



Prayas Centre Name KIIT TBI FABLAB
City BHUBANESWAR
State ODISHA
Fablab Page Link <https://fablab.kiitincubator.in/>

Equipment available at KIIT TBI FABLAB DST PRAYAS Shala

Section		Prototyping Facility
Sr. No.	Equipment Name	Equipment detail
1	3D Scanner	<p>Brand – EinSCAN PRO</p> <p>Model - EinSCAN PRO plus</p> <p>Specification - Scan volume - min 20 x 20 x 20 cm, max 200 x 200 x 200 cm, Colour image size - 1920(w) x 1080(h) px, Depth image size - 640(w) x 480(h) px, Operating range - min 40 cm, max 160 cm</p> <p>Operational area - Scanning, Observe a scene in three dimensions</p> <p>Software support – EinSCAN PRO SERIES</p> <p>Link of the user manual - https://www.manualslib.com/manual/1367869/Shining-3d-EinSCAN-ProPlus.html</p>
2	3D Printer 1	<p>Brand - Ultimaker</p> <p>Model - Ultimaker 3 & 3+</p> <p>Specification -Build volume : 22.3 x 22.3 x 20.5 cm, Max layer resolution - 20 microns, XY positioning precision - 12.5 microns, Z positioning precision - 5 microns, Print speed - 30 cm/s, Print technology- FDM,</p> <p>Filament diameter- 0.285 cm, File supported - *.stl, Software support - CURA</p> <p>Operational area - Product development, Manufacturing, End-use parts, Architecture, Education</p> <p>Material support - PLA, ABS Filament Link of the user manual - https://docs.rsonline.com/70d5/0900766b816176aa.pdf</p>

3	3D Printer 2	<p>Brand - Zmorph</p> <p>Model – Zmorph VX</p> <p>Specification -Build volume : 22.3 x 22.3 x 20.5 cm, Max layer resolution - 20 microns, XY positioning precision - 12.5 microns, Z positioning precision - 5 microns, Print speed - 30 cm/s, Print technology- FDM,</p> <p>Filament diameter- 0.285 cm, File supported - *.stl, Software support - morph</p> <p>Operational area - Product development, Manufacturing, End-use parts, Architecture, Education</p> <p>Material support - PLA, ABS Filament Link of the user manual - https://www.manualslib.com/manual/1957143/Zmorph-Vx.html</p>
4	3D Printer 3	<p>Brand – Form LABS</p> <p>Model – Form 2</p> <p>Specification -Build volume : 150.3 x 150 x 180 cm, Max layer resolution - 20 microns, XY positioning precision - 12.5 microns, Z positioning precision - 2 microns, Print speed - 200 cm/s, Print technology- SLA,</p> <p>Filament resin type, File supported - *.stl, Software support - Pre form</p> <p>Operational area - Product development, Manufacturing, End-use parts, Architecture, Education</p> <p>Material support – RESINS Link of the user manual - https://www.manualslib.com/manual/1647548/Formlabs-Form-2.html</p>
5	PCB Printer	<p>Brand – LPKF PROTOMAT S63</p> <p>Model - PROTOMAT S63</p> <p>Specification - Min trace width- 0.02 cm, Min pin to pin pitch- 0.065 cm, Resistivity- 12 Ω/sq @70 μm, Print area- 12.8 x 10.5 cm, Compatible file format- Gerber</p> <p>Operational area - Drills holes, Lays down the track, Dispenses solder paste, Reflow SMDs into Your Circuit Material support - PCB Plate or sheet</p> <p>Link of the user manual - https://www.manualslib.com/manual/1380398/LpKF-Protomat-S43.html#product-ProtoMat%20S63</p>
6	CNC ROUTER	<p>Brand – MEHETA</p> <p>Model – RX1325</p> <p>Specification - Min trace width- 0.02 cm, , Print area- 4 ft x 8ft , Compatible file format-DXF AI, NC</p>

		Operational area - Drills holes, CNC model 2D & 3D design Material support – MDF,HDF, PLYWOOD,WOOD ACP,PLASTIC,ACRYLIC Link of the user manual - https://mehtaindia.com/rx-series/
7	CNC LASER CUT/ENGRAVE MACHINE	Brand – MEHETA Model – EVA 48 Specification - Min trace width- 0.02 cm, , Print area- 4 ft x 8ft , Compatible file format-DXF AI, NC Operational area - Drills holes, CNC model 2D & 3D design Material support - PCB Plate or sheet Link of the user manual - https://mehtaindia.com/eva48/
8	Vinyl Cutter	Brand - MEHETA Model – TIGER 48 AS Specification - Max cutting speed- 50 cm/s, Max cutting media thickness- 0.1 cm, Replot memory- 2 MB, Mechanical resolution- 0.0125 mm/step Operational area - Designapparels, Signandstickers, Partyboard, Makingcalendar, Carddesigning, Project presentation, Schooldecoration,etc. Material support - Vinyl roll, cardboard and cardstock, paper, stickers and stencils.Software support - CutStudio , Inkscape Link of the user manual - https://mehtaglobal.com/vinyl-cutter-leon-24-tiger-48.php

Electronics Facility		
Section	Equipment Name	Equipment detail
9	Manual Tripple DC Power Supplya	Brand - TEKTRONIX Model - 2231A-30-3 Specification - Output type- Manual, Output voltage range- 0 V to 30 V, Output current range- 0 A to 3 A
10	Programmable DOUBLE DC Power Supply	Brand - TEKTRONIX Model - 2230-30-1 Specification - Number of outputs- 2, Output voltage- 30 V, Current- 1.5 A, Output power- 120 W

11	Digital Oscilloscope	Brand - TEKTRONIX Model - TBS 2000 S Specification - Bandwidth- 50 MHz, Sampling rate- 1 GS/s, Channels- 2, Record length- 1 m
12	Digital Storage Oscilloscope	Brand - TEKTRONIX Model - TBS 2000 SERIES Specification - Bandwidth- 70 MHz, Sample rate- 1 GS/s, Channels- 2, Record length- 220 m
13	Mixed Domain Oscilloscope	Brand - TEKTRONIX Model – MDO 3024 Specification - Bandwidth- 100 MHz, Sample rate- 2 GS/s, Channels- 2, Record length- 2250 m
14	Arbitrary Function Generator	Brand - TEKTRONIX Model - AFG3052C Specification - Analog bandwidth- 50 Mhz, Channels- 2, Output frequency- 128 K points
15	Arbitrary Function Generator	Brand - TEKTRONIX Model - AFG1022
16	Rework Station	Brand - WELLER Model - WR 3M Specification - Rework station- WR 3000 M, Channel- 3 of 400 V

Section		
Metalworking Facility		
Sr. No.	Equipment Name	Equipment detail
17	CNC MILLING MACHINE	<p>Brand – TORMACH CNC 770M</p> <p>Model - TORMACH CNC 770M</p> <p>Specification - 770M Tech Specs</p> <p>Travels: X-Axis: 14" (356 mm)</p> <p>Y-Axis: 7.5" (191 mm)</p> <p>Z-Axis: 13.25" (337 mm)</p> <p>Spindle- 10000 rpm</p> <p>MATERIAL CUTTING : ALLUMINIUM, IRON, STEEL, NICKEL, COPPER BRONZE</p> <p>Maximum Feed Rate X- and Y-Axis: 135 IPM (3.43 m/min)Z-Axis: 110 IPM (2.79 m/min)</p> <p>Power Single-Phase 115 Vac, 50/60 Hz, 15A breaker</p> <p>Machine Specifications able Size: 26" × 8" (660 mm x 203 mm)</p> <p>Operational area – 4 M x 4 M</p> <p>Link of the user manual -</p> <p>https://www.manualslib.com/manual/2005061/Tormach-1100m.html#product-770M</p>
18	Bench Drill machine	<p>Brand- Optimum</p> <p>Model- DX 17V</p> <p>Specification- Drill Table Size- (L*B) 290*290 mm</p> <p>Drilling Capacity- Dia 16 mm</p> <p>Threading Cutting Capacity- M8</p> <p>Operations- Drilling</p> <p>Material- Metal, Wood etc.</p>
19	Horizontal band saw	<p>Brand-- Meba</p> <p>Model- Mini 120G</p> <p>Specification-(705 x 290 x 490 mm) Purpose- To cut long materials such as pipe or bar of required length.</p> <p>Material- Metal, ceramics, Plastic etc.</p>
20	Mitre Saw	<p>Brand- BOSCH</p> <p>Model- GCM 12 GDL</p> <p>Specification -670 x1100 x740mm(width x length x height)</p> <p>Operation- Make a quick, accurate crosscut in a workpiece at a selected angle.</p> <p>Material- Metal, Wood etc.</p>
21	Angle Grinder	<p>Brand- Bosch</p> <p>Model- GWS 600</p>

Section		Power Tool
Sr. No.	Equipment Name	Equipment detail
22	Chop Saw Orbit, Straight Grinder, Cordless Drill, Random Sander, Dremel 4000, Jig Saw, TABLE SAW Vacuum Cleaner, Circular Saw, Cordless Screwdriver, Polisher, Electric Rotary Drill, Shear Saw, TABLE ROUTER	Brand- Bosch

Section		Measuring equipment
Sr. No.	Equipment Name	Equipment detail
24	Digital Precision Multimeter	Brand - HISTAC Model - DMM 4050 Specification - No. of digits- 6.5, Accuracy- 0.0024 %
25	Pocket Thermal Imager	Brand - FLUKE Model - PTi120 Specification - Infrared resolution- 10,800 pixels, Field of view- 50° H x 38° V, Temp measurement range- (20° to 150° C), Minimum focus distance 22.8 cm
26	Vernier Caliper	Brand - INSIZE Specification - Resolution: 0.01mm/0.0005" , Accuracy: +/- 0.03mm/0.0012"
27	Height GAUGE	InSize 1150-300 Digital Height Gauge Product Specifications Item Weight 1.03 kilograms Length 470 millimeters Manufacturer Series Number 1150 Measurement Accuracy 0.04mm Model Number 1150-300 Range 0-300mm/0-12" Size 300
28	Digital Tachometer	Brand - KUSUM-MECO Model - KM-2234BL Specification - Accuracy- 0.05%, Resolution- 1 rpm, Display- 5 digit, Operating Temperature- 0-5° C, Sampling Time- 1 sec, Speed Range- 5 - 99999 rpm
29	Infrared Thermometer	Brand - FLUKE Model - FLUKE-59 Specification - Accuracy- $\pm 2^{\circ}\text{C}$ (3.5°F) of reading, Display resolution- 0.2°C (0.5°F), Measurement range- (– 18°C to 275°C), Ambient operating range- 0°C - 50°C, Distance-to-spot size- 8:1 calculated @ 90% energy

30	Other general Measuring tools and Hand tools	
31	LABVIEW HARDWARE & SOFTWARE DEVELOPMENT KIT	NI LABVIEW HARDWARE DAQ, LABVIEW SOFTWARE ENVIRONMENT FOR EMBEDDED DEVELOPMENT. NI DAQ : PXI,CRIO,MYRIO