

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

1. Heat Engine Lab., Ref. and AC 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.

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
- Conventry 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 Equipment/Software

- Solid Works Academic Education-2013
- NCG CAM Software
- SYSTAT 12.0
- IBM SPSS 21.0
- MTAB CNC Mill Trainer

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
- Sound level meter
- Vibration generator
- Solid state power amplifier
- Hand tachometer

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- 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

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

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- 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