

TENDER NOTICE

Tender No: BSACIST/AICTE/IDEA LAB/2025-26/01

Date: 01.08.2025

Tender Type: GOODS

B S A Crescent Institute of Science and Technology hereby invites tenders from qualified and reliable suppliers and vendors for the supply and installation of machinery & equipment for the Establishment of a AICTE IDEA (Idea, Development, Evaluation & Application) LAB at B S A Crescent Institute of Science and Technology, **120, Seethakathi Estate, Grand Southern Trunk Rd, Vandalur, Tamil Nadu 600048.**

Prospective suppliers and vendors are requested to download the tender documents from our official website at <https://crescent.education>. Completed tenders, along with the requisite credentials must be submitted in hard copy format, enclosed in a sealed cover,

To
The Faculty Coordinator - AICTE Idea Lab,
B S A Crescent Institute of Science and Technology,
120, Seethakathi Estate, Grand Southern Trunk Rd,
Vandalur, Tamil Nadu 600048

on or before 21st August 2025, by 5:00 pm.

Critical Date & Time:

Tender Notice Publication Date:	01 st August 2025
Tender Notice Download Date:	01 st August 2025, 07:00 AM onwards
Last Date for Submission of Sealed Bids:	21 st August 2025, 05:00 PM

Venue for Submission of Bids	B S A Crescent Institute of Science and Technology, 120 Seethakathi Estate Grand Southern Trunk Rd, Vandalur, Tamilnadu – 600048.
Evaluation of Submitted Bids:	22 nd August 2025, 11:00 AM
Venue for Evaluation of Bids	B S A Crescent Institute of Science and Technology, 120 Seethakathi Estate Grand Southern Trunk Rd, Vandalur, Tamilnadu – 600048.
Agreement Execution and Purchase Order Issuance:	26 th August 2025
Delivery & Installation Deadline:	On or before 05 th September 2025

****Note:** Tender Documents should reach the above-mentioned address on or before 21st Aug 2025, 05:00 pm in physical form.

Payment terms: 50% advance, 30% after delivery, 17% after installation and demo, 3% after 365 days(Performance Guarantee).

Faculty Coordinator
AICTE IDEA LAB

1) OFFLINE SUBMISSION — The bid should be submitted only in OFFLINE.

- a. The cover should contain all the prime eligibility documents listed in Section (3) Technical Bid Qualifying Criteria Documents along with all pages of the tender document with the signature of the tenderer and it should be tightly sealed.
- b. The envelopes should be superscripted at the top of the cover as **Establishment of AICTE IDEA (Idea Development, Evaluation & Application) LAB at B S A Crescent Institute of Science and Technology, Vandalur - 600048.**
- c. The financial bid document should be separately sealed and attached with prime eligibility documents and covered with a sealed envelope with the name of the tenderer, super scripted the top as **“Establishment of AICTE IDEA (Idea Development, Evaluation & Application) LAB at B S A Crescent Institute of Science and Technology, Vandalur – 600048.** under the All India Council for Technical Education (AICTE).
- d. The completed tender forms consists of Name of the item, Specification, Quantity, Cost per unit, Total cost along with the enclosures and the sealed cover containing the financial bid should be submitted in ONE cover and addressed to.

Dr. M. Parvez Alam,
Faculty coordinator – AICTE IDEA Lab,
B S A Crescent Institute of Science and Technology,
120 Seethakathi Estate, Grand Southern Trunk Rd,
Vandalur, TamilNadu – 600048
E-Mail Id: ceociic@crescent.education

- e. Technical Bids will be opened as per the schedule given on critical Date & Time in the presence of bidders or their authorized representatives. If the opening date happens to be a closed day/holiday, the tender will be opened on the next working day. Only one authorized representative from the firm shall be allowed to participate in the opening of technical bids / financial bids.

2) ACCEPTANCE AND REJECTION

B S A Crescent Institute of Science and Technology reserves the right to accept / reject any or all tenders and accept the whole or any part of the tender without assigning any reason. A tender that does not fulfill any of the terms and conditions of the tender or with incomplete documents in any respect will be rejected summarily.

3) TECHNICAL BID QUALIFYING CRITERIA

- a. A Registered Company / Manufacturer / OEM / Authorized Dealers should have similar work experience.
- b. The Bidder should have a valid License / Registration, GSTIN No., PAN Number, Bank Account and registered office in India.
- c. The Bidder should not have been blacklisted by any Govt. Dept. / Semi-Govt. / Dept. or any other organization.
- d. Information regarding experience in the Supply & Installation of the same / similar Machinery & Instruments in India. Documentary Evidence to be supported by Purchase Orders and Project / installation completion certificates for the same.
- e. Bidders shall have sufficient manufacturing capacity / tie-ups and should have the after - sales support infrastructure.
- f. In case, the Bidder offers to supply critical machinery & instruments, which are not manufactured by them, the Bidder should be duly authorized by the Head / OEM as an authorized dealer to supply the Machinery & Instruments.
- g. Preference will be given to the Manufacturers / their authorized dealers having more than 3 years of association with the same manufacturers to ensure effective after-sales service support.
- h. If the Bidder has already supplied / received an order to supply any similar Machinery & Instruments to any Government organization, the performance, time line and quality of supply and services will be considered as qualifying criteria. Preference will also be given in case of prior experience in setting up of AICTE IDEA Lab / Centre of Excellence.

- i. Minimum Turnover of Rs.5 Crores in any one of the last three financial years.
- j. If the bidder is not an OEM then the Authorized Dealers should submit the necessary OEM documents / information etc.,

Note: Relevant documents to be submitted along with tender documents to establish the fulfillment of qualifying criteria referred in **TECHNICAL BID QUALIFYING CRITERIA**.

The selection of the Tenderer will be made based on various parameters (as fixed by the Committee / Competent Authorities) like past service to Government Offices, after-sales support, Period of Warranty, AMC Support, feedback from the previous clients of the bidder etc.

4) EVALUATION CRITERIA AND FINAL SELECTION

- a. The committee constituted by the Chief Mentor - AICTE IDEA Lab of **B S A Crescent Institute of Science and Technology** will examine the technical documents and decide the suitability as per the requirements of **B S A Crescent Institute of Science and Technology** and the terms and conditions of the tender. Only the technical bids of the entity, meets the listed criteria, would be taken up for detailed evaluation.
- b. The technical committee may visit to verify the capacity and capability of the bidders, if required to assess the performance of Instruments / Machinery supplied by them.
- c. Selection of the bidders shall be based on a weighted criteria system to be derived from the submitted tender documents, experience etc., In the case of non-fulfillment of minimum pre- qualification criteria of the technical bid, the bid of the respective bidder shall be rejected.
- d. 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.
- e. BSA Crescent Institute of Science & Technology 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 BSA Crescent Institute of Science & Technology and shall be binding on all parties.

- f. The submitted bid will be valid for a period of 90 days from the final date of submission.

5) AGREEMENT & PURCHASE ORDER:

- a. The successful tenderer will be required to execute an agreement in a non-judicial stamp paper of appropriate value within the time frame stipulated by **B S A Crescent Institute of Science and Technology**.
- b. The **B S A Crescent Institute of Science and Technology** reserves the right to add / delete / modify the clauses in the agreement without prior notice.
- c. Post execution of required agreement, Purchase Order (PO) will be issued with the detailed timeline and terms & conditions.

6) PERIOD OF CONTRACT:

- a. The supply of the Machinery & Instruments should be completed within 10 days from the date of issue of purchase order.
- b. Extension / non-extension will be the sole discretion of the competent authority, and the successful bidder cannot assume extension as the right.

7) TERMINATION OF CONTRACT:

- a. The competent authority has the right to cancel the contract at any time, without giving a reason, if there is any violation of the terms and conditions in the purchase order. This includes, but is not limited to, issues with the quality of the machinery and instruments / Installation / Post sales service.
- b. At any time during the period of the contract, if it comes to the notice of the **B S A Crescent Institute of Science and Technology**, that the contractor has misled this office by giving false / incorrect information which has been material in the award of the contract, the contract shall be liable to termination without any notice beside other legal action as per law.
- c. Further, in case of any breach, the contract can be terminated without any notice.

8) GENERAL TERMS & CONDITIONS.

- a. The Bidder must apply for all the Machinery, Equipment, and Tools specified in the tender, and submit a single comprehensive tender accordingly.
- b. The Technical specifications of the Machinery & Instruments should be as per the specifications mentioned in specification sheet attached below.
- c. Details of the product offered shall be supported with complete specifications duly authorized

along with documents i.e., Leaflet, catalogue, literature, test reports etc.

- d. Govt. of India guidelines in Make in India policy, Relaxation of Norms for Startup and Micro & Small Enterprises in Public Procurement will be followed.
- e. **B S A Crescent Institute of Science and Technology**, reserves its right to relax the condition referred to in TECHNICAL BID QUALIFYING CRITERIA (except clause i). The decision of the B S A Crescent Institute of Science and Technology in this regard shall be final.
- f. The quoted prices shall be inclusive of all charges, including insurance, transportation, installation, staff training, and all applicable taxes, excluding GST. The GST component must be quoted separately. No additional charges will be entertained beyond the quoted prices.
- g. It is the responsibility of the tenderer to check any correction, or any modifications published subsequently on the website and the same shall be taken into account while submitting the tender.
- h. The Bidder submitting the tender would be deemed to have considered and accepted all the terms and conditions of the contract. No verbal or written enquiries will be entertained in respect of acceptance or rejection of the tender.
- i. The bidder having their close relatives working in **B S A Crescent Institute of Science and Technology** is not allowed to participate in the Tender, an affidavit confirming the same should be submitted in original to B S A Crescent Institute of Science and Technology.
- j. The selected bidder will have to complete all the required formalities / obtain permits / licenses, etc. Immediately within Five days after the award of the Purchase order.
- k. Canvassing whether directly or indirectly, in connection with tenders, is strictly prohibited and the tenders, submitted by the tenderer, who resort to canvassing, will be liable for rejection.

9) SPECIAL TERMS & CONDITIONS

- a. The Successful Bidder shall take all precautionary measures to avoid any damage to adjoining property while installing the Machinery & Instruments. All necessary arrangements shall be made at his own cost.
- b. **B S A Crescent Institute of Science and Technology** reserves the right to make any change, omission, additions (or) alterations to the original specifications of the Machinery & Instruments on mutual discussions. Such changes, omissions, and substitutions shall be deemed to have been formed as work included in the original tender and the contractor shall be bound to carry out the work / adhere to the supply order.

- c. The Period of warranty for the Machinery & Instruments will be for Three Years.
- d. The successful bidder should extend Post Supply Support (spares & services, maintenance, AMC) to the **B S A Crescent Institute of Science and Technology** in maintaining the Machinery & Instruments.

10) PENALTY CLAUSES

- a. Failure to comply in terms of quality, quantity, and as per the requirements will attract a penalty. For not adhering to contractual conditions, B S A Crescent Institute of Science and Technology shall be free to impose a monetary fine as deemed fit on the successful bidder. Fines imposed shall be remitted by the successful bidder to the B S A Crescent Institute of Science and Technology account or else the same shall be adjusted from the Security Deposit / Retention money.
- b. If any consequential damages occur while carrying out the installation work, the damage incurred so should be borne by the tenderer. Quantum of liquidity damages assessed by the B S A Crescent Institute of Science and Technology shall be final and non- challengeable by the successful bidder.
- c. PENALTY FOR DELAY in supply of Goods:- Supply of the Machinery & Instruments has to be completed within the schedule. For any delay in completing the work, a delay of every week or part thereof, an amount equivalent to 0.5% subject to a maximum of 12% of the successful bidder's claim made for the execution will be deducted from the amount payable in the settlement of the claim at the discretion of the management.
- d. The Chief Mentor - AICTE IDEA Lab, **B S A Crescent Institute of Science and Technology** shall be the Competent Authority regarding the imposition of penalty and quantum of the penalty and his decision shall be final.

11) Bid Security & Performance Guarantee

- a. Earnest Money Deposit 2% of the bid value to be submitted by way of Demand Draft drawn in the name of **B S A Crescent Institute of Science and Technology**.
- b. Performance Guarantee by way of Demand Draft / Retention equivalent to 3% of the Purchase value. The same shall be refunded to the successful bidder on satisfactory performance of 365 days from the date of installation & training completion.

Details of technical specification to be followed

1. List of Mandatory Consumables in AICTE IDEA Lab

S. No	Name	Specification
1	Acrylic Laser Cutter	Laser Power : 100w Working Area : 1200mm × 900mm Marking Speed : 500mm/s Minimum Character Size : 0.3 mm Laser Power Source : EFR/SPT Laser Cooling : Water pump Controller : RD controller Exhaust Fan : 750 watts Air Compressor : 150 watts Lens : US BRAND Working Motor : Stepper system Life Span of Fiber Laser Module : 10000 Hrs Resolution of Machine : 0.01mm Machine Structure : Heavy duty welded structure Required Power : 220V, 5KW, 1 Ph
2	Vinyl Cutter (Make:Skycut)	Max. Plotter Width: 630 mm (JK 721) CPU: Windows 7 (32-bit) Drive Motor: Stepping Motor Max. Plotter Speed: 800 mm/s Cutting Force: 50–500 g Mechanical Resolution: 0.0254 mm/step Blade Type: Super Steel (1.2 mm and 2.0 mm) Display Panel: 8-digit × 2-line LCD Interface: USB Port, Serial Port Measurement: 960 × 350 × 430 mm Buffer Capacity: 1–4 M Power Requirement: 220 V Stand: Included"
3	3D printer	256 x 256 x 256 (ABS, ASA, Carbon/Glass Fiber Reinforced Polymer, PA, PC, PET, PETG, PLA, PVA, TPU)"
4	3D Scanner	Blue light (with 7-line blue light laser, up to 0.02 mm at a distance of 100 mm, up to 60 fps)

5	CNC Router	<p>Working area – 1300 x 2500mm</p> <p>Z- Gantry clearance – 300 mm</p> <p>Total size of machine- 1700 x 3000 x 1500mm</p> <p>Double motorized- SERVO motors on all axes</p> <p>Electronic assembly- SERVO drives for all axis</p> <p>25mm rack and pinion</p> <p>20 mm high precision linear guides on X ,Y axes</p> <p>Backlash free precision hardened and ground ball screw on Z-axis</p> <p>Single Spindle 3.5 Kw 0- 18000 RPM (Air Cooled)</p> <p>Spindle control(VFD)- INNOVANCE</p> <p>Rapid transverse speed 20 meter/minute</p> <p>Max working speed 18 meter/minute</p>
6	Mini Desktop Lathe cum Milling	<p>Swing over bed: 180 mm</p> <p>Distance between centers: 350 mm</p> <p>Hole through spindle: 20 mm</p> <p>Cross slide travel: 65 mm</p> <p>Compound travel: 55 mm</p> <p>Spindle speed low range: 100-1100 +-10% rpm</p> <p>High range: 100-2500 +- 10% rpm</p> <p>Motor output power: 250 W</p>
7	Drilling M/c 1 HP Motor	<p>No Load Speed: 0 - 630 rpm</p> <p>Motor Power: 1 HP</p> <p>Max Torque: 11 Nm</p> <p>Drill Depth: 160 mm</p> <p>Drilling Diameter: 25mm</p> <p>Make: RMT</p> <p>Model: 1HP Driller"</p>
8	Handheld high speed drilling machine 15000 RPM with accessories	<p>Rated input power : 450 W</p> <p>Drill chuck, version : Keyed chuck</p> <p>Voltage, electrical : 220–230 V</p> <p>No-load speed, 1st gear : 0 rpm</p> <p>Power output : 250 W</p> <p>Impact rate at no-load speed : 0 bpm</p> <p>Drill spindle connecting thread : 3/8"-24 UNF</p> <p>Chuck capacity, min./max : 1.5 – 10 mm</p> <p>Drilling range</p> <p>Drilling diameter in concrete : 10 mm</p> <p>Drilling diameter in wood : 20 mm</p> <p>Drilling diameter in steel : 8 mm</p>

9	Benchtop grinder machine	<ul style="list-style-type: none"> • Powerful 373 watts motor • Accepts cotton buffing and wire brush wheels • Sturdy cast iron base with rubber mounts • No Load Speed: 3450 RPM • Package Contents: Main Unit, 2 Tool Rest, 2 Eye Shield • Material: Plastic, Metal • Product Dimensions: 27L x 4W x 15H Centimeters • Style: Bench Grinder • Power Source: Corded
10	Solder Station	<p>Watts 600 watts all combined Iron 60watts 480°C max. Hot air blower 550 watts max 450°C max. Input Voltage (VAC) 230 1 x Soldering Iron 1 x Hot Air Gun 3 x Nozzles of Different Sizes 1 x Stand with Sponge 1 x Supply Cord ESD safe. Microcontroller-based smart circuit design. An integrated blower within the handheld unit. Built-in temperature sensor for precise measuring. Digitally Controlled. Built-in cut-off sensor when placed on Cradle. Rubber grip for non-slippery use. MCH heater for long life.</p>
11	Desoldering machine	<ul style="list-style-type: none"> • Power Source: Corded Electric • Wattage: 30 Watts • Special Feature: Portable • Included Components: Desoldering Iron solder tool • This desoldering Iron solder tool adopts durable and ceramic heater. Light weight with a heat resistant plastic handle. • Possessing fast and heat dissipation, withstanding high voltage and temperatures. • Iron plated tip and stainless steel construction for longer life. • 30W Desolder Iron

12	Advanced motorized sewing machine	Automatic zig-zagsewing machine with compact free arm. Thread Tension Control: Manual Stitch PatternSelector: Dial Type 7 built-in stitches & 14 Stitch function including 4-step buttonholing; Seven applications including lace fixing, quilting, smocking and rolled hemming Auto tripping bobbin system; drop feed for embroidery; manual needle threading; sewing light Sewing speed: 550 SPM (Stitches Per Minute); Stitch length control; Triple strength stitch
13	Wood lathe	Voltage: 220 V Feed Rate: 7.5 meter/min Frequency: 50 Hz Phase: Single Spindle Speed Range: 2000 RPM 6" x 4 Jaw True Chuck with suitable chuck plate Tools - 4 Qty
14	Power tools (Bosch)	Power Source: Corded Electric Maximum Rotational Speed: 2600 RPM Voltage: 240 Volts (AC) Maximum Chuck Size: 10 Millimeters Included Components: Tool Special Feature: Lightweight
15	Portable welding machine (GB)	MIG/MAG/MMA IGBT Inverter based Welding Machine with Euro MIG Torch, 5kg/ 200mm FCAW (Gasless) Wire Spool, MMA Welding set with Zweldaq
16	Refrigerator	<ul style="list-style-type: none"> • Single door refrigerator with Intellisense Inverter Technology • Capacity: 184 liters • Energy Rating - 2 Star energy efficiency • Upto 9 hours of cooling retention • With stabilizer
17	Normal Oven & Microwave oven	<ul style="list-style-type: none"> • Capacity: 20 litres • Special Feature: Defrost, Turntable, Auto Heat, Timer, Compact, Vapor Clean, Auto Cook defrosting of food without compromising on the textures of flavour. • Vapor Clean: Keep oven odor free and stain free with the touch of a button

18	Magnifying glass with stand	Power adapter: Input 110-240V50/60Hz, Output: DC 4.8V 250mA. Welding holder size: length6.3cm/2.48in, Base size: 10 * 6.8cm / 3.94 * 2.68in (L * W). Features: Material: ABS + electronics material
19	Digital microscope	Product Size: 195*253*225mm Magnification: Standard 0.7-4.5X(Optional 2.1X-180X) Eyepiece: 0.5X CTV HD electron microscope Objective Len: 0.7X-50X Eyepiece: WF10X22 High Eyepiece
20	Mixed Signal Oscilloscope	100 MHz, 4 analog plus 16 digital channels, 4Mpts memory- 20MHz arbitrary waveform generator
21	Digital Storage Oscilloscope	Digital Storage Oscilloscope 100MHZ 2 Channel 2Gsa/s 12-bit high resolution with 7" inch touch screen display: 100 MHz;2 channels; 2 GSa/s; 50 M memory depth; 500,000 wfms waveform capture rate; 7" TFT-LCD with capacitive touch screen (1024*600); SPO technology,2 Mpts FFT Serial bus triggering and decode (Standard), supports IIC, SPI, UART, RS232, CAN, and LIN ; Support MSO, USB AWG Bode Plot: USB WIFI
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.
23	Variable power supply	3 independent high precision outputs: two 32 V /3.2 A, one 2.5 V / 3.3 V / & 5 V / 3.2 A, total 220 W power 4 digit voltage and 3 digit current display, min

		resolution: 10 mV, 10 mA Three output modes: independent, series and parallel 100/120/220/230 V compatible design, to meet the needs of various power grids
24	Benchtop multimeter	Output Channels: 3 independent outputs
25	Projector	Business & Education Projector, DLP, 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
26	Heavy Duty laser printer	Connectivity Technology Wi-Fi, USB, Ethernet Printing Technology Laser Special Feature Usb Printer Output Monochrome Max Print speed Monochrome 20 ppm
27	PCB Milling Machine	<ul style="list-style-type: none"> • PCB Cabinet • Desktop, CPU, Mouse and Keyboard • Eureka Forbes Vacuum Cleaner • Single Side Copper Clad - 10 No's • Double Side Copper Clad - 10 No's • Drill Bits - 10 No's • Engrave Bits - 10 No's • Spring Collecting Chuck Tool Bit Holder • PCB Washing Tub - 1 No • Digital Microscope Endoscope Camera - 1 • Multipurpose Working Table • Solder Masking • PTH Masking • UV Exposure
28	Smart board	Interactive Flat Panel 86" 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
29	Computer workstation in networking	Workstation 32GB (1x32GB) i7 1TB SSD NVIDIA RTX 3050 - 8GB Win 11 Pro 32 NCH FHD MNTR TFT, Mouse and Keyboard

2. List of Mandatory Consumables in AICTE IDEA Lab

S. No	Name of Item	Qty	Specifications
1	Vacuum Cleaner	1	HEPA Filter 18 kPa Powerful Suction & High Energy Efficiency 5m Power Cord with Auto Cord Re-Winder 2 L Dust Collector (Red/Grey)
2	Hot Air gun	5	<ul style="list-style-type: none"> • Ergonomically designed heat gun pistol grip handle with lock-on switch provides comfort. • 1800 Watt, 230 Volt, Pistol Grip, Up to 550 degree centigrade, 3 meter Cable Length • It provides instant hot air with its superior performance and spherical nozzle. • It is made with high density plastic and metal, which makes it extremely reliable and durable. • The nozzle is engineered to operate in extremely high temperatures without changing its shape • Ideal for removing & drying paint, adhesives, loosening nuts & bolts & shrink wrapping
3	Measuring Equipment	1	Vernier caliper, Vernier height gauge, Micrometer ,Metal Scale(0-200/0.01), Vernier height gauge (0-1000mm) MiCrOmeter 0-50 , 50-100/0.001 inside and outside)] Metal Scale etc
4	Fire extinguisher - As per lab size	1	<p>Capacity-2 kg</p> <p>They are light weight and have a unique shoot design, which makes them different on their own.</p> <p>They are easy to maintain and service which makes them an economical choice too.</p> <p>Two-step activation mechanism allows you to vanish the fire within seconds.</p> <p>Concentration of Mono Ammonium Phosphate.</p>
5	First aid box - As per lab size	1	<p>Packer: Darshan Metal Ind Pvt Ltd, Shapar, Rajkot</p> <p>Item Weight: 750 g</p> <p>64 Pcs of Medicines with Plastic MiltonBox</p>

6	Digital multimeter	5	Make: APTECH Model: AP-IS114005 The frequency is 50Hz, the voltage is approx 3Vp-p.
7	Clothes iron	5	<ul style="list-style-type: none"> • Non-stick coated golden color sole plate • Cool touch body with comfortable hand grip • Light weight and 360 degree swivel cord, Material - Plastic <ul style="list-style-type: none"> • Thermal fuse for safety • Power: 1000 watts
8	Electronic component repository - LCR, Variac, etc	1	Compartmentalized box with resistors, capacitors, LEDs, diodes, transistors, ICs
9	3D printer filament (depending on printer)	2	PLA: 1.75 mm \pm 0.03 mm
10	Acrylic sheets	2	Model: Acrylic Sheets 8 x 4 Ft ACRYLIC SHEETS 2MM ACRYLIC SHEETS 3MM ACRYLIC SHEETS 4MM ACRYLIC SHEETS 5MM
11	Foam Sheet	2	Model: Foam Sheets 8 x 4 Ft FOAM SHEETS 8MM FOAM SHEETS 10MM FOAM SHEETS 12MM FOAM SHEETS 15MM
12	Ply Boards	2	Model: Ply Boards 8 x 4 Ft PLY BOARDS 8MM PLY BOARDS 12MM PLY BOARDS 18MM
13	Nylon Rods	5	Model: Nylon Rods 12 mm 15 mm 18 mm 25 mm
14	Nuts MS	100	Model: Nuts 3mm 4mm 5mm 6mm 8mm 10mm 12mm

15	Bolts MS	100	Model: Bolts 3mm 4mm 5mm 6mm 8mm 10mm 12mm
16	Screws MS	100	Model: Screws 3mm 4mm 5mm
17	Washers MS	100	Model: Washers 3mm 4mm 5mm 6mm 8mm 10mm 12mm
18	Studs MS	5	Model: Studs 6mm 8mm
19	Nails MS	100	Model: Nails 1" 2" 3"
20	Adhesives	10	Model: Adhesives M-SEAL FEVIQUICK FEVI BOND
21	2 Way Tapes	20	Model: Double Side Tape 2mm 2 Way Tape
22	PVC Pipes	1	Model: PVC Pipe 10 Ft 0.75" 1" 1.5" 2.5" 3"

23	Aluminium Channels	2	Model: Aluminium Channels Length 12ft L C Box Strip
24	PCB Drill Bits	20	Model: PCB Drill Bits 0.5 mm 0.8 mm 1 mm
25	Drill Bits	20	Model: Drill Bits 3mm 4mm 5mm 6mm
26	Drill Bits	5	Model: Drill Bits 8mm 10mm 12mm
27	Carpentry Boring Bits	1	Model: Boring Bits Package Contents: 5-Pieces Wood Drill Bits 4-8 mm, 5-Pieces HSS Metal Drill Bits 2-5 mm, 5-Pieces Masonry Drill Bits 5-8 mm, 3-Pieces Socket Wrenches 7/8/10 mm, 1-Piece Adapter for Socket Wrench, 1-Piece Magnetic Universal Holder, 1-Piece Countersink Bit, 13-Pieces Screwdriver Bits L=25 mm: 1 PH 1/2/3, 1 PZ 1/2/3, 1 S 4/6/7, 1 T 15/20/25/30
28	Electronic Active and Passive components	10	RESISTORS, CAPACITORS, DIODES TRANSISTORS
29	USB Cables	10	Model: Connecting Cables, Programming Cable
30	Radium Cutter Knives	10	Model: Knife Blade Width, Plastic Handle, With 2 Spare Blades
31	Glue Sticks	50	Model: Glue Sticks Glue Sticks

32	Hack Saw Blades	10	Model: Hack Saw Blades 6" 12"
33	9V Battery Snaps	20	Model: Battery snaps Battery Snaps
34	LAN Cables	5	Model: LAN Cables LAN Cables
35	9V Batteries	20	Model: 9V Battery 9V Battery

3. List of Mandatory Tools in AICTE IDEA Lab

S. No	Name of Item	Qty	Specifications
1	Hacksaw	5	Manual Compact Frame Hacksaw with 24T Blades
2	Micro Chisel Set	3	-
3	Pliers set	3	Home and Garden 3-Piece Pliers Set – Ergonomic Combination, Diagonal, and Long-Nose Pliers with a Long-Lasting Chrome-Nickel Coating
4	Manual PCB Drilling Machine tool	3	High Quality PCb Manually Drilling machine With 0.3 mm to 1.6 mm Drill set Magnetic Drill (0.3 mm Chuck Size)
5	PCB power Drilling Machine tool	3	Model: PCB Power Driller Power Source: Corded Electric Special Feature: Portable, Lightweight Style: Pencil
6	Cordless Drilling Machine	2	Power Source Battery Powered Maximum Rotational Speed 1500 RPM Voltage 12 Volts Amperage 2 Amps Maximum Chuck Size 10 Millimeters

7	Jigsaw Machines	2	Corded Electric Jigsaw Power : 500W Motor Stroke rate at No Load- 800-3100 spm Cutting Depth 68mm Blade Material: Metal Surface Recommendation: Wood Power Source: Corded Electric Special Feature: Ergonomic Handle Included Components: 1 x Corded Electric Jigsaw
8	Power Circular Saw	2	Blade Material: Alloy Steel Surface Recommendation: Wood Power Source: Corded Electric Special Feature: depth adjustment Fast cutting speed thanks to the powerful 1300W motor
9	Files Set	2	Model: Files set sun needle file set steel 12 pcs, 4x160 mm length assorted shapes
10	Files Handles set	1	Model: File Handles File Harndle -Plastic 3" Length, For 4" & 6" Files
11	Needle Files set	2	Model: Needle Files Material: Carbon Steel Dimensions: 5-1/2" x 3mm Fine teeth cut:/Comes organized in a pvc pouch Shapes include: Round, equalling, tapered round, half round, barrette, crossing, knife, warding, square, and three square.
12	Pipe Vice	2	Model: Pipe Vice Material: Carbon Steel Style: Heavy Item Weight: 3 Kilograms Ideal for plumbing jobs and workshops Heavy duty spindle
13	Mini Hacksaw	5	Model: Mini Hacksaw Junior Saw Frame Wooden Handle, 6" Blade
14	Ball Peen Hammer	5	Model: Ball Peen Hammer Drop Forged 200g, Proseries, Powder Coate Head, Wedge Secured, Ash Wood Handle, Induction Hardened & CNC Machined

15	Steel Shaft Claw Hammer	5	Model: Steel Shaft Claw Hammer Claw Hammer - Drop forged 225 grms with ash wood handle
16	Nylon Mallet	5	Model: Nylon Mallet Nylon Hammer -Precision ppo Blow 30mm (1 1/4") Replaceable Tips, 370g, Light Weight, Hollow Head ash wood handle
17	Rubber Mallet	5	Model: Nylon Mallet Head Material: Alloy Steel Handle Material: rubber,steel,wood handle Rubber head helps minimize marring and surface damage Tough rubber head molded to a wood handle For Striking blows where steel hammers would mar or damage surface The handle is ergonomically designed and made with soft grip material
18	Allen Key Set	3	26pcs Hex Allen Key Wrench Set - Inch/MM With Ball End, for Repairing Industrial Machinery, Motorcycles, Bicycles, Cars, Furniture, Black
19	Dremel Multi tool kit	2	180W Electric Rotary Tool with 118 pc Acc. Kit Box for Grinding,Polishing,Engraving and Carving
20	Double ended spanner set	2	Steel Double End Open Jaw Spanner Set, 70-380E
21	12 Piece Open Ended Spanner Set	2	Double Open End Spanner Set 70-380E
22	Belt and Disc Sanding Machine	1	6 Inch Electric Belt & Disc Sander 500W Grinder Polisher 2980 RPM Speed Metal Bench Sanding Machine Workshop Sanding Grinding Machine
23	Scroll Saw Machine	1	Model: 85W Input power:85W No-load speed:0-1450rpm Max cutting depth:50mm - Max cutting width:410mm -Table size:375*250mm
24	Tool Wall covering Perforator	3	Model: Wall covering Perforator Wallpaper roller
25	Dremel Moto Saw	1	Motor Saw 1500-2250 RPM

26	Bench Grinding Machine	1	Powerful 373 watts motor Accepts cotton buffing and wire brush wheels Sturdy cast iron base with rubber mounts No Load Speed: 3450 RPM
27	Power Return Measuring Tape	5	Model: Measuring Tape Item Weight 0.45 Kilograms Blade Length 7.5 Metres Width 25mm Case Material Type Stainless Steel Blade Material ABS, High Carbon Steel, Polyvinyl Chloride
28	Tri Square 8"	5	10-inch Tri-Square Tool
29	Stainless Steel Ruler	5	Model: Steel Scal Style: 40 inch, 100 cm 1 meter Graduation Range: 0-100 Centimeters Double-sided laser printing High quality stainless steel material
30	Digital Vernier Caliper	5	Model: Vernier Caliper Item Height: 0.1 Centimeters Item Width: 2 Centimeters Power Source: Battery Powered Resolution: 0.01 inch Included Components: 1
31	Spirit Level	5	300 mm I Beam Spirit Level, STH42072-8
32	Dremel Cordless Rotary Tool	1	180W Electric Rotary Tool with 118 pc Acc. Kit Box for Grinding,Polishing,Engraving and Carving
33	Power Router	1	Material Plastic, Metal Power Source Corded Electric Product Dimensions 28.5W x 16H Centimeters Item Weight 5.15 Kilograms Horsepower 28000 rev/month Maximum Rotational Speed 28000 RPM Base Type Plunge
34	Sewing Machine	1	Colour White Product Dimensions 32D x 33.5W x 17H Centimeters 12 Stitch Patterns,Sewing Machine For Home Tailoring With Zig Zag,Pico,Single Needle Sewing,Automatic Thread Rewind
35	Impact Drill	3	Corded Electric Impact Drill 600 W Motor Speed upto 3000 RPM Rated Torque of 1.4

			Nm Impact rate upto 48000 BPM Double Insulation
36	Ratchet Set	2	1/4" Square Drive Metric Socket Set with Double Nickel Chromium Alloy (46-Pieces),
37	Router Bit Starter kit	1	Bosch Professional 15 Pcs Router Bit Set With Mixed Bits, 1/4" Shank Bits, Suitable For Gkf Palm Router
38	Scroll Saw	1	Model: 85W Blade Material Alloy Steel Surface Recommendation Indoor Power Source Corded Electric Special Feature Dishwasher Safe nput power: 85W No-load speed: 0-1450rpm

4. Electrical Tools

S.No	Name of Item	Qty	Specifications
1	Hot Air Blower with Soldering Iron	5	<ul style="list-style-type: none"> • ESD safe. • Microcontroller-based smart circuit design. • An integrated blower within the handheld unit. • Built-in temperature sensor for precise measuring. • Digitally Controlled. • Built-in cut-off sensor when placed on Cradle. • Rubber grip for non-slippery use.
2	Tin Cutter with Spring	10	Model: Tin cutter 10" Drop Forged, Heavy Duty, Pro Series
3	Centrifugal Blower	1	Professional Blower - 16000 RPM, 650W, 1.4 Kg Air Flow of 3.7 m3/min Efficiently Removes Dust & Dirt from Large Areas as Well as Smaller Spaces

4	Screwdriver Sets	2	<ul style="list-style-type: none"> • Number of Items: 31 • Material: Plastic, Metal • Recommended Uses For Product: PC,Furniture,Automotive,Appliance,Household,Game Console,Electronic Devices • Special Feature: Ergonomic, Magnetic Tip
5	Cutting Mats	5	Magnetic Heat Insulation Silicone Working Mat 36*26CM
6	Vacuum Cleaner	2	<ul style="list-style-type: none"> • This vacuum cleaner is powered with best in class 700 Watts motor delivering powerful suction of 15.5 KPA. • This vacuum cleaner also has a high power blower function that can help in blowing dust from areas like window channel. • Compact comes with Washable HEPA Filter which traps in minute dust particles up to 0.3 microns. • The bagless design features a dust cup that collects all the dust, making it easy.
7	Hot Air Gun	5	<ul style="list-style-type: none"> • 1800 Watt, 230 Volt, Pistol Grip, Up to 550 degree centigrade • 3 meter Cable Length • It goes up to a temperature of 550°C and airflow rate of up to 750 L/min • Power Source: Corded Electric • Wattage: 1800 Watts • Voltage: 230 Volts
8	Micrometer	5	<ul style="list-style-type: none"> • Item Height: 15 Centimeters • Item Width: 6 Centimeters • Micrometer 0-25MIC
9	Glue Guns	5	<p>Model: 20W</p> <ul style="list-style-type: none"> • Glue gun comes with a copper nozzle, which leads to low melting points and strong stickiness. • It attains its maximum adhesive strength and dries in a few seconds. • Power Source: Corded Electric • Wattage: 20 Watts • Style: Trigger
10	Air Compressor	1	2Hp 30Litre Oil free

11	Allen Set Wrench	5	<ul style="list-style-type: none"> • Strength of Cr-V Steel • Black oxide finish for safety against corrosion • Sand blasted for a smooth surface • 26 piece Long-arm hex key
12	Tongue and Groove Pliers	5	<ul style="list-style-type: none"> • 3 Piece Pump Pliers Set • Slip Joint Pliers • 12/10/7 Inch Groove Joint Pliers, Wrench Pliers, CRV Tongue and Groove Pliers
13	Non-contact voltage tester	5	<ul style="list-style-type: none"> • Measurement Type: Voltage Tester • Maximum Operating Voltage: 1000 Volts
14	Wire Stripper	5	<ul style="list-style-type: none"> • Handle Material: Alloy Steel • Grip Type: Power
15	Fish Tape	2	20 meter coated fiberglass
16	Flashlights	2	Bullwark Flash Light - Rechargeable 3 Watts Strip Light & 1 Watt Spot Light LED 2 Hours Working, 2 Hours Charging, 3.7 Volt L-Ion Battery, 800mAh, 185 x 35 x 20 mm Size With Pocket Clip & Magnet, Micro USB Input
17	DC Regulated Power Supply	3	36V 6A with USB Interface
18	Solder Wick	10	Material: 100% Copper
19	Filament Dehydrator	1	<ul style="list-style-type: none"> • Creality Filament Dry Box • Operating System: Windows 7 • Printing Technology: FDM • Compatible with all most of the 1KG filament reels • Remove Excess Moisture
20	Reflow Oven	1	<ul style="list-style-type: none"> • No. of waves: 7 • Heating type: Infrared IC Heater • Maximum width of PCB board: 300×320 mm • Power supply: AC110V/ 50Hz AC220V /60Hz • Peak power: 1500W • Cycle Time: 1~8 min • Temperature Range: 0°C-280°C

21	Glass Cutter	1	Applied to cutting stained glass and other craft and household uses. With antislip handle, for safety and comfortable grip Glass cutting head is replaceable and can 360-degree rotate Mini size,easy to carry around
22	Gypsum	10	-
23	Digital Multimeter	5	Make: APTECH Model: AP-IS114005 The frequency is 50Hz, the voltage is approx 3Vp-p
24	Clothes Iron	5	<ul style="list-style-type: none"> • Non-stick coated golden color sole plate • Light weight and 360 degree swivel cord • Thermal fuse for safety • Power: 1000 watts • Frequency: 50 Hz
25	Oscilloscope	4	<p>Make: SIGLENT Model: SDS 1102CML+</p> <p>Digital Storage Oscilloscope 100 MHz 2 Channel 1Gsa/s: 100 MHz;2 channels; 1 GSa/s; 2Mpts memory depth; 50,000 wfms waveform capture rate, Waveform math functions: +, -, *, /, FFT, 6 digital frequency counter, Screensaver from 1 minute to 5 hours, Digital filter and waveform recorder function, 7-inch TFT-LCD display with (800 * 480) resolution Multiple interfaces: USB Host, USB Device (USB TMC), LAN (VXI-11), Pass / Fail.</p>

5. Networking Tools

S. No	Name of Item	Qty	Specifications
1	C-Clamp (10 pcs)	10	C-Clamp -Drop Forged 2", Carbon Steel, Powder Coated
2	Ratchet clamp 8 inches/200mm	10	Ratchet ClampMAF Quick BAR CLAMP 250MM 10INCH
3	Baby Vice 60 mm (5 pcs)	5	Baby Vice -Bolt Base 60mm, 2 1/2", Precision Machined Unbreakable Steel, Powder Coated
4	Bench vices (5 units)	5	<ul style="list-style-type: none"> • Heavy Duty Bench Vice • Replaceable Hardened Steel Jaws • Pre Drilled Holes to Bolt Down To Benchtop • Max Jaw Opening: 100mm
5	Anvil	1	Anvil <ul style="list-style-type: none"> • Weight: 5 Kg • S G Iron Casting

6. Optional Tools

S. No	Name of Item	Qty
1	Airframe -Type: Quadcopter - Material: Full Carbon Fiber - Wheelbase: 650–700 mm class	1
2	Battery 10,000 mAh , Endurance : 45 Minutes Quadcopter	1
3	Quadcopter Motors: High- efficiency 400 KV brushless motors	4
4	Quadcopter Electronics speed controller	4
5	Quadcopter Arm	4
6	Quadcopter Flight Controller	1
7	Quadcopter Navigation System GPS	1
8	Quadcopter Radio controller	1
9	Quadcopter Transmitter	1
10	Quadcopter Propeller	4
11	Quadcopter Charger	1
12	Hexacopter -Airframe Material: Carbon fiber composite Class: 500–550 mm diagonal wheelbase	1
13	Hexacopter Endurnaces : 8,000 mAh 30 Minutes Quadcopter	1
14	Hexacopter Motors: High- efficiency 400 KV brushless motors	6

15	Hexacopter Electronics speed controller	6
16	Hexacopter Arm	6
17	Hexacopter Flight Controller	1
18	Hexacopter Navigation System GPS	1
19	Hexacopter Radio controller	1
20	Hexacopter Transmitter	1
21	Hexacopter Propeller	6
22	Hexacopter Charger	1
23	15 inch propeller	6
24	12 inch propeller	6
25	The Cube Orange Plus AutoPilot with ADS-B Carrier Board	2
26	Radio link AT10II Transmitter with R12DS 12 Channels Receiver for Racing Drone, Helicopter, Cars and Boats - RS6066- UPTo 3.2 Km range	1
27	XBee Series 3 (XB3-24Z8PT- J) – 1 unit	2
28	HELTEC Automation LoRa32 compatible Arduino Development Board SX1262 ESP32- S3 OLED WIFI Meshtastic V3 (433- 510Mhz)	1
29	Sensor set -Temperature sensor module +Vibration switch module +Hall magnetic sensor module+ Key switch module Infrared emission sensor module ,Laser sensor module , Small passive buzzer module , 3- color full-color LED SMD modules, Photo interrupter module, 2-color LED module, Active buzzer module, Temperature sensor module, Temperature and humidity sensor module, 3-color LED module Mercury open optical module, Photo resistor module, 5V relay module, Tilt switch module, Mini magnetic reed modules Infrared sensor receiver modules-axis joystick module ,Linear magnetic Hall sensors ,Reed module, Flame sensor module, Magic light cup module, Temperature sensor module, 5mm red and green LED (common cathode) module, Knock sensor module, Obstacle avoidance sensor module TCRT5000L sensor module, Automatic flashing colorful LED module, Analog Hall magnetic sensor module Metal touch sensor module Sensitive small microphone sensor module Sensitive Big microphone sensor module Finger measuring heartbeat module Rotary encoder module"	1
30	Arduino UNO boards	10
31	NodeMCU (ESP8266)	10
32	Raspberry Pi 4 boards	5

33	Peripheral sets for Arduino/ NodeMCU/ Raspberry Pi (Full Set) 40 jumper Wires Male To Male, Male to Female, Female to Female/ Breadboard Jumper Wires+ 1 Raspberry Pi Zero+ 1 x USB To TTL Converter Cable-1 Meter1 x Raspberry Pi Zero Heat Sink-1pcs 1 x Mini HDMI to HDMI Male-1 Meter 1 x USB OTG Cable (USB to Micro USB) 1 x SD Card Reader	10
34	ESP32 CAM Development Board	5
35	Raspberry Pi 3 Camera Module Night Vision Camera	5
36	Actuators : 4- relay,2. Servo,3. DC ,4. Stepper (full customized set)	5
37	IOT Sensors -voltage sensor - Pir -Ultrasonic- Ir- Adxl- Dht1- Touch- Rtc- Matrix keyboard- Voltage divider (full customized set)	5
38	IOT Wireless-Gps-Gsm- Lora-. Zigbee set	5
39	IOT -Wires, cables, , customized pcb boards	5
40	panel box set with lock	1