

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA
(An Autonomous College u/s 2 (f) and 12 (B) of UGC Act 1956)
DEPARTMENT OF MECHANICAL ENGINEERING

a) List of Laboratories and Class Rooms

1. Heat Engine Lab., RAC Lab
2. Heat Transfer Lab.
3. CAD & Simulation Lab.
4. Dynamics of Machines Lab.
5. Metallurgy and Heat Treatment.
6. Hydraulics Machines lab.
7. Fluid Mechanics Lab.
8. Mechanical Measurement & Metrology Lab.
9. Pump Testing Lab.
10. Department Computer Centre.
11. Computational lab.
12. G9, G10, F109, F110, F112, F113, F114, S203, S204, S207, S208

b) List of major equipments available lab-wise.

1. Heat Engines, Ref. & AC Lab.

Major Equipments

- Cochran Boiler
- Compound Steam Engine
- Vertical Steam Engine
- Reader Vertical Steam Engine
- Steam Condense
- Impulse Steam Turbine
- Lister Diesel Engine
- Krimo Two Stroke Diesel Engine
- Cooper Diesel Engine
- Kirloskar/Cummins Diesel Engine
- Coventry Petrol Engine
- Two Stage Reciprocating Compressor
- Aero Engine
- Multistage Reciprocating Compressor Test Rig
- Computerised test rig for vapour compression cycle.
- Computerized AC trainer
- Mascool Desert Room Cooler
- Accaire Room Air Conditioner
- Frigidaire Refrigerator
- Computerized Air – Conditioning Test Rig
- Ice Plant Trainer

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2. Heat Transfer Lab.

Major Equipments

- Combustion Laboratory Unit
- Heat Pipe Demonstration
- Dropwise & Filmwise Condensation App.
- Boiling Heat Transfer Unit
- Fluidized Bed Heat Transfer Unit
- Rod Fins Apparatus
- Circumferential Fin Apparatus
- Thermal Conductivity Liquid Apparatus
- Thermal Conductivity Sand Apparatus
- Emissivity Apparatus
- Analogue Field Apparatus
- Reaction of combustion Apparatus
- Thermal Conductivity of Rod (Series Method)
- Thermal Conductivity Of Rod (Parallel)
- Forced Convection Apparatus.

3. CAD and simulation Lab.

Major Equipments:

- MTab XLMill CNC Milling Machine
- 3D Printers
- Swansoft CNC Simulator Software
- Solidworks Software
- NCG CAM Software

4. Kinematics and Dynamics of Machines Lab.

Major Equipments:

- Vibration meter
- Proving ring
- Techno lab channel
- Strain measuring bridge
- Portable pot meter
- Audio oec
- CRO
- Torque transducer
- Load transducer
- Pressure transducer

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- Sound level meter

- Vibration generator
- Solid state power amplifier
- Hand tachometer
- Magnetic sensor
- Photo pickup
- Vibration analyzer
- Base plate or vibration
- Balancing machine
- Balancing machine upto 100 kg
- Kosha vibration meter and
- balancing analyzer type mv – 410
- Computer based fast data acquisition system with printer hp 6l
- Facility for motion analysis of mechanism
- Constant voltage transformer
- Dynamic balancing

5. Fluid Mechanics Lab.

Major Equipments:

- Hydraulic Ram
- Bernoulli's Theorem Setup
- Venturimeter
- Notches
- Friction Through Pipes Setup
- Orifice Plate For Hydraulic Coefficient
- Adjustable Channel

6. Hydraulic Machines Lab.

Major Equipments:

- Pelton Turbine
- Francis Turbine
- Turbo Impulse Turbine
- Kaplan Turbine
- Centrifugal Pump Testing Setup
- Reciprocating Pump
- Open Circuit Wind Tunnel
- Adjustable Tilting Flume
- Centrifugal Blower Testing Rig

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7. Heat Treatment & Metallurgical Lab.

Major Equipments:

- Specimen Cutting Machine
- Muffle Furnace
- Double Disc Polishing Machine – 2 No.s
- Specimen Mounting Machine
- Belt Sanding Machine
- Jommy end Quenching Machine
- Metallurgical Microscope – 2 No.s
- Salt bath Furnace

8. Metrology Lab.

Major Equipments:

- Universal Horizontal Metroscope
- Roundness Tester
- Height Micrometer
- Auto Collimator
- Salt Test Equipment
- Shadow Master
- Tool Maker Microscope
- Dead Weight Pressure Gauge Tester
- Mechanical Comparator