**List of Laboratories**

|  |  |  |
| --- | --- | --- |
| **Sr.**  **No.** | **Laboratory Name** | **Major Equipment** |
| 1 | Fluid Machinery lab | Francis Turbine, Pelton wheel, Kaplan Turbine, Centrifugal pump test rig, Electro- Hydraulic trainer |
| 2 | Heat Transfer lab | Conduction, Convection, Radiation test setup, Heat exchanger |
| 4 | Refrigeration and Air conditioning lab | Vapor Compression Refrigeration Test Rig, AirConditionerTest Rig, Water Cooler TestRig, Evaporative MistAir Cooler, Condenser Test Unit |
| 5 | Design and Optimisation Lab | 80 PC PIV , 60 Workstations- 32 Gb RAM Software:  ANSYS23, PTC Creo, Fusion 360, DelCAM, COMSOL, MatLab, GT Suit, Flownext, Altair Hypermesh |
| 6 | CAD Lab |
| 7 | Theory of Machine lab | Gyroscope, Brake Test Rig, Balancing of Reciprocating Masses, Pin-on Disc Machine, Whirling shaft apparatus Governor, Models of various Mechanisms, Torsional Pendulum Hooke Joint Setup, Balancing of Reciprocating Masses |
| 8 | Micro systems Engineering Lab | 4-Axis CNC WEDM along with software, Nd:YAG pulse laser system along with 4 axisCNC gantry, Mikrotool multi-purpose Machining center |
| 9 | Steam Technology Lab | PackagedBoiler,750Kg/hr.,10barat 190oC, Thermo compressor, steam trap testrig |
| 10 | Stress Analysis lab | Universal Testing Machine(UTM), Computerized Axial  Fatigue Testing Machine (FTM) ,Diffused Light Polari scope, Oscilloscope 4Channel with strain gages, Fatigue Testing Machine (Bending fatigue), Digital Microscope, Cooling unit for Cold environment testing chamber, High temperature  environment testing chamber |
| 11 | Vibration and Acoustics lab | Electro-dynamic Vibration Shaker with Controller and Power Amplifier, Model Exciter, Impact hammer, Uni-axial miniature accelerometer, Accelerometer, Tri-axial miniature accelerometer, Pressure field probe microphone, Free field microphone, Sound level meter, Optical Tacho meter kit, Modal Analysis Software, Air compressor, Vibration meter, Vibration Analyser, Free field  microphone, Universal vibration testrig |
| 12 | ECM-Non  Conventional Energy | Ultrasonic Flow meter, Gas Chromatograph, 4Heliostat Assembly, Trainer solar photovoltaic power generation, Solar flat plate collector, Trainer storage technology, Parabolic trough collector trainer, Test rig energy Audit, 3centrifugalPumps, The test setup for evaluating the  performance of different Solar photo voltaic panels |
| 13 | Composite , Analysis and Synthesis lab | VARTM setup, Oven Furnace, Universal Radial and Pillar Drilling Machine, Reuleaux’s design models |
| 14 | Micromaching & Vibration 2 Virtual Labs | MHRD funded Project @ 40 Lakhs PI- Dr. Pardeshi  https://mm-coep.vlabs.ac.in/exp/pulsed-heating / |

**Industry Supported Laboratories**

