



DEPARTMENT OF MECHANICAL ENGINEERING

RESEARCH FACILITY

Sl. No.	Name of the Laboratory	No. of students per setup (Batch Size)	Name of the Important Equipment	Weekly utilization status (all the courses for which the lab is utilized)	Technical Manpower support		
					Name of the technical staff	Designation	Qualification
1	Metallography & Material Testing Laboratory	18-20	Universal Testing Machine-UTK-60 Rockwell Hardness Testing Machine-KAB-1 Combined Brinell& Rockwell Hardness Testing Machine -KAB-250 Vickers Hardness Testing Machine Single Column Impact Testing machine Torsion Testing machine Wear and Friction Monitor Ultrasonic Flow Detector	Exclusive	Mr. Kumar P N	Lab Instructor	NAC
2	Foundry & Forging Laboratory	18-20	Universal Sand testing machine Sand Rammer Permeability meter Clay washer Rapid Moisture Tester Electronic balance	Exclusive	Mr. M B Sathyanarayana	Lab Instructor	ITI

			Heating Oven Sieve Shaker Hardness Tester				
3	Mechanical Measurements and Metrology Laboratory	18-20	Optical Profile projector Calibration of Strain gauge-test setup Calibration of Pressure gauge- test setup Calibration of Thermocouple- test setup Autocollimator Slip gauge box	Exclusive	Mr. Sridhar K	Lab Instructor	ITI
4	Machine shop	18-20	Lathe machine (12 Nos.) Shaping Machine (3 Nos.) Milling Machine Radial Drilling Machine Surface Grinding Machine	Exclusive	Mr. Kumar P N	Lab Instructor	NAC
5	Fluid Mechanics & Machinery	18-20	All flow experiments Kaplan Turbine Test Rig Reciprocating Pump Test Rig Pelton wheel Turbine Centrifugal Pump Test Rig(single stage) Francis Turbine 2-Stage Reciprocating Air Compressor Test Rig	Exclusive	Mr. M B Sathyanarayana	Lab Instructor	ITI
6	Energy conversion engineering	18-20	Single cylinder four stroke water cooled diesel engine with electrical loading Twin cylinder four stroke water cooled diesel engine with mechanical loading Single cylinder two stroke petrol engine with electrical loading Multi cylinder four stroke petrol engine with hydraulic dynamometer	Exclusive	Mr. Shashikiran H R	Lab Instructor	ITI, Diploma

			VCR petrol engine with electrical loading				
7	Heat & Mass Transfer	18-20	Vapour compression refrigerator Vapour compression Air conditioner. LMTD and Effectiveness in a parallel and counter flow heat exchanger Boiling & Condensation Setup	Exclusive	Mr. C V Muniraja	Foreman	Diploma
8	Computer Aided Modeling & Analysis	18-20	Ansys12 -License for 25 Users & 26 Computers	Exclusive	Mr. C V Muniraja	Foreman	Diploma
9	Design Laboratory	18-20	Journal Bearing Apparatus Universal vibration tester setup Balancing of Rotating Mass setup Gyro Scope Diffused light source Polari Scope	Exclusive	Mr. C V Muniraja	Foreman	Diploma
10	CIM & Automation lab	18-20	CNC Slant Bed Lathe Model: XL TURN CNC Bench Milling Machine Model: XL MILL Articulated Robot LCD Projector	Exclusive	Mr. C V Muniraja	Foreman	Diploma
11	Computer Aided Engineering Drawing	18-20	Solid-Edge Software-License for 60 Users & 72 Computers	Exclusive	Mr. A G Parameshachari	Lab Assistant	NAC
12	Basic Workshop Practice	18-20	Hydraulic Power Hack saw Machine Circular Saw Machine Arc welding Machine	Exclusive	Mr. Abubakar & Mr. Pramod Kumar M	Lab Instructor	ITI & ITI



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ADDITIONAL FACILITIES CREATED FOR IMPROVING THE QUALITY OF LEARNING EXPERIENCE IN LABORATORIES

Sl. No.	Facility Name	Details	Reason(s) for creating facility	Utilization	Areas in which students' are expected to have enhanced learning	Relevance to POs/PSOs
1	Bio-fuel R&D lab	1. Area: 34.87 m ² 2. Mechanical expeller- 5kg/hr capacity 3. Bioreactor-25ltr 4. Soxhlet extractor- 5kg/3kg/250gms 5. Transesterification unit- 2ltr/1ltr/0.5ltr 6. Distillation unit-1ltr 7. Fractional distillation & Vacuum distillation unit- 1ltr 8. Pyrolysis unit-Internal	Research activities, Consultancy work, UG/PG Project work	Research activities, Consultancy work, UG/PG Project work	Bio-fuel, IC Engines	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO11, PSO1, PSO2

		heating-3kg 9. Pyrolysis unit-External heating-3kg 10.Mechanical expeller-1kg/hr 11.FFA test unit 12.Settling unit-1ltr				
2	Toyota Engine training centre	1. Area: 75.6 m2 2. Assembly/Disassembly (Toyota Innova 2400CC engine) 3. Gear box dismantle assembly (360° rotatable setup) 4. Working of a 4S 4cylinder CI engine (Toyota Innova 2400CC engine)	Training on Engine working, assembly &dissembling	Training	IC Engines	PO1, PO6, PO7, PO8, PO9, PO10, PO11, PSO1
3	Research centre	Q-Rides building Ground floor- (6*4.26)m2 Internet facility	Research activities	Research activities	Mechanical and co-relative	Can be any combination of POs/PSOs