



Estd: 1946

The National Institute of Engineering
(An Autonomous Institute Under VTU)
Department of Mechanical Engineering
Manandavadi Road, Mysuru-570008, Karnataka, India.



AUTOMATION LABORATORY

Faculty In-charge		Mr. Vinodkumar H P
Technical Staff		Mrs. Apoorva S
Sl.No	Hardware	Quantity (No's)
1.	S7 - 1200 PLC training kit with 4inch display HMI, Make: Siemens.	06
2.	S7-1500 PLC training kit, Make: Siemens.	01
3.	TP 700 comfort panel, Make: Siemens.	01
4.	ET 200 SP trainer kit, Make: Siemens.	01
5.	Rexroth IndraControl L20 PLC.	02
6.	Delta PLC Trainer kit DVP-14SS2.	04
7.	FX3S - 14MT/ESS, Make; Mitsubishi.	01
8.	Mechatronics Training kit.	01 set
9.	HP Desktop, Core I5, 8GB Ram, 1TB Hard disk, 1GB Graphic card.	15
10.	HP Monitor, 21.5 inch LED display.	15
11.	NI Labview with DAQ system, microphone, accelerometer, RTD, Thermocouple.	01 set
12.	NI Myrio.	02
13.	NI Elvis II Plus.	01
14.	Qnet 2.0 Rotary inverted pendulum.	01
15.	Insight IS2000 Cognex make vision system.	01
16.	Insight IS7902M Cognex make vision system.	01
17.	DSP kit.	01
18.	All in one sensor kit, Make: Pepperl and Fuchs.	02
19.	RFID and Barcode (1D, 2D) reader demo kit, Make: Pepperl and Fuchs.	01
20.	AS- I demo kit, Make: Pepperl and Fuchs.	01
21.	Inclination sensor demo kit, Make: Pepperl and Fuchs.	01
22.	IoT modules for PLCs Make: Hydac.	07
23.	Balluff make IoT sensors.	01 set
24.	Pneumatics and Electro Pneumatics trainer kit with silent compressor	01 set
25.	Electro Hydraulic trainer kit.	01 set



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Sl.No	Software	Licenses
1.	Simatic WinCC Basic V13 SP1(SCADA and HMI)	06
2.	Simatic Step7 Basic V13 SP1 (TIA Portal)	05
3.	Simatic Step 7 PLCSIM	05
4.	Simatic WinCC Runtime Advanced	01
5.	Simatic WinCC Flexible 2008-SP3(Standard)	01
6.	Simatic WinCC Comfort	01
7.	Simatic Step & Safety	01
8.	Simatic imap	01
9.	Simatic S7 distributed Safety	01
10.	Simatic S7 Technology	01
11.	SIMIT-Simulation Frame work	01
12.	NI Labview 1 user (Professional edition)	01
13.	Automation studio student edition 6	06



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COORDINATE MEASURING MACHINE LAB

Faculty In-charge	Mrs. Aruna M
Technical Staff	Mr. Ravi Kiran V

Experimental Facilities		Quantity
1.	Coordinate Measuring Machine	1
2.	Dongle	10
3.	Computers	10



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IC ENGINES AND FUELS LABORATORY

Faculty In-charge	Dr. Vikram Athreya
Technical Staff	Mr.Suresha Mr.Shankarappa

IC Engines Laboratory		
Sl. No	Experimental Facilities	Quantity
1.	Single cylinder four stroke Diesel engine	1
2.	Valve timing diagram	1
3.	Single cylinder four stroke Petrol engine	1
4.	Multi cylinder Diesel engine	1
5.	Variable Compression Ratio (VCR) Engine	1
6.	Single cylinder four stroke Diesel engine (Bio-Diesel Engine)	1
7.	Single cylinder four stroke CRDI Diesel engine	1
Fuels Laboratory		
8.	Red wood viscometer	1
9.	Abel pensky Flash and fire point apparatus for light oil	1
10.	Pensky Flash and fire point apparatus	1
11.	Pressure gauge tester	1
12.	Gallonkarp universal torsion viscometer & Accessories	1
13.	Bomb calorimeter	1
14.	Two stage air compressor	1
15.	Say bolt viscometer	1
16.	Digital weighing machine with top cover	1
17.	Boys gas calorimeter	1
18.	Air blower	1



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NIE-SIEMENS TECHNICAL CENTRE

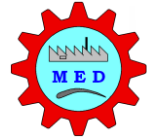
Faculty In-charge	Dr. Harshavardhan B.
Technical Staff	Mr. Byresh H.

Sl.No	Hardware	Quantity
1.	Dell Precision 3630 Tower CTO base	20
2.	Dell Precision 3630 Tower CTO base	2
3.	Epson X41 XGA 3LCD Projector with wifi Dongle	1
4.	5 KVA offline UPS system	2
5.	Printer HP Laserjet M1005 MFP	1
6.	TP Link TI-Wr940n 450mbps	2
Sl.No	Software	Licenses
1.	Siemens NX Academic Perpetual License Core + CAD	20
2.	Siemens NX Academic Perpetual License CAE + CAM	20



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ADDITIVE MANUFACTURING LAB

Faculty In-charge

Dr. T. Raghavendra

Experimental Facilities		Quantity
1.	Creality Ender 3 V2 with enclosure	6
2.	Creality 3D CR-X Pro Dual colour with enclosure	3



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CNC TRAINING CENTER

Faculty In-charge	Dr. Shrinatha R Katti
Technical Staff	Mr. Naveen Kumar

Experimental Facilities		Quantity
1.	Frank 5 HP Air Compressor	1
2.	Servomax 5kVA Stabilizer	2
3.	AMS Cub (CNC Horizontal Turning Centre)	1
4.	AMS Winner (CNC Vertical Machining Centre)	1
5.	Sanpar Refrigerated Air Dryer: CAT-D1-3A	1
6.	ElGi TS 05 Air Compressor	1
7.	Surface Plate	1
8.	Acrylic White Board	1
9.	Tilting – Swivelling Vice	1
10.	Automated Door for CNC Milling Machine	1
11.	Angle Plate Fixture	1
12.	Pneumatic Work Holding Device	1
13.	Submerged Coolant System	1
14.	Modular Work Holding Device	1
15.	Tool Holder Fixture	1
16.	Support Material Removal System for Rapid Prototyper	1



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RENEWABLE ENERGY TECHNOLOGY LAB

Faculty In-charge	Dr. T. Raghavendra
Technical Staff	Mr. Byresh

Experimental Facilities		Quantity
1.	Eco sense Solar PV Training & Research system	01
2.	Eco sense Solar thermal Training System, flat plate collector, Forced system	01
3.	Eco sense Wind energy Training system	01
4.	Eco sense Solar concentrator training system	01
5.	Biogas lab scale digester	01



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CENTRE FOR ROBOTICS AND CONTROLS

Faculty In-charge	Dr. Shrinatha R Katti
Technical Staff	Mrs. Apoorva S.

Sl. No.	Experimental Facilities	Quantity
1.	MATLAB license	5
2.	INDRA CS table top training system	1
3.	Firebird 2560, Spark V robot, Dexter ER 2 robotic arm	6
4.	Variable frequency drive EFC3610 table top training system	1
5.	RT - SP11 - B- 101	1
6.	RT - VAI - FRP - FT (10 - 3C3C)	1
7.	Hypermesh and hyper view software	10 Licenses
8.	Digital manufacturing and robotics software	1
9.	Dell precision workstation	7
10.	Dell desktop	6
11.	Rapid prototyping machine	01
12.	Flexible manufacturing system	01
13.	Node MCU ESP 8266, Microcontroller (Arduino NANO , MEGA), Micro SD card, Bluetooth module, Buck booster converter, Digital variable power supply	51
14.	Accelerometer sensor, gas sensor, ultrasonic sensor, finer print sensor, micro phone, quester, temperature and humidity sensor, flux sensor	238
15.	UNO based starter kit, Air detection sensor, Multimeter	10
16.	KUKA robot KR - 6 R 700 sixx with controller	01
17.	Hot wire anemometer	1
18.	Analog discovery kit	1
19.	Digital power supply	1
20.	Digital thickness sensor	1
21.	2 TB HDD	02
22.	NVIDIA jetson 2K1 development kit	01
23.	Turtle bot	2



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24.	Robotic component kit, SIM 900 GSM model, stepper motor, 1 inch 7 segment display, android controller robot, trainer kit box	24
25.	SCARA robot wit maximum payload of 3 kg	01
26.	Blue star	52
27.	Projector EPSON EB - X18	53
28.	Master CAM	61
29.	Dell desktop	62
30.	5 KVA offline UPS	64
31.	Siemens PLM	03
32.	Operating unit	01
33.	PC based automation	01 set
34.	HP A10 M1005 laser jet printer	01
35.	Epson projector with accessories	01 set
36.	Wacom Tablet(Digital Writing Pad)	02
37.	Wireless Microphone	01
38.	PA MX Amp DPA 770	01
39.	Sp.Wire SRX-50	02
40.	El 40 bATTERY (eXIDE)	01 Set
41.	5KvA off line UPS with stand	01
42.	HDR-CX405/BC With Accessories	01 set



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CENTRE FOR NANOTECHNOLOGY

Faculty In-charge

Dr. Aravind S L

Sl. No.	Experimental Facilities	Quantity
1.	Atomic Force Microscope	1
2.	Vibration Isolation Table – Holmark Pvt. Ltd. (For AFM)	1
3.	Phenom Desk Top Scanning Electron Microscope	1
4.	SERVO Laminar Air Flow Systems Blower set, Powder Coated MS 1.6 body gauge.	1
5.	Bruker X-ray Diffraction	1
6.	RF DC Sputtering	1
7.	Turbo Molecular Pump - Edwards	1
8.	Mass Flow Controller	2
9.	Hot Air Oven Digital Display	1
10.	Magnetic Stirrer with Hot plate	1
11.	Magnetic Stirrer Model 5	1
12.	Weighing Balance Wensler Make	1
13.	Ultrasonicator	1
14.	Digital pH Meter Table model	1
15.	Vacuum Oven Rectangular	1
16.	Delta Spin Coater	1
17.	Portable Solar Simulator	1
18.	Whirlpool Refrigerator	1



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COMPUTER AIDED ENGINEERING DRAWING

Faculty In-charge	Mr. Ravikumar Beeranur
Technical Staff	Mr. Chandan R & Mr. Byresh H.

Sl.No	Hardware	Quantity
1.	Dell I5 System	70
2.	Epson EB S41 Projector	02
3.	HP M1005 MFP Printer	02
4.	UPS KVA	07
5.	Exide Battery (12 V 40Ah)	28
Sl.No	Software	Quantity
1.	Solid edge STG	90 License
2.	Windows 10	70 License
Internet Connection		
1.	Enabled	Max speed 100 Mbps



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CENTRE FOR MATERIAL RESEARCH

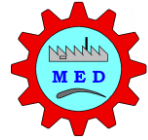
Faculty In-charge	Dr.Imran M Jamadar
Technical Staff	Mr. Byresh H

Sl.No	Experimental Facilities	Quantity
1.	Pin On Disc Wear Tester	01
2.	Infrared Thermal Chamber	01
3.	Computerized Universal Testing Machine	01
4.	Computerized Izod/Charpy Impact Tester 0-25 joules Capacity & Notch Cutter	01
5.	Barcol Hardness Tester	01
6.	Shore D Hardness Tester	01
7.	Surface Roughness Tester	01
8.	Weighing Machine With Density Measuring Kit	01
9.	Dry Sand Abrasion Test Rig	01
10.	Four Ball Tester	01



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FOUNDRY LABORATORY

Faculty In-charge	Dr. Harshavardhan B.
Technical Staff	Mr. P. Basavaraju & Mr. B. Prakash

Experimental Facilities		Quantity
1.	UniversalStrengthMachine (Mechanical/Digital)	1
2.	PermeabilityTester	1
3.	CoreHardnessTester	1
4.	MouldHardnessTester	1
5.	MoistureContentTester	1
6.	SandRammer	1
7.	Sand Tester, Sieve Shaker	1
8.	Sand Miller 50 kg Capacity	1
9.	Portable Sand Siever	1
10.	MouldingBoxes	20
11.	Showel	3
12.	Hand tools (Rammers/Trowel/Spoon tool/Gate Knife/Lifter/Vent Wire/Draw Spike/ Draw Screw/Runner Rod/ Riser Rod / Strike Off Bar/ Smoothner)	



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FORGING LABORATORY

Faculty In-charge	Dr. Harshavardhan B.
Technical Staff	Mr. Nagaraju P. & Mr. Shreyas Sonale H.

Experimental Facilities		Quantity
1.	LPG Fired Hearth Furnace	2
2.	Open Hearth Furnace	6
3.	Heavy Duty Air Blower	1
4.	Power Hammer	1
5.	Anvils	8
6.	SwageBlocks	1
7.	Hammer	6
8.	SledgeHammer	6
9.	Tongs (Flat/Rivet/Chisel/Round/Hollow Round)	25
10.	Flatter	2
11.	Chisels	2
12.	Muffle furnace	1



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CAD-CAM LABORATORY

Faculty In-charge	Mr. Srikanth N S
Technical Staff	Mr. Pruthvi Raj T P

Sl.No	Hardware	Quantity
1.	Dell - Optiplex 3020 mini tower IntelCorei5 -4570 processor, 8GB DDR3 RAM & 1TB Hard disk, 21.5" TFT Monitor, 2 GB Graphics card.	05
2.	Dell - Intel(R) Core(TM) i5 -6500 CPU@ 3.20GHz, 8GB DDR3 RAM & 1TB Hard disk, 21.5" TFT Monitor, 2 GB Graphics card.	12
3.	Dell - Workstation Precision Tower7810 685W chassis v2, BW – 1 No's - Intel Xeon Processor (2*16Cores), 64GB (8 x8 GB)DDR4 RAM 4TB Hard disk, 24" TFT Monitor, Slim DVDRW+HHDVDRW	01
4.	Dell -Optiplex 3050 MT Intel core i7 processor (6 th gen) , 8GB DDR3 RAM & 1TB Hard disk, 21.5" wide LED Monitor, 2 GB Graphics card.	10
5.	Dell – Precision 7820 tower XCTO base sever processor intel xeon 16 core dual processor 1 no 2.6 GHz base frequency up 3.4GHz 64 GB RAM, NVIDIA quadro GPU P5000 WITH 16 GB ,24"LED Monitor, windows 10 pro.	01
6.	HP - Intel(R) Core(TM) i7-8700 CPU,8GB RAM HP 21.5" Monitor, 10/100/1000 MBPS Gigabit Ethernet card integrated 2 GB Graphics card	10
7.	UPS – Silicon 5KVA Sinewave \UPS with batteries	04
8.	PROJECTOR - Epson EB-X18	01
	Software	Licenses
1.	Solid Works – 2015-16 License	35
2.	Ansys Academic Mechanical & CFD-V19.1 Ansys Academic Research CFD version-19.3	30 05
3.	Solid Edge -ST6 License	90
4.	Calypso License	10
5.	Master Cam 2017 License	25
6.	MatLabLicense	05
7.	Inverse solver	01
Internet connection		
	Available in all 35 computers	Max speed 100 Mbps



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MACHINE SHOP

Faculty In-charge	Mr. Vaibhav S Deshpande
Technical Staff	Mr. Mahadevaiah & Mr. Shreyas Sonole

Experimental Facilities		Quantity
1.	Lathe Machines	24
2.	Shaper Machines	02
3.	Bench Grinding machines	03
4.	Power Hacksaw machine	01
5.	Drilling machine	01



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HEAT TRANSFER LABORATORY

Faculty In-charge	Dr Sathisha H M
Technical Staff	Mr. Ravikiran P

Experimental Facilities		Quantity
1.	Conduction Test rig for the determination of thermal conductivity of: 1.Metal Rod 2.Liquid 3.Insulating Powder 4.Composite Wall	1
2.	Convection Test Rig for: 1.Free convection 2.Forced convection 3.Effectiveness of metallic fin	1
3.	Radiation Test rig for the determination of: 1.Emissivity of a grey body 2.Stephen Boltzmann Constant	1
4.	Applications 1.Parallel and Counter flow Heat Exchanger 2.Boiling and Condensation test rig 3.Vapor Compression Refrigeration test rig 4.Vapor Compression Air-conditioning test rig	1



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DYNAMICS LABORATORY

Faculty In-charge	Mr.Dharanish J
Technical Staff	Mr. K Purushothama

Experimental Facilities		Quantity
1.	Spring Mass Apparatus	01
2.	Torsional Vibration Apparatus	01
3.	Universal Vibration Apparatus	01
4.	Whirling of Shaft Apparatus	01
5.	Strain Rosette Apparatus (Combined Loading)	01
6.	Curved Beam Apparatus	01
7.	Universal Governor Apparatus	01
8.	Gyroscope Apparatus	01
9.	Balancing of Rotating Masses (Varying Mass)	01
10.	Balancing of Rotating Masses (Fixed Mass)	01
11.	Journal Bearing Test Rig	01
12.	Cantilever Beam Apparatus	01
13.	Thermocouple Calibration Apparatus	01
14.	LVDT Calibration Apparatus	01
15.	Load Cell Calibration Apparatus	01
16.	Polariscope	01