

**JAWAHARLAL NEHRU GOVERNMENT ENGINEERING COLLEGE**  
**SUNDERNAGAR DISTT. MANDI HP**  
**MECHANICAL ENGINEERING DEPARTMENT**  
**LIST OF LABORATORY EQUIPMENTS**

<b>SOM Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Universal Testing Machine	1
2.	Impact Tester	1
3.	Universal Hardness Tester (Make: Tinius Olsen)	1
4.	Fatigue Testing Machine (Make: GUNT)	1
<b>Fluid Mechanics Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Metacentric Height Apparatus	1
2.	Apparatus for Co-efficient of Friction in Pipes	2
3.	Orificemeter Apparatus	2
4.	Combination of Orificemeter and Venturimeter Apparatus	1
5.	Reynold's Apparatus	2
6.	Pitot Tube Apparatus	1
7.	Impact of Jet Apparatus	2
8.	Apparatus for Calculation of Minor Losses	1
9.	Bernoulli's Theorem Apparatus	2
10.	Discharge/ Notch Apparatus	1
11.	Wind Tunnel with Data Logging Facility	1
12.	Venturimeter Apparatus	1
13.	Apparatus for Conducting Orifice/Mouthpiece Experiment	1
<b>CAD/Design &amp; Simulation Lab.</b>		
1.	Software NX 10.0	5 Users
2.	Solid Edge ST7	20 Users
3.	Computer System: HP Compaq 8100 elite	25
4.	Computer System: Lenovo	15
5.	Multifunction Printer (Make Epson)	1
6.	Laser Printer (Make HP)	1
7.	Projector (Make Mitsubishi)	1

<b>I.C. Engines Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Two Stroke Petrol Engine (Cut Model)	1
2.	Four Stroke Petrol Engine (Cut Model)	1
3.	Four Stroke Single Cylinder Diesel Engine (Cut Model)	1
4.	Four Stroke Four Cylinder Diesel Engine (Cut Model)	1
5.	Smokemeter (Smoke Intensity from Diesel Engine)	1
6.	Flue Gas Analyzer (Smoke Intensity from Petrol Engine)	1
7.	Computerized Variable Compression Ratio Diesel Engine Test Rig With Data Logging Facility	1
<b>Turbo Machines Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Pelton Wheel Test Rig	2
2.	Francis Turbine Test Rig	2
3.	Kaplan Turbine Test Rig	2
4.	Hydraulic RAM Test Rig	1
5.	Centrifugal Pump Test Rig	2
6.	Reciprocating Pump Test Rig	1
7.	Pelton Wheel Turbine Runner Model	1
8.	Francis Runner Model	1
9.	Submersible Pump Test Rig	1
10.	Hydraulic Bench	4
<b>Heat Transfer Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Thermal Conductivity (Metal Bar Apparatus)	1
2.	Thermal Conductivity (Insulating Powder Apparatus)	1
3.	Thermal Conductivity (Guarded Hot Plate Method)	1
4.	Forced Convection Apparatus	1
5.	Natural Convection Apparatus	1
6.	Emissivity Measurement Apparatus	1

7.	Parallel/Counter Flow Heat Exchanger Apparatus	1
8.	Pin Fin Apparatus	1
9.	Stefan Boltzmann's Apparatus	1
10.	Solar Concentrator Training System	1
<b>CAD/CAM Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	EDM	1
<b>Theory of Machines Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Cycloidal Gear Model	1
2.	Rack and Pinion Model	1
3.	Single Stage Bevel Gears Models	1
4.	Two Stage Spur Gear Model	1
5.	Steering Mechanism Model	1
6.	Epicyclic Gear Train (Sun and Planet)	1
7.	Single Stage Spur Gear Model	1
8.	Single Stage Spiral Gear Model	1
9.	Single Stage Helical Gear Model	1
10.	Cam & Follower Model (Set of 5 Nos. Model)	1
11.	Compound Gear Wheel Train	1
12.	Slider Crank Mechanism	1
13.	Worm & Worm Wheel	1
14.	Differential Gear (Cut Model)	1
15.	Cam Analysis Apparatus	1
16.	Slip and Creep Apparatus	1
17.	Universal Governor Apparatus	1
18.	Motorized Gyroscope	1
19.	Static and Dynamic Balancing Apparatus	1
<b>Thermal Engineering Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Refrigeration Test Rig (Dual Control)	1
2.	Water Cooler Test Rig	1
3.	Laboratory Ice Plant	1
4.	Window Type Air Conditioning Test Rig	1
5.	Cut Sectional Model of Rotary	1

	Refrigerant Compressor	
6.	Cut Sectional Model of Reciprocating Refrigerant Compressor	1
7.	Air Conditioning Test Rig	1
8.	Single and Multi Plate Clutch Model	1
9.	Constant Synchromesh Gear Model	1
10.	Rear and Front Wheel Drive Line Model	1
11.	Starting and Ignition System Model	1
12.	Rack and Pinion Power Steering Model	1
13.	Charging System Model (Battery Charge & Testing System)	1
14.	Bleeding in Brake Shoe Model	1
<b>Heat Power Engineering Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Double Stage Reciprocating Compressor Test Rig	1
2.	Separating and Throttling Calorimeter	1
3.	Water Cooling Tower	1
4.	Centrifugal Compressor/Blower Test Rig	1
<b>Basic Mechanical Engineering Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Locomotive Boiler Model	1
2.	Cochran Boiler Model	1
3.	Babcox Wilcox Boiler Model	1
4.	Lancashire Boiler Model	1
5.	Sudgen Boiler Model	1
6.	Green Economizer Model	1
7.	Marcet Boiler Model	1
8.	Jet Condenser Model	1
9.	Benson Boiler Model	1
10.	Sterling Boiler Model	1
11.	De Level Turbine Model	1
12.	Pure Reaction Turbine Model	1
13.	Surface Condenser Model	1

<b>Material Science Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Micro Hardness Tester	1
2.	Inverted Metallurgical Microscope	1
3.	Double Disk Grinding Machine (Polishing Apparatus)	1
4.	Muffle Furnace	1
5.	Belt Grinding Machine	1
<b>Measurement and Control Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Strain Gauge	1
2.	Calibration of Thermocouple	1
3.	Pitot Tube Apparatus	1
4.	Bourdon Type Pressure Gauge with Manometer for Calibration and Measurement of Pressure	1
<b>Metrology Lab.</b>		
<b>Sr. No.</b>	<b>Name of Equipment</b>	<b>Qty. Held</b>
1.	Surface Plate With Pointed Angle Iron Stand Granite (630X630X25)mm or more (Make-Luthra)	1
2.	Sine Bar 300mm Saggs/ Radium Or Equivalent (Make Indian)	1
3.	Spring Caliper Outside 6",8",12" (Make Radisson)	1 each
4.	Vernier Caliper Size-0.300mm 12" LC-0.02mm (Make Mitutoyo)	2
5.	Digital Vernier Caliper 0-150mm 6" LC 0.01mm (Make Mitutoyo)	3
6.	Micrometer (Inside) 5-30mm (Make Mitutoyo)	1
7.	Vernier Height Gauge 0-300mm (Make Mitutoyo)	1
8.	Sine Center Range 0-200mm (Imported)	1
9.	Optical Flat Dia 25mm (Make Mitutoyo)	1
10.	Optical Flat Dia 50mm (Make Mitutoyo)	1

11.	Screw Thread $\mu$ Meter 0-25mm (Make Mitutoyo) (Micrometer External)	1
12.	Bore Gauge With 10-18mm LC 0.01mm (Make Mitutoyo)	1
13.	Slip Gauge Set M-122	1
14.	Adjustable Slip Gauge (6-13) (Make Indian)	1
15.	Radius Gauge Range 1mm to 7mm (Make Mitutoyo)	1
16.	Screw Pitch Gauge 0.4mm to 7mm	1
17.	Outside $\mu$ Meter 0.25mm LC 0.01mm (Make Mitutoyo)	1
18.	Profile Projector With 10X, Lens (Complete Set With Accessories)	1
19.	Monochromatic Light Source (Make Indian)	1 Set
20.	Angle Gauge Set (13 Pcs) Deg. Min. and Sec.	1
21.	Filler Gauge (26) Pcs Range 0.03mm to 1mm (Make Mitutoyo)	1
22.	Plain Gauge GO/NO/G0 Plug Dia 20mm (Double Ended Plug Gauge)	1
23.	Gear Tooth Vernier 1-26 Module	1
24.	Dial Indicator	1