










RESEARCH & DEVELOPMENT CELL




Details of research facility/consultancy facility

DEPARTMENT: Mechanical Engineering

S.No	Name of the Equipment/Device	Specifications	Image of the Equipment/Device
1.	Optical Microscope (Olympus BX53M)	<ul style="list-style-type: none"> • Vertical stage movement: 25 mm • Optical system: UIS2 Min adjustment gradations 1 μm Servo stabilizer • 7.5 kVA Illuminator • 12 V, 100 W halogen bulb 	
2.	Hydraulic Mounting Press	<ul style="list-style-type: none"> • Size: 410x575x650 mm • Mould assembly 1.5"x2.5" • Heating Unit 1500W 	
3.	Double Disc Grinder / Polisher	<ul style="list-style-type: none"> • 200 mm Diameter Double Disc Grinder / Polisher. • Variable speed from 50 – 1000 RPM. • 0.5 HP PMDC motor • Aluminum disc 200mm Dia • Aluminum alloy holding ring (Press type) 200 mm Diameter 	
4.	Belt Grinder (Chennai Metro)	<ul style="list-style-type: none"> • Table Top Model • Speed 1440 rpm 	
5.	Electrical Discharge Machine (Sparkonix)	<ul style="list-style-type: none"> • Corrosion chamber Tank capacity 60 lit • Temp. Range: Ambient to 45°C • Size:1000x700x750 mm 	

6.	Pin-on-Disc Tester (DUCOM)	<ul style="list-style-type: none"> • Load Range: Up to 200 N • Speed: 200 to 2000 rpm • Frictional Force Measurement: 0 to 200 N • Compound Wear Measurement: 0 to 1200 μm 	
7.	High Precision Weighing Balance Machine	<ul style="list-style-type: none"> • Make: Shimadzu ATY 224 • Capacity: 0.22kg • Accuracy: 0.1gm • Pan Size: 80mm 	
8.	SALT SPRAY (FOG) TESTER - 250 Lit (Presto)	<ul style="list-style-type: none"> • Size: 800 x 500 x 550mm • Temperature Range: Ambient to 45 degree Celsius • Temperature Accuracy: +/-1 degree Celsius • Temperature Control: Solid State Digital Programmable corrosion PT 100 Sensor • Air Regulator: 0 to 30 psi • Construction: FRP- Fibre Reinforced Polymer • Related Standards: JIS Z2371; DIN 50021; ASTM B 117; IS:5528; IS:6910; ISO:376 	
9.	Computerized Lathe Tool Dynamometer	<ul style="list-style-type: none"> • Model : MLB- LTD – 500 • Capacity 5 kN 	
10.	Thermal Image Camera (Fluke:Tis55+)	<ul style="list-style-type: none"> • Temperature range: -20°C to 550°C (-4°F to 1022°F) 	

11.	Computerized Vickers Hardness Tester	<ul style="list-style-type: none"> • Model: HT-1000AD • Load range: 10-1000Gramforce, with diamond indenter • Magnification: 10X and 40X with micro Vickers impression measurement • Software used: (Vidas 4.0 automatic) • Computer specification: Dell 22" LCD monitor, Processor Intel (R) Core (TM) i5 -7500 CPU @3.40 GHz, Installed memory (RAM) 16.0 GB • System Type: 64 - bit operating system x64 - based processor, Hard Disk 1 TB ., Graphic Card 4 GB 	
12.	Planetary Ball Mill	<ul style="list-style-type: none"> • Make: NST 0.4L Planetary Ball Mill • Material: Stainless Steel, Tungsten Carbide • Size: 250ml 	
13.	Programmable Tubular Furnace	<ul style="list-style-type: none"> • Make: NST-15P • Max Temp: 1300-1400°C • Working Temp: 1300-1400°C • SiC Heating Elements • Alumina Tube (Length: Ø 200mm X 1000mm) 	
14.	Programmable Muffle Furnace	<ul style="list-style-type: none"> • Make: Yatherm Scientific • Max Temp: 1450°C • Working Temp: 1300-1350°C • SiC Heating Elements, Zirconia Fiber Board, PL-HMI Controlled 	
15.	Computerized Sub-Sonic Wind Tunnel	<ul style="list-style-type: none"> • Type: Sub-Sonic, Open circuit, Suction type • Test Section: 600x600x1800mm • Air Velocity: 0 to 50m/sec • Velocity Measurement: Digital velocity indicator with transducer • Drive: Variable Speed AC/DC motor of capacity 15 to 20Kw • Contraction Ratio: 9:1 	

		<ul style="list-style-type: none"> • Effuser: Inlet 1800x1800mm • Throat: 600x600mm 	
16.	<p>Computer Numerical Control (CNC) Lab</p> <ul style="list-style-type: none"> • JV 55 Vertical Machining Centre – 1 • Smarturn CNC Lathe – 1 • NC controllers 	<ul style="list-style-type: none"> • SinuTrain software 	
17.	<p>Refrigeration and Air Conditioning (R&AC) Lab</p>	<p>Conditioning Units (A)</p> <p>Scroll Chiller (Air-cooled) – 10TON VRF IV Plus system – 8HP Ducted split unit – 5.5 TR Cassette unit – 1.5 TR High wall split (2 star) – 1TR Window unit (2 star) – 1 TR</p> <p>Supply of Refrigeration Units (B)</p> <p>Deep Freezer Hard Top – 100 Ltr Bottle Cooler Hard Top – 300 Ltr Water cooler – 20/20 Ltr Bottle Water Dispenser Cold room 6000 BTU/Hr</p>	 
18.	<p>Welding Lab</p> <p>Equipment Available:</p> <ul style="list-style-type: none"> • MMA/SMAW unit -3 • OXY-Acetylene gas welding unit - 1 • Gas cutting unit - 1 • TIG/GTAW unit - 2 • MIG/MAG/GMAW unit - 2 • PPE unit – 1 • Grinding unit -1 		
19.	<p>3D Printer</p>	<ul style="list-style-type: none"> • Type: Fusion Deposition Model (FDM) • Supported Materials: PLA, PLA+, ABS, PET, Wood Filled PLA, Metal Filled PLA, Carbon Nano • Fill Density: 0 to 100 % • Print Temp.: 200. - 250°C • Bed Temperature: 60°C • Extruder: Dual • Dia: 0.2 to 0.8 mm • Print Size: Max. 1 X 1 ft. 	