

Facilities

The SIT AICTE IDEA Lab (Innovation, Design, and Entrepreneurship Academy Lab) is established to encourage hands-on learning and promote innovation among students. The lab includes a wide variety of modern tools and equipment from various fields like electronics, mechanical design, 3D fabrication, IoT, automation, and programming.

SIT AICTE IDEA Lab – Equipment List:

Click here to Download the Complete Details of Equipment and Accessories. 
Digital Fabrication and Rapid Prototyping

Equipment	Specifications
3D Printers (FDM)	Build: 200x200x200 mm, Dual extrusion, Auto bed leveling
3D Printer (Resin - SLA/DLP)	50 microns resolution, UV curing station included
3D Scanner	Handheld, Accuracy: 0.1 mm, Color/textured scan
CNC Router	Bed: 600x900 mm, 3-axis, spindle: 1.5 kW
Laser Cutter/Engraver	CO ₂ , 60–100W, Bed: ³ 600x900 mm
Vinyl Cutter	Cutting width:500 mm
PCB Milling Machine	Double-sided, trace width: 0.2 mm

Electronics Lab Equipment

Equipment	Specifications
Digital Oscilloscope	50 MHz, 2+ channels
Function Generator	Frequency: 1 MHz
DC Power Supply	Dual/Triple output, 0-60V, 5A
Digital Multimeter	Auto-ranging, True RMS
Soldering Station	Temperature controlled, Anti-static
Desoldering Station	Gun-type, Vacuum pump
Microcontroller Kits	Arduino, Raspberry Pi, NodeMCU kits
IoT Sensors & Modules	Temp, humidity, motion, gas, GPS, GSM, ESP32

Mechanical Tools & Workstation

Equipment	Specifications
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Equipment	Specifications
Workbench/Table	Heavy-duty, metal frame, ESD mat compatible
Hand Tools	Pliers, cutters, screwdrivers, spanners
Drilling Machine	Bench-top, Variable speed
Grinding Machine	Table-mounted, wheel guard
Measuring Instruments	Vernier caliper, Micrometer, Dial gauge

Computers & Software

Equipment	Specifications
Workstations/PCs	Intel i5/i7 or Ryzen 5/7, 16 GB RAM, SSD
Software Licenses	AutoCAD, Fusion 360, SolidWorks, MATLAB
Networking	LAN/Wi-Fi, switches, Internet access
Projector & Display	Short throw projector or 55+” display

Other Tools and Utilities

Equipment	Specifications
Air Compressor	For pneumatic tools and cleaning
Fume Extractor	For soldering stations
Storage Cabinets	For tools and safety equipment
Safety Kits	Goggles, gloves, first aid kit, fire extinguisher
CCTV & Monitoring	Recommended for lab security
Interactive Display Board	Smart board or touch display

Furniture and Infrastructure

Item	Specifications
Chairs and Tables	Ergonomic, durable, optional wheels
Storage Racks	Metal or industrial-grade plastic
Notice Board / White Board	For ideation and planning
Air Conditioning / Ventilation	Based on room/equipment heat load

Optional Add-ons

Item	Purpose/Details
Robotic arm kits	For automation and control projects
CNC mini lathe	Compact CNC for turning tasks
Pick and place machine	For PCB assembly tasks
VR/AR headset	For immersive design/learning
AI/ML development boards	Jetson Nano, Google Coral
Industrial IoT Gateways	Advanced IoT use cases