



Hope Foundations
FINOLEX ACADEMY OF MANAGEMENT AND TECHNOLOGY RATNAGIRI

DEPARTMENT OF MECHANICAL ENGINEERING

Laboratory Details

SN	NAME OF LABORATORY	LAB LOCATION	MAJOR EQUIPMETS IN THE LABORATORY
1	Material Testing Lab	W-4 (A)	1. Universal Testing Machine 2. Torsion Testing Machine 3. Impact Testing Machine 4. Rockwell Hardness Testing Machine 5. Brinell Hardness Testing Machne
2	Materials Technology & Metallurgy Lab	W-8	1. Metallurgical Inverted Microscope with image Analyzer software (Suxma-Met-E) Generation, RAM 16 GB, 512 GB SSD, 19.5” LED Monitor, USB Keyboard & Mouse, WINDOWS 11 Home, 64 Bit, 2GB Graphics card. 3. Muffle Furnace 4. Fatigue Testing Machine 5. Trinocular Metallurgical Microscope 6. Disc Polishing Machine 7. Belt Grinder 8. End Quench Test Apparatus



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3	Center of Excellence In Computer Aided Product Development & Automation - Industry Supported	C-0/08	Generation, RAM 16 GB, 512 GB SSD, 19.5” LED Monitor, USB Keyboard & Mouse, WINDOWS 11 Home, 64 Bit
			2. Collaborative and connected Solidworks 3D education platforms
			4. ANSYS Academic Teaching Mechanical & CFD Software
			5. AutoCAD Software
			6. Lab - View Software
			7. NI's data acquisition kit
			8. CNC Milling machine
			9. 3D Printer with Computer
			10. FLASH PRINT
			11. 3D Slicer and Ultimate Cura
			12. Basic Pneumatic Kit
			13. Basic Electro - Pneumatic kit
			14. Basic PLC kit
			15. ARISTO 6 Axis Robotic Arm with computer
			16. PLC CRUSH II Micro Controller
			17. MATLAB software
			4
2. Universal Governor Apparatus			
3. Whirling of Shaft Apparatus			
4. Vibraion Lab Equipment			
5. Static and Dynamic Balancing Apparatus			



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5	Heat Transfer & Thermal Engineering Lab	W-12	1. Emissivity Measurement Apparatus
			2. Thermal Conductivity of Metal Bar Apparatus
			3. Thermal Conductivity of Insulating Material Apparatus
			4. Parallel and Counter Flow Heat Exchanger
			5. Natural and Forced Convection Apparatus
			6. Shell and Tube Heat Exchanger
			7. Heat Transfer in Forced Convection with Inserts
6	Fluid Mechanics and Hydraulic Machinery Lab	W-9	1. Mini Pelton Turbine Test Rig
			2. Kaplan Turbine Test Rig
			3. Francis Turbine Test Rig
			4. Reciprocating Pump Test Rig
			5. Centrifugal Pump Test Rig
			6. Hydraulic Bench - I
			7. Hydraulic Bench - II
7	Refrigeration and Air Conditioning Lab	W-10	1. Refrigeration Test Rig
			2. Air Conditioning Test Rig with Psychrometer
			3. Ice Plant Test Rig
			4. Heat Pump Test Rig
			5. Cooling Tower
8	I.C.Engine & Automobile Engineering Lab	W-14 (A)	1. Twin Cylinder 4 stroke vertical Diesel Engine Test Rig, (COMET make engine with Hydraulic Dynamometer)
			2. 4-cylinder,4 - Stroke Petrol Engine Test Rig (Premier Padmini engine with Hydraulic Dynamometer)
			3. Petrol Engine Test Setup (231H) 3 cylinder, 4 Stroke, Petrol. Maruti 800 (MPFI)
			4. 4-Stroke, 4 Cylinder Diesel Engine (Mahindra & Mahindra BOLERO Engine)
			5. Multi Gas Emission Analyzer



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9	Metrology Lab	C- 2 /07 (B)	1. Surface Plate 450 * 450 mm 2. Vernier Caliper with fine adjustment ; Size 0- 200 mm / 0.02 mm, Mitutoyo make 3. Outside Micrometer, size 25-50 mm/0.01 mm, Mitutoyo make 4. Surface Roughness Tester Model SJ 201 . Mitutoyo make 5. Spirit level RSK Japan make 150 * 0.02 block type 6. Outside Micrometer size 0-25 mm / 0.01 mm Mitutoyo make 7. Outside Micrometer size 25-50 mm/ 0.01 mm Mitutoyo make 8. Dial Indicator, LC 0.01 mm, Mitutoyo make 9. Dial Indicator , 0.001 mm Mitutoyo make 10. Dial Gauge stand Mitutoyo make No. 7001 11. Slip Gauge set ; 87 pieces, grade 'O', Mitutoyo make 12. Outside Micrometer size 0-25 mm / 0.001 mm, Mitutoyo make 13. Sine Bar Indian Make 14. Sine Centre Indian make 200 mm 15. Screw Thread Micrometer 16. Measuring Tip for Screw Thread Micrometer 17. Gear Tooth Vernier Caliper 18. Monochromatic Light Source 19. Optical Flat 50 mm 20. Profile Projector T 300 21. Bevel Protractor



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10	Internet of Things Lab / Mini Project Lab	C-2/07 (A)	DELL Desktop Computers, Model: OPTILEX 7040 SFF, INTEL (R), Core I5, RAM 12 GB DDR4, 500 GB HDD SATA, 18.5” LED Monitor, USB Keyboard & Mouse, WINDOWS 10 Home, 64 Bit
			Lenovo Desktop Computers, Model: NEO50S-11SYS08C00, Lenovo Think centre, 12th Generation INTEL (R) Core I5 12500, RAM 16 GB DDR4, 1 TB HDD SATA, 18.5” LED Monitor, USB Keyboard & Mouse, WINDOWS 11 Pro, 64 Bit
			ACER Desktop Computers, Model: VERITON M200-H610, INTEL (R), Core I5 12 Generation, RAM 16 GB, 512 GB SSD, 21.5” LED Monitor, USB Keyboard & Mouse, WINDOWS 11 Home, 64 Bit
			1. Arduino Uno
			2. GL-12 840 Points Breadboard
			3. Multimeter
			4. Soldering Stand
			5. Glue Gun 40W
			6. Adapter 12V , 2A Power Supply
			7. DHT 11 Module
			8. Ultrasonic Module HC-SR-04
			9. Flame Sensor
			10. PIR Motion Sensor
			11. IR Infrared Ostacle (Imported)
			12. ADXL345 Triple Axis Linear Accelerometer
13. ESP 8266, ESP-01 - Wi-Fi Module			
14. 1 Channel, 5V Relay			
15. 12 V DC Electric Solenoid Water air valve switch (NC)			



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11	Project Based Learning (PBL) Lab	C-2/07 (A)	1.Furnished AC room 2. Samsung 43 inch Smart TV for virtual training and interaction 3. 3D Printer
12	Machine Shop	W-06 (A)	1. Lathe Machine 2. Shaping Machine 3. Milling Machine 4. Drilling Machine
13	Welding Shop	W-6 (C)	1. Arc Welding Machine 2. TIG Welding
14	Carpentary Shop	W-5	1. Wood Turning Machine
15	Fitting Shop	W-6 (B)	1. Angle Plate 12" 2. Bench Vice 3. Surface Plate with stand
16	Project lab (Vehicle Development)	W-4 (B)	Furtinure and Tools