

MECHANICAL Department Laboratories Information

Name of the Laboratory: MATERIAL SCIENCE AND ENGINEERING LABORATORY			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	Belt grinder	The Materials Science Labs allows for the evaluation, development and redesign of materials for specific properties and improved performance characteristics.	104.12 m²
2	Binocular metallurgical microscope		
3	Cutting machine		
4	Image capture		
5	Dual disc polisher		
6	Standard metallurgical sample		
7	Monocular metallurgical microscope		
8	Muffle machine		
9	Trinocular metallurgical microscope		
Name of the Laboratory: METROLOGY AND MEASUREMENTS			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	Calibration of pressure guage	Metrology & Measurement Laboratory is a well equipped laboratory which provides ideas on hands on experience with various measuring instruments to utilize in industries. on evaluating mechanical properties of a given specimen or structure.	104.12 m²
2	Calibration of temperature measurement		
3	Study and calibration of LVDT transducer of displacement measurement		
4	PERSONAL COMPUTERS		
Name of the Laboratory: HEAT TRANSFER LAB			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	Thermal conductivity of insulating powder through concentric sphere apparatus	Heat Transfer laboratory provides fundamental and industrial knowledge about modes of heat transfer, like conduction, convection and radiation, and their application.	90.2m²
2	Thermal conductivity of insulating powder through lagged pipe apparatus		
3	Overall heat transfer co-efficient through composite slab apparatus		
4	Heat transfer in pin-fin apparatus		
5	Heat transfer co-efficient in forced convection		
6	Heat transfer co-efficient in natural convection		
7	Parallel flow and counter flow heat exchanger		
8	Emissivity measurement apparatus		
9	Stefan boltzman apparatus		

10	Experiment on critical heat flux apparatus		
11	Heat transfer in drop and film wise condensation		

Name of the Laboratory: FLUID MECHANICS & HYDRAULIC MACHINERY

S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	IMPACT OF JET ON VANES	The Fluid Mechanics & Hydraulic Machines lab is equipped with pelton wheel turbine, reciprocating & single stage centrifugal pump and other discharge measuring devices and losses measuring equipment which enables the student to apply fundamental concepts during the flow measurements in real engineering problems.	44.1 x 25 .1
2	PELTON WHEEL TURBINE		
3	S.STAGE CENTRIFUGAL PUMP		
4	WEIRS & NOTCHES EQP		
5	RECEPROCATING PUMP		
6	VENTURI & ORIFICE METER SET		
7	PIPE FRICTION APPARATUS		
8	SET UP FOR MINOR LOSSES		
9	TURBINE FLOW METER-		
10	IMPACT OF JET ON VANES		
11	PELTON WHEEL TURBINE		

Name of the Laboratory: MANUFACTURING TECHNOLOGY

S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	4(1/2) size lathe machine+ motor belt drive+ gear box+ chuck	The machine tool lab is equipped with state of the art machine tools such as CNC Lathes, Mills,and conventional machines including an air controlled room and class room where metrology is given as part of machine tool course.	91.59m ²
2	4(1/2) size lathe machine+ motor belt drive+ gear box+ chuck		
3	6(1/2) size lathe machine+ motor belt drive+ gear box+ chuck+ V belt and pulley		
4	6(1/2) size lathe machine+ motor belt drive+ gear box+ chuck+ V belt and pulley		
5	Milling machine+ motor+ vice+ V bed		
6	Slotting machine+ motor+ rotary milling table		
7	Radial drilling machine		

8	Surface grinding machine		
9	Shaping machine		

Name of the Laboratory: THERMAL ENGINEERING LABORATORY

S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	Lanchashire boiler	<p>Thermal Engineering Laboratory- I trains the students with principles and operation of various Internal Combustion Engines used in Automobiles and steam generators and turbines for power generation application. Analysis of Internal Combustion Engines by doing various testing to define the specifications.</p>	123.48m ²
2	Cornesh boiler		
3	Bab cox & willcox boiler		
4	Cut section model for valve timing (4-S single cylinder diesel engine)		
5	Cut section model for valve timing (2-S single cylinder petrol engine)		
6	Reciprocating air compressor		
7	4-S single cylinder diesel engine with electrical loading –air cooled with retardation test		
8	1-cylinder 2-S, petrol engine with mechanical loading		
9	4-stroke, 4 cylinder petrol engine test with hydraulic loading-water cooled, with morse test		
10	V.C.R. (single cylinder 4-smoke petrol engine) with exhaust gas calorimeter		

Name of the Laboratory: MANUFACTURING PROCESS LABORATORY

S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	Bottle cap die	<p>Manufacturing process Laboratory is a well equipped laboratory which provides ideas on the practical knowledge of several steps of casting, pattern usage, mould creation, gating design, produce a casting and check casting defects.</p>	123.48m ²
2	Bottle die		
3	Dies for fly press and hydraulic press <ul style="list-style-type: none"> i. Balancing die ii. Piercing die iii. Bending die iv. Deep drawing 		
4	Fly press		
5	Foundry tools		
6	Hydraulic press		
7	Mould hardness tester		
8	Plastic injection moulding machine		

9	Plastic blow moulding machine		
10	Spot welding machine(10KVA)		
11	Sand Rammer		

Name of the Laboratory: MECHANICS OF MATERIALS			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	UNIVERSAL TESTING MACHINE	The Strength of Materials lab is equipped with universal testing machine, compression testing machine, digital torsion testing equipment and other facilities enabling the student to understand the behavior and properties of engineering materials under different types of loading.	92.5 x 25
2	DIGITAL TORSION TESTING MACHINE(WITH ACCESSORIES)		
3	IMPACT TESTING MACHINE(WITH ACCESSORIES)		
4	SPRING TESTING MACHINE		
5	COMPRESSION TESTING MACHINE		
6	ROCKWELL CUM BRINELL HARDNESS TESTING MACHINE (ROCKWELL ACCESSORIES)		
7	DOUBLE SHEAR TEST ATTACHMENT		
8	MECHANICAL EXTENSOMETER		
Name of the Laboratory: CAMD			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	70 Desktops (Auto CAD,SOLID WORKS)	The CAD lab is equipped with digital computers with the required softwares which helps the student to understand the basic modeling, designing according to IS codes, analyzing and interpreting the data during the design and analysis of any structural element.	45 x 25.1

Name of the Laboratory: CAD/CAM			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	70 Desktops (Auto CAD,SOLID WORKS and CATIA Software)	The CAD lab is equipped with digital computers with the required softwares which helps the student to understand the basic modeling, designing according to IS codes, analyzing and interpreting the data during the design and analysis of any structural element.	45 x 25.1

Name of the Laboratory: ENGINEERING WORKSHOP			
S.No	List of Major Equipment	Laboratory Description	Total Area of Laboratory (In Square Feet)
1	Wood working tools	engineering workshop means a workshop engaged in the design, manufacture, erection, commissioning and servicing of electrical and mechanical equipment and machinery	45 x 25.1
2	Sheet metal working tools		
3	Fitting tools		
4	Electrical wiring tools		