-adjustable Vertical Resolution: 8-bit digital resolution Trigger Modes: Automatic, Normal, and Signal- dependent triggering Maximum Input Voltage: 300 Vrms (within safety limits) Input Sensitivity: Within the range of 1 mV/div to 10 V/div Input Coupling Options: Selectable among AC, DC, and Ground Trigger Coupling Modes: Configurable as AC, DC, High-pass, or Low-pass Physical Dimensions: Approximately 350 × 200 × 120 mm or above Unit Weight: 2.5 kg or above	1

		Input Impedance: Nominal 1 MΩ // 16 pF Measurement Capabilities: Equipped for automatic parameter extraction, background, noise filtering, and AUTOSET configuration for display scaling (time base/gain) Protocol Decoding Support: Capable of analyzing I2C, SPI, UART, CAN, and LIN communication protocols Standard Accessories: Includes mains power cable, user manual (digital format), and one GTL-16E probe per input channel	
22	Signal Generator	Dual Channel Function/Arbitrary Waveform Generator 60MHZ: 60MHz; 2 channels; 150MSa/s; wave length: 16Kpts; function/arbitrary waveform output amplitude:4mV ~ 20Vpp (high impedance); modulation function (AM DSB-AM FM PM ASK FSK PWM Sweep Burst); frequency counter function Easy Pulse technology. Standard interfaces: USB Device USB Host.	1
23	Variable Power Supply	Output Configuration: 4-channel design with independent electrical isolation across all outputs Channel Output Ranges: ·CH1 & CH2: Adjustable output voltage from 0 to 32V with a current delivery capacity up to 3A ·CH3: Variable range 0 to 5V supporting up to 1A ·CH4: Output adjustable from 0 to 15V with a load current of up to 1A Constant Voltage Operating Mode Line Regulation: $\leq$ 0.01% + 3 mV (approximate value within rated voltage range) Load Regulation: $\leq$ 0.01% + 3 mV (across rated load variation) Ripple & Noise: $\leq$ 1 mVrms across full bandwidth Constant Current Operating Mode Line Regulation: $\leq$ 0.2% + 3 mA Load Regulation: $\leq$ 0.2% + 3 mA Ripple Current: $\leqq$ 3 mArms (typical) Safety & Operational Features Output Control: Independent output ON/OFF switching functionality is required Voltage Resolution: Approximately 100 mV (*1) Current Resolution: Approximately 10 mA (*1) Display Parameters Display Units: Four separate displays required for individual channel status visualization Display Type: 4.3-inch LCD (color or monochrome as applicable)	1

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		Functional Features Tracking Operation: Supported (required for synchronizing output behavior) Auto Series/Parallel: Supported (automatic internal reconfiguration required) Power Requirements Supply Input: 230V AC ±10%, 50 Hz Mechanical Specifications Maximum Dimensions (W × H × D): Within 200 mm × 100 mm × 200 mm Maximum Weight: 10 kg or less	
24	Benchtop Multimeter	DC Voltage: Range: 500 mV to 1000 V across 5 ranges. Accuracy: ±(0.03% rdg + 4 digits). Input impedance: 10 MΩ. AC Voltage (True RMS): Range: 500 mV to 1000 V across 5 ranges. Accuracy: ±(0.5%–5% rdg + digits) depending on frequency and range. Input impedance: 10 MΩ. DC Current: Range: 500 μA to 20 A across 6 ranges. Accuracy: ±(0.02%–0.3% rdg + 2 digits) depending on range. AC Current (True RMS): Range: 500 μA to 20 A across 6 ranges. Accuracy: ±(0.5%–1% rdg + digits) depending on frequency. Resistance: Range: 500 Ω to 20 MΩ across 6 ranges. Accuracy: ±(0.1%–0.3% rdg + digits) depending on range. Diode Test: Max forward voltage 1.5 V, open voltage 2.8 V. Capacitance: Range: 5 nF to 50 μF. Accuracy: ±(2% rdg + 4 digits). Frequency: Input level varies by range; functions include Auto/Manual Range, Max, Min, dBm, Rel, Hold. Continuity Beep: Threshold <5 Ω. Display: Dual 7-segment LED, 0.4" and 0.5". Power Source: AC 100/120/230 V ±10%, 50/60 Hz. Dimensions & Weight: Approximately 251 × 91 × 291 mm; 2.6 kg.	1
25	Projector	4000 Lumens High Brightness, 20000:1 High Contrast Ratio, Dual HDMI, USB-A, Upto 15000 Hrs Extra-Long Lamp Life, 10 W Speaker, 3D Capable	2
26	Heavy Duty Laser Printer	All-in-One LaserJet Pro Printer with Duplex & Wi-Fi W1A24A	1
27	PCB Milling Machine	PCB Prototyping Machine-manual tool change (MTC) 1.2 KW and 40000 RPM or better Machine dimensions :700 X 350 X 270 mm Working area 400 X 300 mm PCB Cabinet with Hand held remote Desktop Computer, CPU, Mouse and Keyboard Vacuum Cleaner Single Side Copper Clad – 5 No's Double Side Copper Clad – 5 No's Drill Bits — 1 set Engrave Bits – 10 No'so Spanner sets and screw drivers - 1 sets Double and single side tape- 1 sets	1

28	Smart Board	Interactive Flat Panel 75" Version: Android 14 RAM: 8GB ROM: 128GB Display Type: LED Viewing Angle: 120 Degrees Image Aspect Ratio: 16:9 Resolution: 3840x2160 Pixels Audio input compatible with the item: USB HDMI+ **movable stand**	1
29	Computer Workstation in networking	Workstation 32GB (1x32GB) i7 1TB SSD NVIDIA RTX 3050 - 4GB Win 11 Pro 22 INCH FHD MNTR TFT Mouse and Keyboard or better	5
30	Miter Saw	**Bosch Professional GCM 254** Corded Electric Mitre Saw, 1750 W, 5000 RPM, 11.1 Kg｜ Accurate Cutting with Direct Laser Guide	1
31	Table saw	**Bosch** GTS 254 Professional Table Saw 254 mm, 1800 W, 4300 RPM	1
32	Angle Grinder	Rated Input Power: Approximately 670 W maximum power consumption. No-Load Speed: Approximately 11,000 rpm. Disc Diameter: Approximately 100 mm nominal diameter. Grinding Spindle Thread: Standard M10 thread. Weight: Approximately 1.5 kg. Switch: Lockable switch for operational safety.	1
33	Straight Grinder	Rated Input Power: Max 300 W power consumption. No-Load Speed: Up to 28,000 rpm. Voltage, Electrical: Nominal 230 V AC supply. Spindle Collar Diameter: Approximately 41 mm. Weight: Around 1.4 kg. Maximum Grinding Tool Diameter: Up to 25 mm. Maximum Collet Diameter: Up to 8 mm. Switch: Lockable switch for enhanced safety.	1
34	Power Circular Saw	Brand : Bosch, Model : GKS 130, Blade Material: Alloy Steel, Surface Recommendation: Wood Power Source: Corded Electric, Special Feature: depth adjustment, Fast cutting speed thanks to the powerful 1400W motor	1
35	Sublimisation machine	Dimensions 45L x 50W x 50H Centimeters	1

2. Mandatory Consumables

S.No	Particulars	Specifications	Qty
1	Vacuum Cleaner	1400Watts Dry Vacuuming 24 kPa Suction Power 1.5L Dust Collector	1
2	Hot Air Gun- 5 Nos.	Rated Input Power: Approximately 1,800 W maximum power consumption. Voltage, Electrical: Nominal 230 V AC supply. Weight: Approximately 0.75 kg. Working Temperature Range: Adjustable within approximately 60 °C to 550 °C. Heat-Up Time: Approximately 1 second to reach target temperature. Airflow: Adjustable within approximately 350 to 550 liters per minute. Airflow Control: Three selectable airflow settings.	1
3	Measuring Equipment [Vernier calliper (0-200/0.01) Vernier height gauge(0-1000mm) MiCrOmeter 0-50 50-100/0.001 inside and outside)] Metal Scale etc		1
4	Fire Extinguisher	6 kg	1
5	First Aid Box		1
6	Digital Multimeter	Display Count: Up to 4000 DC Voltage Range: Up to 1000 V AC Voltage Range: Up to 1000 V DC Voltage Accuracy: ±0.5% or ±3 digits, whichever is higher AC Voltage Accuracy: Within ±1% + 3 digits DC Current Measurement: Up to 10 A AC Current Measurement: Maximum 10 A DC Current Accuracy: ±1.5% + 3 digits (approximate) AC Current Accuracy: ±1.5% + 3 digits (typical) Resistance Measurement: Up to 40 MΩ Resistance Accuracy: Estimated at ±1.5% + 3 digits Capacitance Measurement: Up to 1000 µF Capacitance Accuracy: ±5% or ±5 digits Operating Temperature Range: From 0°C up to approximately 40°C Storage Temperature Range: Between -30°C and 60°C Overall Dimensions (H×W×L): Approximately 183×91×49.5 mm Unit Weight: Around 455 grams 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
7	Clothes Iron		5
8	Electronic Component Repository (LCR Meter Variac		1
9	2Way Tapes	2Way Tapes	20
10	Aluminum Channels	L, C, Box, Strip Length 12ft	10
11	PCB Drill Bits	0.5mm, 0.8mm, 1mm	60

12	Drill Bits	Drill Bits : 3mm, 4mm, 5mm, 6mm (20 each)	80
13	Drill Bits	Drill Bits : 8mm, 10mm, 12mm (5 each)	15
14	Carpentry Boring Bits	Entire Kit	2
15	USB Cable	For connecting Arduino and other development boards	10
16	LAN Cables	For connecting Raspberry Pi	5

3. Mandatory Tools- Mechanical

S.No	Particulars	Specifications (standley or Taparia)	Qty
1	Micro Chisel Set		3
2	Pliers		3
3	Manual PCB Drilling Machine		3
4	PCB power Drilling Machine		3
5	Cordless Drilling Machines		2
6	Jigsaw Machines	Rated Input Power: Approximately 500 W maximum power consumption. Voltage, Electrical: Nominal 230 V AC supply.	2
7	Power Circular Saw		2
8	Files Set		2
9	File Handles set		1
10	Needle Files		2
11	Pipe Vice		2
12	Mini HackSaw		5
13	Ball Peen Hammer (Stanley)	Head Weight: 220 g Head Width: 88 mm Face Diameter: 34 mm Handle Length: 30.96 cm Total Length: 35.59 cm Total Weight: 0.35 kg	5
14	Steel Shaft Claw Hammer		5
15	Nylon Mallet		5
16	Rubber Mallet (Stanley)	Head Length: 350 millimeters Weight: 450 grams	5
17	multi tool kit		2
18	Belt and Disc Sanding	Motor: 230V 50Hz Power: 380W S2 30min No-load Speed: 1450rpm or more Belt Size: 100x914mm or less	1

	Machine	Disc Size: 150mm or better Table Titing Range: 0°-45° Belt Titing Range: 0°-90° Table Size: upto 190x125mm	
19	Scroll Saw Machine		1
20	Moto Saw		1
21	Bench Grinding Machine		1
22	Power Return Measuring Tape (STANLEY)	5m	5
23	Try square Ketsy	150mm	5
24	Steel ruler Kristeel	24 inch , 12 inch	5
25	Digital Vernier Caliper (Zhart)		5
26	SPRIT LEVEL Black & Decker	300mm	5
27	Impact Drill		3
28	Ratchet Set	Make: Yato Model: Ratchet set Yato' Socket & Bit Set 1/4" Sq.Drive, 46 Pes. Set, 3 To 14mm Sockets, 25 Assorted Screw Driver Bits With Accessories In Blow Moulded Box, Ideal For Any Automobile Or Engineering Industry	2
29	Router Bit Starter kit		2
30	Scroll Saw	Power input: 50 Watt Thickness of Cut: 50 mm (2 inch) Throat: 406 mm (16 inch) Length of Stroke: 18 mm (11/16 inch) Strokes Per Minute: 400-1,600 SPM Overall Length: 600 mm (23-5/8 inch)	1
31	C-Clamp 100mm Stanley	100mm	10
32	Ratchet clamp 8 inches/200mm		10
33	Anvil		1

4. Mandatory Tools – Electrical

S.No	Particulars	Specifications (Standley or Taparia)	Qty
1	Hot Air Blower With Soldering Iron		5
2	Tin Cutter with Spring		10
3	Centrifugal Blower	Rated Input Power: Max 650 W power consumption. Weight: Approximately 1.7 kg. Voltage, Electrical: Nominal 230 V AC supply. Sound Pressure Level: Around 103 dB(A). Sound Power Level: Approximately 95 dB(A). Uncertainty (K): Within ±3 Db	1
4	Cutting Mats		5
5	Vacuum Cleaner		2
6	Hot Air Gun-		5
7	Micrometer -		5
8	Glue Gun		5
9	Air Compressor		1
10	Allen Set Wrench		5
11	Tongue and Groove Pliers		5
12	Non contact voltage tester		5
13	Wire Stripper		5
14	Fish tape		2
15	Flashlights		2
16	DC Regulated Power Supply		3
17	Solder Wick		10
18	Filament Dehydrator	Operating Temperature Range: Min 45°C– 70°C Drying Time Setting: 0–48 hours or higher Hot-Air Heating: upto 360° circulation Moving Speed: 300 mm/s or more Power Rating: 160 W Shipping Weight: 2.5 kg	1
19	Reflow Oven	No. of Waves: 7 or higher Heating Type: Infrared IC Heater Max. PCB Width: 300×320 mm or more Power Supply: AC 220V / 50Hz Peak Power: 1500W Cycle Time: 1–8 min or less Temperature Range: 0°C–280°C	1
20	Glass Cutter		1
21	Digital Muttimeter		5
22	Oscilloscope	Digital Storage Oscilloscope 100 MHZ 2 Channel 1Gsa/s: 100 MHz;2 channels; 1 GSa/s;	4

5.Opt. Equip & Consumables

S.No.	Equipment / Products	Specification	Qty
		Industrial Embedded Controller (IoT)	
1	GPIO Power Router		1
2	Raspberry Pi 4 Kit	Raspberry Pi 4 - 4GB - Broadcom BCM2711, Quad core Cortex-A72 (ARM v8) 64- bit SoC @ 1.5GHz HDMI to VGA Adapter| USB OTG Cable	16GB SD Card	Raspberry Pi4 Case	5V 3A Power Supply	12
3	Raspberry Pi 5 Kit	Broadcom BCM2712 processor, a more powerful VideoCore VII GPU, and options for up to 16GB of LPDDR4X SDRAM	5
4	Arduino Mega	Operating Voltage : 5V Input Voltage(Recommended) : 7-12V Input Voltage(Limit) : 6-20V Digital Input/output Pin : 54 (of which 15 provide PWM output) Analog Input Pins : 16	5
5	Arduino Nano	Micocontroller : ATmega328 Architecture : AVR Operating Voltage : 5 V Flash Memory : 32 KB of which 2 KB used by bootloader SRAM : 2 KB Clock speed : 6 MHz	5
6	Arduino UNO	Micocontroller : ATmega328 Operating Voltage : 5V Input Voltage(Recommended) : 7-12V Input Voltage(Limit) : 6-20V Digital Input/output Pin : 4 (of which 6 provide PWM output)	25
7	ESP32 Wroom 32E Dev board	Microprocessor : Xtensa dual-core 32-bit LX6 microprocessor Operating Voltage : 3.6V On Board Antenna. Current - 600mA	10
8	NodeMCU 8266	Microcontroller : Tensilica 32-bit RISC CPU Xtensa LX106 Operating Voltage : 3.3V Input Voltage : 7-12V Digital I/O Pins (DIO) : 16 Analog Input Pins (ADC) : 1	10
9	NRF52840 EBYTE Module	nRF52840 2.4GHz BLE4.2/5.0 Bluetooth LE Module	10
10	ESP 8266 development board	32-bit processor, supports 802.11 b/g/n Wi-Fi, and has multiple interfaces like GPIO, UART, SPI, and I2C	5
11	Jetson Nano Board	128-core NVIDIA Maxwell GPU, a quad-core ARM A57 CPU, and 4GB of LPDDR4 RAM	2
12	STM32F103C6T6 Minimum System Development Board	Microcontroller: STM32F103C6T6 ARM® 32-bit Cortex® -M3 CPU	10

		72 MHz max CPU frequency	
13	Sipeed Maix 2 Dock with cam (AI & Image Processing) edge computing	2MP Camera with 1.8 inch TFT Screen	5
14	ESP32 S3 AiIot Devlopment Kit	Multiprotocol Modules SMD IC, Dual-Core MCU, Wi-Fi 2.4G & BLE 5.0 Combo	5
15	ESP32 LCD KIT	ESP32-based with USB Type- C with mini LCD screen	3
16	Raspberry Pi extension board	Compatible With Raspberry Pi Module: T Type GPIO Extension Adapter Dimensions: 72 x 59 x 13 (LxWxH) mm. Pins: 40 Shape: T-Shape	6
17	Rasberry pi 5MP cam	5MP Camera	12
18	Raspberry Pi 3 Camera Module Night Vision Camera		5
19	ESP 32 S3 Eye Development Board	With LCD and Camera	5
20	Temperature and Humidity sensor - DHT22	Humidity measuring range: 20%~90%RH(0~50 degree (temperature compensation). Temperature measuring range: 0~+50degree.	25
21	Flex sensor -2.2"	Total Length: 2.2″ .	10
22	Barometer pressure sensor - BME180	BME280 sensor or similar	10
23	LDR module analog	Output Digital – 0V to 5V, Adjustable trigger level from preset. LEDs indicating output and power. Operating Voltage: 3.3V to 5V DC. Operating Current: 15ma.	25
24	LDR sensor	Diameter: 5mm No. of Pins: 2 Type of Mounting: PCB Through Hole Maximum Operating Temperature: +800°C (Approx.) Dark resistance:1-20 Mohm	50
25	Gyroscope	their ability to sense angular velocity, their relatively small size and low cost (especially MEMS gyros), and their integration with other sensors like accelerometers for enhanced motion sensing	5
26	Oxygen gas sensor	ability to detect lean and rich air-fuel mixtures, their role in controlling the	10

		air-fuel ratio, and their contribution to cleaner exhaust emissions.	
27	Hydrogen gas sensor	Detects: LPG, Butane, Hydrogen Gas	10
28	Alcohol sensor	MQ3 Sensor Power requirements: 5 VDC @ ~165 mA (heater on) / ~60 mA (heater off) Current Consumption: 150mA DO output: TTL digital 0 and 1 (0.1 and 5V) AO output: 0.1- 0.3 V (relative to pollution), the maximum concentration of a voltage of about 4V Detecting Concentration: 0.05-10mg/L Alcohol Interface: 1 TTL compatible input (HSW), 1 TTL compatible output (ALR) Heater consumption: less than 750mW Operating temperature: 14 to 122 °F (-10 to 50°C) Load resistance: 200kΩ Sensitivity S: Rs(in air)/Rs(0.4mg/L Alcohol)≥5 Sensing Resistance Rs: 2KΩ-20KΩ(in 0.4mg/l alcohol) Dimensions: 32 x 22 x 16 mm	25
29	PM2.5 Sensor	Particulate matters in air down to 0.3 micrometershigh sensitivity, real-time monitoring, and ease of maintenance	
30	Methane sensor	MQ4 Sensor Detection Gas: Natural Gas/Methane Concentration: 300-10000ppm Supply Voltage: <24V Heater Voltage: 5.0V ± 0.2V Load Resistance: Adjustable Heater Resistance: 31Ω ± 3Ω Heater Consumption: <900mW	10
31	LPG sensor	MQ5 Sensor Heater Voltage: 5.0V. Power Supply: 5 Volts. Interface Type: Analog & Digital. Working Current: 150mA. DOUT: TTL output. AOUT: Analog output.	10
32	Carbon Monoxide sensor	The MQ-7 can detect CO-gas concentrations anywhere from 10 to 500ppm.	10
33	Carbon Dioxide sensor	NDIR technology for accurate measurement, a defined measurement range (often 0-5000 or 0-10,000 ppm), and specifications for response time, accuracy, and operating temperature/humidity	
34	SeeedStudio Grove	Seeed Studio Grove System is a modular, standardized connector prototyping ecosystem. The Grove System takes a building block approach to assemble electronics. Compared to the jumper or solder based system, it is easier to connect devices to an application, simplifying the learning system. The Base Unit, generally a microprocessor, allows for easy connection of any input or output from the Grove Modules. Each Grove Module typically addresses a single function, such as a simple button or a more complex heart rate sensor.	1

35	Pulse Sensor heart rate	Operating Voltage: 3 to 5VDC Operating Current: 4mA Sensor Output: Digital Senor Diameter: 30mm	10
36	Temperature sensor (LM35) module	Calibrated directly in Degree Celsius (Centigrade) Linear at 10.0 mV/°C scale factor 0.5°C accuracy guarantee-able (at a25°C)	25
37	K Type Thermocouple Sensor	With a simple three serial SPI interface; Temperature signal can be converted into 12-bit digital Temperature Range(°C): 0 to +1024 Cold Junction Compensation Range(°C): -20 to +80	5
38	RTC Module - DS1302	Crystal 32.768KHz, matching capacitance 6pF DS1302 8-pin SMD homem chips	10
39	Analog Soil Sensor	Operating voltage: 3.3V~5V Dual output mode, analog output more accurate A fixed bolt hole for easy installation With power indicator (red) and digital switching output indicator (green) Having LM393 comparator chip, stable Panel PCB Dimension: Approx.3cm x 1.5cm	10

40	Sound sensor	Detectable sound signal size Built-in filter-rectifier circuit, DC signal output Good sensitivity, built-in amplifier circuit, adjustable gain Voltage signal for sound intensity can be obtained by AD conversion Analog voltage signal output, signal amplitude VCC/2 Compatible for Arduino sensor interface.	25
41	Colour sensor / 4 in 1	Operating Voltage: 2.7V ~ 5.5V Power Down Feature Stable Temperature Coefficient Can be directly interfaced with a Microcontroller Compatible with Arduino as well as Raspberry Pi. (Or with APDS9960)	25
42	PIR Motion Sensor - HC-SR501	Detection Angle: <140° Detection Distance: 3 to 7m (can be adjusted) Blockade time: 2.5s (Default)	25
43	Ultrasonic Sonar Distance Sensor	Sonar Sensing Range: 2-400 cm Frequency: 40 kHz	25
44	Inductive proximity	"Operating Voltage (VDC): 6 ~ 36. Detection Distance (mm): 4. Output Type: NPN Normally Open Three-line. Max Output Current: 200 mA."	5
45	IR distance sensor - Module	Distance: (4cm-30cm)	50

46	Finger Print sensor	"Interface : UART (TTL logical level)/ USB 1.1 Matching Mode: 1:1 and 1:N Character file size: 256 bytes Image acquiring time : <0.5s Template size : 512 bytes Storage capacity: 256 Security level : 5 (1, 2, 3, 4, 5(highest)) Average searching time: < 0.8s (1:880) Window dimension : 18mm*22mm"	8
47	LIDAR - 2m module	Distance Range(m):2	5
48	Non-invasive AC Current Sensor (20A max)	Measuring Current : 20A max	5
49	Non-invasive AC Current Sensor (5A max)	Measuring Current : 5A max	5
50	Invasive Current sensor-ACS712	Low-noise analog signal path Device bandwidth is set via the new FILTER pin 5 µs output rise time in response to step input current Small footprint, low-profile SOIC8 package 2.1 kVRMS minimum isolation voltage from pins 1-4 to pins 5-8 Supply Voltage: 4.5V~5.5V DC Measure Current Range: 20A Sensitivity: 100mV/A	5
51	AC Voltage Sensor - ZMPT101B	Voltage – 250V Easy PCB mounting	5
52	Hall Effect Sensor	Digital Output Hall-effect sensor. Operating voltage: typically 5V. Output Current: 25mA. It can be used to detect both the poles of a magnet.	10
53	AI Thinker Voice Recognition Module	Module: VC-02 module Brand: Ai-Thinker Power Supply: 5V Current: 500mA SPI: 2 MB (Bild in) IO: 10	2
54	Momentary Capacitive Touch Sensor	No microcontroller required - power with 1.8 to 5VDC and touch the pad to activate the sensor	25
55	4 part touch sensor(single module)	Operating Voltage: 2V-5.5V,Startup Calibration Delay: 0.5 Sec, Simple to Use, Auto Calibration, Output Status Indicator LED	5
56	8 part touch sensor(single module)	Onboard TTP226 capacitive touch sensor IC,8 board-level status indicator,Working voltage: 2.4V - 5.5V	5
57	pH sensor Kit	Module Power: 5.00V Module Size : 43 x 32mm(1.69×1.26″) Measuring Range :0 – 14PH Measuring Temperature: 0 – 60℃ Accuracy : ± 0.1pH (25 ℃)	10

58	Liquid Flow Meter	Plastic 1/2" NPS Threaded	10
59	Load Cell	10kg, Straight Bar	10
60	Load Cell Amplier	Output Sensitivity: 1.0 ± 0.1 mV / V.	10
61	Force - Sensitive Resistor - Square	Size: 5mm Thickness: Ultra-thin; 0.45 mm	5
62	T-Slot IR Sensor module	The width of the optical coupling slot: 10mm Single signal output. The circuit board output switch!	10
63	Sharp IR Sensor module	Detection distance: $2 \sim 30$cm Detection angle: 35 °	25
64	IR remote Control - 433MHZ	- Effective angle: 60° - Sticking material: 0.125mmPET - Effective life: 20,000 times - Battery slot: CR2025	5
65	BO Motor – Straight - 60 RPM	Operating Voltage(VDC): 3~12 Shaft Length (mm): 8.5 Shaft Diameter (mm): 5.5 (Double D-type) No Load Current: 40-180mA. Rated Speed(After Reduction): 60 RPM Rated Torque: 1 Kg Cm	30
66	BO Motor – Straight - 100 RPM	Operating Voltage(VDC): 3~12 Shaft Length (mm): 8.5 Shaft Diameter (mm): 5.5 (Double D-type) No Load Current: 40-180mA. Rated Speed(After Reduction): 100 RPM Rated Torque: 0.35 Kg Cm	30
67	Wheel for BO DC Motor	Diameter: 65 mm Width : 28 mm The material of Wheel: High-strength plastic The material of Tyre: Rubber Color: Yellow	60
68	DC Motor - 130 DIY Toy Motor	Operating Voltage: 3 to 6VDC Shaft Diameter: 2 mm Shaft Length: 10mm	60
69	Metal Gear Servo Motor MG995 - Standard	Continuous rotation 180° Stall torque @4.8V : 13kg-cm Stall torque @6.6V : 15kg-cm	20
70	Micro servo motor - TowerPro - SG90	Torque - 1.8 kg-cm Weight - 9g Continuous rotation 180°	40

71	5V Stepper Motor with driver	- Rated voltage: 5V DC - Reduction Ratio: 64:1 - Step Angle: 5.625° /64, Frequency: 100Hz Self-positioning Torque: >34.3mN.m - Friction torque: 600-1200 gf.cm - Pull in torque: 300 gf.cm	20
72	NEMA 17	Torque: 0.8 N-m Minimum rotation angle: 1.8deg Operating Voltage: 24 V Operating current: 1A	6
73	NEMA 23	Torque: 1.17 N-m Minimum rotation angle: 1.8deg Operating Voltage: 24 V Operating current: 2A	6
74	DC Motor Driver - L298N	"Operating Voltage: 3 to 6VDC Shaft Diameter: 2 mm Shaft Length: 10mm"	60
75	CNC Driver Shield with A9888 Board	Minimum operating voltage: 8 V Maximum operating voltage: 35 V Continuous current per phase: 1 A2 Maximum current per phase: 2 A3 Minimum logic voltage: 3 V Maximum logic voltage: 5.5 V Microstep resolutions: full, 1/2, 1/4, 1/8, and 1/16 Reverse voltage protection?: N Bulk packaged?: N Header pins soldered?: N4	3
76	Servo Motor Driver	16-Channel 12-bit PWM/Servo Driver I2C interface	5
77	Robotic Chasis Kit with Mutiple Wheels options	- Very Easy to Assemble - High-Quality Laser-cut Metal Chassis - Precise Hole to assemble motors and Sensor - High-Quality Wheels and 125 RPM BO Motors with Dual Straight Shaft - Can be used for any electronics and Mechanical college project	5
78	LCD display 16x2 with I2C	- Character Color: White - Backlight: Blue - Supply voltage: 5V - Board Dimensions(L x W x H) mm: 80 x 36 x 18	25
79	5V 4 Channel Relay Module - with Optocoupler	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A. Power indicator (green), Two ways of relay status indicator light (red). Using 8550 transistor-driven, strong driving ability.	10
80	5V 1 Channel Relay Module - with Optocoupler	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A. Power indicator (green), Two ways of relay status indicator light (red). Using 8550 transistor-driven, strong driving ability.	25
81	5V relay cube	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A.	5

82	5V 2 Channel Relay Module - with Optocoupler	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A. Power indicator (green), Two ways of relay status indicator light (red). Using 8550 transistor-driven, strong driving ability.	10
83	12V relay cube	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A.	5
84	12V 2 Channel Relay Module - with Optocoupler	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A. Power indicator (green), Two ways of relay status indicator light (red). Using 8550 transistor-driven, strong driving ability.	10
85	12V 4 Channel Relay Module - with Optocoupler	AC voltage 250V, AC current 10A, maximum DC voltage 30V DC current maximum 10A. Power indicator (green), Two ways of relay status indicator light (red). Using 8550 transistor-driven, strong driving ability.	10
86	OLED - 0.96	Size: 1.3 inch, Resolution: 128 x 64 Controlling Chip: SSH1106 Driving Voltage: 3.3-5V Operating Temperature: -40~70 celsius Interface Type: IIC Light Color: White	10
87	Buzzer	Input Voltage(Max.) : 5V Resistance: 42 Ω Resonance Frequency: 2048 Hz Body Size : 12 x 8mm Pin Pitch: 6mm External, Material: Plastic;	60
88	GPS Module with EPROM (GP- 02-Kit base on GP-02 module AT6558R chip)	5Hz position update rate. The cold start time of 38 s and the Hot start time of 1 s.	10
89	GSM receiver (SIMCOM SIM7020G IoT Module 4G/LTE NB-IoT Module with SIMCard Slot)	4g SIMCOM Module	10
90	GSM Antenna	Frequency (MHz): 698-960MHz & 1710-2690 MHz Gain: 2/5 dBi Connector:SMA- Male Impedance (Ω) :50 VSWR: < 2.0	10
91	Zigbee Module with breakout board	- Integrated, Wire Antenna - Interoperable with other ZigBee-compliant devices - Programmable versions with onboard microprocessor enable custom ZigBee application development - Supports binding and multicasting for easy integration into a home automation platform - Data Rate: RF 250 Kbps, Serial up to 1 Mbps - Range: Indoor 200 ft (60 m), Outdoor (LOS) 4000 ft (1200 m)	3

92	HC-05 Bluetooth	Operating Voltage: 4V to 6V (Typically +5V) Operating Current: 30mA Range: <100m	25
93	Nrf24l01 RF Transreceiver	2.4GHz operation, 250kbps, 1Mbps and 2Mbps on air data rates Ultra low power operation 11.3mA TX at 0dBm output power	10
94	RFID Module	Operating Voltage4.6 V - 5.4 VDC Reading Distance6-10 cm Frequency125 kHz Compatible Card Codes Manchester64-bit, modules64 Current Rating35 mA (Max) OutputTTL	25
95	RFID Tag	Type : Passive RFID Type Of System : RFID Frequency : 125KHz	25
96	RF ID tag - card type	Type : Active RFID Frequency : 13.56 kHz Weight : 5.8 gm+/-0.5 gm Temperature : -10 and +50 Deg C	25
97	LoRa Gateway RG-01	Ai-Thinker LoRa Gateway (RG-01) ,the gateway is used for ultra-long-distance spread spectrum communication. Built-in three RF chips SX1278 has a high sensitivity of -148dBm and a power output of + 20dBm, long transmission distance, and high reliability;	1
98	LoRaWAN Nodes RA-08 Development Board/built-in MCU/SMA Interface 470MHz Antenna	Ra-08 Ra-08H LoRaWAN RF Module Development Board 410-525MHz 803-930MHz ASR6601 Chip with MCU/SMA Interface External Antenna.	10
99	Bi-Directional Logic Level Converter (5V to 3.3V)	Comes with 2 rows of 6 pin, unsoldered.	10
100	USB to RS485	Load capacity: support multipoint, each converter allows RS485 interface device to connect 32	10
101	USB to RS232	The USB-232-2 is a bi-directional USB powered RS232 to USB converter which makes a full-duplex RS232 port available to a PC via the USB port	10
102	Module Ethernet Network Module for Arduino/ Any MCU	Fully Compatible with 10/100/1000Base-T Networks Integrated MAC and 10Base-T PHY Supports One 10Base-T Port with Automatic Polarity Detection and Correction Supports Full and Half-Duplex modes Programmable Automatic Retransmit on Collision Programmable Automatic Rejection of Erroneous Packets SPI Interface with Clock Speeds Up to 20	5
103	Breadboard - 800 points	Solderless breadboard with 840 points Completely reusable and have a self-adhesive back	25
104	Breadboard - 400points	400 tie points 2 Power lanes, Total 100 tie points in power lanes 1 Double strip, Total 300	10

		tie points	
105	9V battery & Clip	9V battery and buckle. Wire Length: 15cm.	25
106	3.7V 1000mAH (Lithium Polymer) Lipo Rechargeable Battery Model	Nominal voltage: 3.7V Charging voltage: 4.2V Nominal capacity: 500mAh Operating temperature: -10 to 50°C Discharging cut-off voltage:3.2V	25
107	11.1v Lipo Battery	11.1V , 5200mAH	3
108	18650 liion battery	2000mah Shape: Cylindrical Battery. Battery Type: Lithium-Ion Battery.	10
109	2 Axis Joystick	Power: 0.01 W Interface: Dual 10 k-ohm potentiometers with common ground Dimensions: 1.64″ H x 1.40″ L x 1.10″ W (41.67 mm H x 35.56 mm L x 27.94 mm W) Operating temp range: +32 °F to +158 °F (0 °C to +70 °C)	25
110	RF Module set	Operating frequency – 434MHz 500ft range (given perfect conditions) 1.8 - 5.5V DC supply voltage Pin out is printed on module	10
111	F450 Full Drone SET with DJI Naza Controlller (Instead of Drone Integrated sensor Unit)	With DJI controller Model Flame Wheel F450 Recommended Takeoff Weight 1.8 to 3.5 lb / 0.8 to 1.6 kg Recommended Propeller 10 x 3.8″ / 25.4 x 9.7 cm; 8 x 4.5″ / 20.3 x 11.4 cm Recommended Battery 3S or 4S LiPo Recommended Motor Stator Size: 0.9 x 0.6″ / 22 x 15 mm or 0.9 x 0.5″ / 22 x 12 mm Recommended ESC 15 A OPTO Diagonal Wheelbase 17.7″ / 450 mm Weight 10 oz / 282 g	1
112	Play computer Starter kit	A integated development board which can be used to do visual and coding, with builtin 6 sensors and compatible cable with microbit interfaces, powered by ESP32 with both wifi and bluetooth.	1
113	Amplifier	Ahuja 250DP -Ahuja Amplifier 450W, with Pen drive	1
114	Wall Mounted Speakers	Ahuja WP-220M - 2 speakers - XRX 250 DX, wired mic 98XLR, wireless mic 4951	2

115	Bluetooth Speakers	Carvaan Musicbar - Bluetooth Speakers Carvaan Musicbar with subwoofer • 120W total power output with Carvaan Signature Sound	1
116	Webcam	Logitech C920 -HD Pro Webcam - 1080p, Optical, Full HD Streaming Camera for Widescreen Video Calling and Recording, Dual Microphones, Autofocus, Compatible with PC - Desktop Computer or Laptop - Black	3
117	Professional Camera	Panasonic DMC-G85KGW or Better	1
118	TV	VU Premium 55" - Premium 4K TV,55UT (138cm),4K WebOS Smart TV	1
119	Slide changer	Logitech - Slide changer	1
120	Accessories	Coconut Mouse Pad –Rectangle : 14 No's	14
121	Tool Wall covering Perforator		1
122	TTGO T - BEAM V1.2	ESP32 microcontroller, integrated with a LoRa radio (SX1278/SX1276) for long-range communication, and a NEO-6M GPS module for location tracking	5

	SAFETY		
123	Safety Goggle	Safety Goggles Impact Resistance Lens Anti-fog Scratch Resistance UV Protection Glasses	5
124	Safety glove		5
125	Fire Extinguisher	ABC Type	2
126	Safety mask		5
127	First Aid Kit	Sterile Washproof Plasters, Triangular Bandages, Sterile Dressing with Pad, Disposable Gloves etc..,	3
	FASTENING TOOLS		
128	Socket set Stanley	Pack of 40	2
129	Adjustable wrench (TAPARIA)	12 inch	2
130	Allen Key (Metric) (INGO LONG)	12 pieces	3
131	Allen Key (Imperial) (TAPARIA)	12 pieces	2
132	Screw driver set (Philips Head) (TAPARIA)	12 pieces	2
133	Screw driver set (Flat Head) (TAPARIA)	8 pieces	2

134	Mini Screwdriver Set Stanley	12 pieces	2
	HAMMERS		
135	Cross peen hammer Stanley	Head Weight: 450 g Total Weight: 0.73 kg	1
136	Claw hammer Stanley	Head Weight: 220 g Total Length: 10 cm Total Weight: 0.43 kg	5
137	Wooden Base Hammer Stanley	Wooden mallet	1
	PILES AND CUTTER		
138	Combination Plier Stanley	AWG - STRANDED SINGLE - 22/20-0.8mm	3
139	Nose Plier Stanley	150MM LONG NOSE PLIER - MINIATURE with SERRATION	3
140	Round nose plier Stanley	Overall Length - 7 inch	3
141	Pincers Stanley	SKU - 2-84-183, 180mm	1
142	Electrical Crimping tool Stanley	Size: 0.5sqmm to 6sqmm Ergonomic Design Rubber Embedded Handles Less Hand Force needed to Crimp Tool Lasting up to 50000 Crimps Ultra Smooth full Ratcheting Cycle with in-built Safety Release Replaceable jaws Rugged Double Plated jaw ssembly	1
143	Forceps set Eagle	Straight extra long, Reversible tweezer bend, Reversible tweezer straight	1
144	Tweezer set Eagle	Straight pointed, Eagle beak , Straight Pointed sharp, straight Pointed heavy	1
	SAWS		
145	Hand saw Stanley	250 mm	1
146	Hand saw Stanley	500 mm	1
147	Hack saw frame Stanley	12 Inch	5
148	Hack saw blade Stanley	300 x 12.5 x 0.63 mm Pack of 10	3
149	Junior Hack saw frame Stanley	6 inch	5

150	Hack saw blade small HSS Stanley	6 Inch 150mm Mini Hacksaw Blade Pack of 10	3
151	Power Circular Saw		2
152	Open end spanner set Stanley	6-32mm	2
MEASURING AND TESTING			
153	Measuring tape STANLEY	5m	5
154	Digital Screw Gauge amiciTools	0.001 mm(least count) Electronic Micrometer 25 mm Screw Gauge Carbide Tipped Imperial/Metric System	1
155	Outside caliper Aerospace	6 inch	1
156	Inside caliper Aerospace	6 inch	1
157	Bevel Protractor Kristeel	Range: 0-360 Degree	1
158	Digital Distance Measurer Bosch	Laser diode 635 nm, < 1 mW Measurement range 0.15 – 40.00 m Weight, approx. 0.1 kg Measurement time, typical < 0.5 s Laser class 2, Measurement accuracy, typical ± 2.0 mm* (*plus use-dependent deviation) Measurement time, max. 4 s Power supply 2 x 1.5 V LR03 (AAA) Automatic deactivation 5 min Laser colour Red Measuring range, up to 40 m	1
159	Sheet Metal & Wire Gauges Kristeel	Type: Height Gauge Display Type: Analog	1
CHISEL			
160	Chisel DEWALT	10.16,18,25 and 40mm	3
CLAMPS			
161	F-Clamp 300mm Stanley	300mm	1
162	Corner clamps Taparia	90 Degree Right Angle Clamp	1
HAND PLANNER			
163	Wood trimming Plane Good year	Standard	1
164	Wood trimming Plane Good year	Small	1
FILES			
165	Flat Taparia (JK)	10 inch	2
166	Half round Taparia (JK)	10 inch	2

167	Round Taparia (JK)	10 inch	2
168	Needle files set Taparia (JK)	10 inch	2
DRILL BITS			
169	Wood Drill Makita (BOSCH)	2 to 13 mm (1mm step)	1
170	Concrete bit Makita (BOSCH)	6mm, 8mm, 10mm	1
171	High speed steel (HSS) Makita (BOSCH)	1 to 13mm (0.5mm step)	1
172	Countersink bit Makita	5mm,8mm,10mm,13mm	1
FASTENERS			
173	Brass brushes	pack of 5	
174	Philip head screws	M2 to M6	100 each
175	Flat head screws	M2 to M12	100 each
176	Allen head screws	M2 to M12	100 each
177	Hexagon nut	M2 to M6	100 each
178	Square nut	M2 to M6	100 each
179	Hexagon Bolt, Nut and Dual Washer	M5 to M14	100 each
180	Hexagon Bolt, Nut and Dual Washer	¼ inch to ½ inch	100 each
181	Hexagonal bolt and nut (Self locking thread)	M5 to M14	100 each
182	Drywall screw	3.5x19 mm to 4.2x55 mm (11 types)	
183	Wood screw	1/16 inch to 5/16 inch	
184	Studs	6mm, 8mm, Length 1m	5 each
185	Nails	1", 2", 3"	100 each
MISCELLANIOUS			
186	Scribers	Thickness: 2 to 5 mm Overall Length: 215-216 mm	1
187	Center Punches STANLEY	8mm-5/16"x115mm-4/12"	1
188	Tap and Die set Craftsman	M3 - M12	1
189	Tap and Die set (Imperial unit) Craftsman	1/8" - 1/2"	1

190	Glass cutter Stanley	130mm	1
191	Bench Vise Apex	4 inch	5
192	Baby Vice 60 mm	60mm	5
193	Pipe vice		2
194	Bolt, nut, screw, washer, rivet storage boxes set	40 Drawer Small Parts Storage Small Cabinet	1
195	Metal body lockable knife STANLEY	18mm - Auto Lock mechanism	2
196	knife STANLEY	"Art Knife Perfect For Cutting , Carving, Etching. With 10 Extra Blades" 9 mm - Auto Lock mechanism 18 mm - Auto Lock mechanism	2
197	metal body heavy duty knife STANLEY	9mm - Auto Lock mechanism	2
198	Thermoplastic, Styrofoam Cutter Proxxon	(44 x 11.5 x 33.5 cm)	1
199	Digital Weighing Table Top Scale		1
200	Industrial scissors STANLEY	Size : 10 Inch	2
201	Ring spanner set Stanley	6-32mm	2
202	Box spanner set Stanley	26 Tool set	2
203	Double ended spanner sets	2 Sets	2
204	12 Piece Open ended Spanner Set	2 Sets	2
205	Safety Jacket full hand for protection under Metal cutting and Welding		4
206	Eye Protector for Welding		2
	M-Consumables		
207	3D printer Filament	Depending on the printer	2 rolls
208	Acrylic Sheets	2mm,3mm, 4mm, 5mm All of area 8ft x 4ft	2 sheets each
209	Foam Sheets	8mm, 10mm, 12mm, 15mm All of area 8ft x 4 ft	2 sheets each
210	Ply Boards	8mm, 12 mm, 18mm,All of area 8ft x 4ft	2 sheets each

211	Nylon Rods	12mm, 15mm, 18mm, 25mm All of length 1 m	5 each
212	Adhesives	M-Seal, Feviquich, Fevi Bond	10 each
213	PVC Pipes	.75", 1", 1.5 ', 2.5", 3" Length 10ft	1 each
214	Radium Cutter knives		10
215	Glue Stichs		50

4. Electronic Active and Passive Components

S. No.	Name of the Components	Qty
1	IC ICL 8038	10
2	IC LM 741	50
3	IC NE 555	50
4	IC CD 4016	50
5	IC 7474	50
6	IC 7486	50
7	Transistor 2N 2222 Metal	50
8	Transistor BF 494	50
9	Transistor BF 495	50
10	Transistor BC 107 Metal	50
11	Polyester Capacitor 0.001 µF	50
12	Polyester Capacitor 0.01 mF	50
13	Polyester Capacitor 0.1 µF	50
14	Disc Capacitor 100 pF	50
15	Carbon Film Resistor 10 KW / 0.50W	50
16	Carbon Film Resistor 39 KW / 0.50W	50
17	Carbon Film Resistor 1.5 KW / 0.50W	50
18	Carbon Film Resistor 68 KW / 0.50W	50
19	Carbon Film Resistor 1.8 KW / 0.50W	50
20	Carbon Film Resistor 15 KW / 0.50W	50
21	Carbon Film Resistor 6.8 KW / 0.50W	50
22	Carbon Film Resistor 100 KW / 0.50W	50
23	Carbon Film Resistor 2.2 KW / 0.50W	50
24	Carbon Film Resistor 4.7 KW / 0.50W	50
25	Carbon Film Resistor 47 KW / 0.50W	50
26	Carbon Film Resistor 22 KW / 0.50W	50
27	Carbon Film Resistor 1 KW / 0.50W	50

29	Single Strand Wire 1/.22 : 100 Yards : Assorted Colours : D	3
31	Soldering Lead 50 Gms	3
32	Soldering Flux 50 Gms : QUICKFIX	2
37	Scissors : Big	1

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FORMAT FOR BID SUBMISSION

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Note to Bidders: This format must be strictly followed. Technical and financial bids must be submitted in a sealed envelope.

I. TECHNICAL BID FORMAT

Covering Letter (on bidder's letterhead)

To: The Principal, Kumaraguru College of Technology, Coimbatore

Subject: Submission of Technical Bid for the supply of Equipment/tools/Machine

1. Bidder Information:

- Company Name:
- Registered Address:
- Contact Person:
- Email ID:
- Mobile Number:
- Legal Status: (Proprietorship / Partnership / Pvt Ltd / Public Ltd / Others)
- PAN & GST Numbers (attach copies)

2. Eligibility Documents:

- Certificate of Incorporation / Registration
- GST Registration and PAN Copy
- OEM Authorization Letter (if applicable)
- Declaration of Non-Blacklisting (Annexure-3)
- Experience Certificate (minimum 3 years)
- Financial Turnover (last 3 years with CA certificate)

3. Technical Compliance Sheet:

- Compliance with all technical specifications item-wise (Yes/No)
- Supporting product datasheets, brochures, or technical manuals (to be attached Compulsorily)

4. Service & Warranty Details:

- Minimum warranty offered: 3 years
- After-sales support details.
- Comprehensive onsite warranty for 3 years, including parts, labor, and service. Vendor must maintain local service center or authorized service partner within Tamil Nadu.
- Service escalation matrix (compulsorily to be provided by the vendor)

Authorized Signatory:

Name:

Designation:

Signature with Seal:

Date:

II. COMMERCIAL (FINANCIAL) BID FORMAT

Covering Letter (on bidder's letterhead)

To: The Principal, Kumaraguru College of Technology, Coimbatore

Subject: Submission of Commercial Bid for [Tender Name] Price Bid Format (to be filled as per below the template):

S.No	Item Description	Qty	Unit Price (INR)	GST %	Total Price (INR)
1					
2					
...					
	Grand Total (incl. taxes)				₹

Note:

a) All prices must be inclusive of delivery, installation, training, and three years warranty.

b) Bids quoting NIL charges shall be treated as unresponsive and rejected as per GFR Rule 173(i).

c) Kindly mention the Sponsorship amount that your firm would be able to contribute towards the establishment of the AICTE IDEA Lab

Authorized Signatory:

Name:

Designation:

Signature with Seal:

Date:

CHECKLIST

(To be printed on the bidder's letterhead and signed by the authorized signatory)

Sl. No.	Document Description	Attached (Yes/No)	Page No. / Reference
1	Annexure 1-Bid submission		
2	Annexure 3-Declaration of Non-Blacklisting		
3	Annexure 4- Declaration on Non- Chinese and/or non-Pakistan Origin of Equipment / Instruments / Machinery		
4	Annexure 5- BID Security declaration		
5	Covering Letter for Technical Bid		
6	Certificate of Incorporation / Registration		
7	PAN and GST Registration Copies		
8	OEM Authorization Letter (if applicable)		
9	Experience Certificates (3 years minimum)		
10	Financial Turnover Statement (last 3 years, CA certified)		
13	Product Brochures / Catalogues		
14	Service Support Details & Escalation Matrix		

Declaration:

I hereby certify that the above documents have been enclosed in the Technical& Financial Bid Envelope and are true and correct to the best of my knowledge.

Authorized Signatory Name:
Designation:
Signature with Seal
Date:

Declaration of Non-Blacklisting

(To be submitted on the Rs 500/-stamp paper and signed by the authorized signatory)

I/We,   M/s   _____ ,   having   our   registered   office
at

_____ , do hereby declare that:

1. **We have not been blacklisted or debarred** by any Government Department, Public Sector Undertaking, Autonomous Body, or any other Government Agency in India or abroad.
2. We are **not involved in any litigation** that may impact or compromise the timely delivery, quality, or execution of services/goods as required under this tender.
3. We understand that **any false declaration** in this regard shall result in our disqualification and may lead to further legal action by the procuring entity.
4. All the information and documents submitted by us in the bid are **true and correct to the best of our knowledge and belief**.

Authorized Signatory:

Name:

Designation:

Company Seal:

Date:

Declaration on Non-Chinese and/or non-Pakistan Origin of Equipment / Instruments / Machinery

(To be submitted on the bidder's letterhead and signed by the authorized signatory)

I/We, M/s _____, having our registered office at

_____, do hereby declare that:

1. All equipment, machinery, instruments, or components proposed to be supplied under this tender **are not manufactured in the People's Republic of China and/or Pakistan**, nor are they of Chinese/Pakistan origin or assembled using parts sourced from Chinese/Pakistan manufacturers.

2. We fully comply with the Government of India's guidelines, orders, and circulars regarding the **procurement of goods from countries sharing a land border with India**, particularly those related to restrictions on Chinese origin equipment as per:

o Ministry of Finance, Department of Expenditure, Public Procurement Division, Order No. F.No.6/18/2019-PPD dated 23rd July 2020, and related amendments.

3. We understand that **non-compliance** with this declaration shall render our bid **liable for rejection**, and may also invite penal action including blacklisting.

4. We undertake that, if at any stage the above declaration is found to be false, Kumaraguru College of Technology, shall be at liberty to terminate the contract and forfeit our security deposit/performance guarantee without notice.

Authorized Signatory:

Name:

Designation:

Company Seal:

Date:

BID Security Declaration

I/We understand that, as per tender conditions, bids must be supported by a Bid Security Declaration.

I/We accept that I/We may be disqualified from bidding for any contract with Kumaraguru College of Technology for a period of one year if I am / we are in breach of any obligation under the bid conditions, including:

(a) Withdrawal/modification of bid during the period of bid validity.

(b) Failing to sign the contract after award of bid.

Sign:

Name:

Designation:

Official Seal:

Date: