

TENDER-3: MECHANICAL ENGINEERING DEPARTMENT

Tender Ref. No.: SJVPM/NEC/LAB/MECH/2026/03

A. Mechanical Engineering Labs

Sr.No	Item Description	Specifications	Qty	Unit Price (₹)	Total Price (₹)
1	Lathe Machine (All Geared)	1000mm×150mm, 2.2 kW Motor, IS:1878	4 Nos.		
2	Milling Machine (Universal)	1500mm Table, 5 HP Motor, IS:1878	2 Nos.		
3	Shaper Machine	450mm Stroke, 2 HP Motor	1 No.		
4	Drilling Machine (Pillar)	25mm Capacity, 1.5 kW Motor	2 Nos.		
5	Grinding Machine (Bench)	200mm Wheel, 1 HP Motor	4 Nos.		
6	Surface Grinder	300mm×600mm Table, 3 HP Motor	1 No.		
7	CNC Lathe (Educational)	2-Axis, 500mm×200mm, Fanuc/Siemens Control	1 No.		
8	CNC Milling Machine	3-Axis, 800mm×500mm, ATC	1 No.		
9	Radial Drilling Machine	40mm Capacity, 1200mm Arm	1 No.		
10	Power Saw (Horizontal)	250mm Blade, 2 HP Motor	1 No.		
11	Welding Set (Arc)	400 Amp, DC, Air Cooled	4 Sets		
12	MIG Welding Machine	250 Amp, Gas Shielded	2 Sets		
13	TIG Welding Machine	200 Amp, AC/DC	1 Set		
14	Spot Welding Machine	10 kVA, Pedestal Type	1 No.		
15	Gas Cutting Setup	Oxygen + Acetylene, Regulators, Hoses	4 Sets		
16	Smithy Forge Setup	Blower, Anvil, Swage Blocks	2 Sets		
17	Fitting Bench with Vices	1800mm×600mm, Bench Vices	20 Sets		
18	Carburetor Test Rig	Single Cylinder, Variable Load	1 No.		
19	IC Engine Test Rig (4-Stroke)	5 kW, Water Cooled, Load Cell	1 No.		
20	IC Engine Test Rig (2-Stroke)	3 kW, Air Cooled	1 No.		
21	Diesel Engine Test Rig	7.5 kW, 4-Cylinder, Turbocharged	1 No.		
22	Boiler Test Rig	5 kg/cm ² , Electric Heating, Safety Valves	1 No.		
23	Air Compressor (Reciprocating)	5 HP, 100 LPM, 10 Bar	1 No.		
24	Refrigeration Test Rig	1 TR, Cutaway Model, Gauges	1 No.		
25	Air Conditioning Test Rig	1.5 TR, Split AC Cutaway	1 No.		
26	Heat Exchanger Test Rig	Shell & Tube, Counter Flow	1 No.		
27	Psychrometer Setup	Dry & Wet Bulb, Sling Type	5 Sets		
28	Calorimeter (Bomb)	Stainless Steel, Complete Setup	1 No.		
29	Torsion Testing Machine	1000 Nm, Digital Torque Meter	1 No.		
30	Impact Testing Machine (Izod)	150 Joules, Digital Display	1 No.		
31	Rockwell Hardness Tester	Digital, 150 kgf Load	1 No.		
32	Brinell Hardness Tester	3000 kgf, Microscope	1 No.		
33	Fatigue Testing Machine	Rotating Beam, 10 ⁷ Cycles	1 No.		
34	Spring Testing Machine	500 kgf, Digital	1 No.		
35	Vibration Test Setup	Shaker Table, Accelerometers	1 Set		

36	Governor Test Rig	Watt, Porter, Proell Types	1 Set		
37	Gyroscope Test Rig	Motorized, Digital Tachometer	1 No.		
38	Balancing Machine (Dynamic)	10 kg Rotor, Digital	1 No.		
39	CAM Analysis Apparatus	Various CAM Profiles, Follower	1 Set		
40	Gear Test Rig	Spur, Helical, Bevel Gears	1 Set		
41	Clutch & Brake Test Rig	Single/Multi Plate, Band Brake	1 Set		
42	Steam Table & Charts	Complete Set, Laminated	5 Sets		
43	Thermocouple Calibration Unit	0-1200°C, Digital Indicator	1 No.		
44	Pressure Gauge Calibration Setup	Dead Weight Tester, 0-100 Bar	1 No.		
45	Flow Measurement Setup	Venturimeter, Orifice, Rotameter	1 Set		
46	Wind Tunnel (Subsonic)	300mm×300mm Test Section, 50 m/s	1 No.		
47	Pump Test Rig	Centrifugal, Reciprocating, Gear	1 Set		
48	Turbine Test Rig	Pelton, Francis, Kaplan	1 Set		
49	Hydraulic Bench	Multiple Experiments, Sump Tank	1 No.		
50	Fluid Mechanics Lab Kit	Bernoulli, Orifice, Notch, Weir	10 Sets		
51	Metrology Instruments	Vernier Calipers, Micrometers, Dial Gauges	30 Sets		
52	Surface Roughness Tester	Digital, 0.01µm Resolution	1 No.		
53	Profile Projector	300mm Screen, 10X-50X Magnification	1 No.		
54	Tool Maker's Microscope	30X Magnification, X-Y Stage	1 No.		
55	CAD/CAM Software	SolidWorks, CATIA, ANSYS (Educational)	60 Users		
Total					

EMD: ₹25,000

Tender Fee: ₹5,000
