



JANSONS INSTITUTE OF TECHNOLOGY

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Karumathampatti, Coimbatore – 641 659

DEPARTMENT OF MECHANICAL ENGINEERING

GE3271 - ENGINEERING PRACTICES LABORATORY

LIST OF EQUIPMENTS

S.No.	Equipment Name	Regulation 2021
1.	Pipe Vice	Sem II
2.	Die Holder with Die set	Sem II
3.	Tri Square	Sem II
4.	Hand Saw	Sem II
5.	Carpentry bench wise	Sem II
6.	Firmer Chisel	Sem II
7.	Motrin Chisel	Sem II
8.	Iron Jack	Sem II
9.	Mallet	Sem II
10.	Bench hold fastens	Sem II
11.	Wooden Bench Hook	Sem II
12.	Wood Cutting Machine	Sem II
13.	Arc welding unit	Sem II
14.	Gas welding unit	Sem II
15.	Lathe Machines	Sem II
16.	Drilling Machines	Sem II
17.	Centrifugal pump	Sem II
18.	Air-conditioner unit	Sem II
19.	Household mixer	Sem II
20.	Steel rule	Sem II
21.	Bend snips	Sem II
22.	Straight snips	Sem II
23.	Scriber	Sem II
24.	Divider	Sem II
25.	Trammel	Sem II
26.	Prick Punches	Sem II
27.	Centre punches	Sem II
28.	Pliers	Sem II
29.	Ball pen hammer	Sem II
30.	Raising hammer	Sem II
31.	Riverting hammer	Sem II
32.	Square free hammer	Sem II

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33.	Anvil	Sem II
34.	Swage block	Sem II
35.	Wige gauges	Sem II
36.	Cope and Drag Box	Sem II
37.	Pattern	Sem II
38.	Solid pattern	Sem II
39.	Split pattern	Sem II
40.	Runner	Sem II
41.	Riser	Sem II
42.	Sprue	Sem II
43.	Sand reamer	Sem II
44.	Trowel	Sem II

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DEPARTMENT OF MECHANICAL ENGINEERING

BE3271 - BASIC ELECTRICAL AND ELECTRONICS ENGINEERING

LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	DC Shunt Motor	Sem II
2.	Single Phase Induction Motor	Sem II
3.	DC motor coupled DC shunt generator	Sem II
4.	DC Regulated Power supply	Sem II
5.	Ammeter, Voltmeter, Wattmeter, Digital Multimeter	Sem II
6.	Rheostat	Sem II
7.	PN diode, Zener diode, BJT, SCR, MOSFET, logic gates	Sem II
8.	Digital Trainer Kit	Sem II
9.	Tachometer	Sem II
10.	Cathode Ray Oscilloscope	Sem II
11.	Transformer	Sem II
12.	Resistor, Capacitor	Sem II

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DEPARTMENT OF MECHANICAL ENGINEERING

ME3381 - COMPUTER AIDED MACHINE DRAWING LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Intel Octa core i9 processor	Sem III
2.	Windows 11	Sem III
3.	Creo 9.0	Sem III
4.	Solid Works 2023	Sem III
5.	Autodesk Inventor 2023.1.1	Sem III
6.	Auto CAD 2023	Sem III

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DEPARTMENT OF MECHANICAL ENGINEERING

ME3382 - MANUFACTURING TECHNOLOGY LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Centre Lathes	Sem III
2.	Shaper	Sem III
3.	Horizontal Milling Machine	Sem III
4.	Vertical Milling Machine	Sem III
5.	Surface Grinding Machine	Sem III
6.	Cylindrical Grinding Machine	Sem III
7.	Radial Drilling Machine	Sem III
8.	Lathe Tool Dynamometer	Sem III
9.	Milling Tool Dynamometer	Sem III
10.	Gear Hobbing Machine	Sem III
11.	Gear Shaping Machine	Sem III
12.	Moulding table, Moulding equipments	Sem III
13.	Oxygen and Acetylene gas cylinders, blow pipe and other welding outfit	Sem III
14.	Arc welding transformer with cables and holders	Sem III

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DEPARTMENT OF MECHANICAL ENGINEERING

CE3481 - STRENGTH OF MATERIALS AND FLUID MACHINERY

LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Tension test on mild steel rod	Sem IV
2.	Torsion test on mild steel rod	Sem IV
3.	Hardness test on metal (Rockwell and Brinell Hardness)	Sem IV
4.	Compression test on helical spring	Sem IV
5.	Deflection test on carriage spring	Sem IV
6.	Venturimeter setup	Sem IV
7.	Friction Apparatus setup	Sem IV
8.	Metacentric Height apparatus setup	Sem IV
9.	Impact of jet setup	Sem IV
10.	Centrifugal pump set up	Sem IV
11.	Reciprocation pump set up	Sem IV
12.	Pelton Wheel turbine set up	Sem IV

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ME3461 - THERMAL ENGINEERING LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	I.C Engine – 2 stroke and 4 stroke model	Sem IV
2.	4-stroke Diesel Engine with mechanical loading	Sem IV
3.	4-stroke Diesel Engine with hydraulic loading	Sem IV
4.	4-stroke Diesel Engine with electrical loading	Sem IV
5.	Multi-Cylinder Petrol Engine	Sem IV
6.	Single Cylinder Petrol Engine	Sem IV
7.	Data Acquisition system with any one of the above engines	Sem IV
8.	Steam Boiler with turbine setup	Sem IV
9.	Apparatus for Flash and Fire point	Sem IV

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ME3581 - METROLOGY AND DYNAMICS LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Micrometer	Sem V
2.	Vernier Caliper	Sem V
3.	Vernier Height Gauge	Sem V
4.	Vernier Depth Gauge	Sem V
5.	Slip Gauge Set	Sem V
6.	Gear Tooth Vernier	Sem V
7.	Sine Bar	Sem V
8.	Floating Carriage Micrometer	Sem V
9.	Profile Projector / Tool Makers Microscope	Sem V
10.	Mechanical / Electrical / Pneumatic Comparator	Sem V
11.	Autocollimator	Sem V
12.	Coordinate Measuring Machine	Sem V
13.	Surface finish Measuring Equipment	Sem V
14.	Bore Gauge	Sem V
15.	Telescope Gauge	Sem V
16.	Cam follower setup	Sem V
17.	Motorised gyroscope	Sem V
18.	Governor apparatus – Watt, Porter, Proell and Hartnell governors	Sem V
19.	Whirling of shaft apparatus	Sem V
20.	Dynamic balancing machine	Sem V
21.	Two rotor vibration setup	Sem V

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22.	Spring mass vibration system	Sem V
23.	Torsional Vibration of single rotor system setup	Sem V
24.	Gear Models	Sem V
25.	Kinematic Models to study various mechanisms	Sem V
26.	Turn table apparatus	Sem V
27.	Transverse vibration setup of a) cantilever	Sem V

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ME3681 - CAD/CAM LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Computer Server	Sem VI
2.	Computer nodes or systems (High end CPU with atleast 1 GB main memory) networked to the server	Sem VI
3.	CNC Lathe	Sem VI
4.	CNC Milling Machine	Sem VI
5.	Any High end integrated modeling and manufacturing CAD / CAM software	Sem VI
6.	CAM Software for machining centre and turning centre (CNC Programming and tool path simulation for FANUC / Sinumeric and Heidenhain controller)	Sem VI
7.	Licensed operating system	Sem VI
8.	Support for CAPP	Sem VI
9.	A3 size plotter	Sem VI
10.	Laser Printer	Sem VI

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ME3611 - HEAT TRANSFER LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Guarded plate apparatus	Sem VI
2.	Lagged pipe apparatus	Sem VI
3.	Natural convection – vertical cylinder apparatus	Sem VI
4.	Forced convection inside tube apparatus	Sem VI
5.	Composite wall apparatus	Sem VI
6.	Thermal conductivity of insulating powder apparatus	Sem VI
7.	Pin-fin apparatus	Sem VI
8.	Stefan-Boltzmann apparatus	Sem VI
9.	Emissivity measurement apparatus	Sem VI
10.	Parallel/counter flow heat exchanger apparatus	Sem VI
11.	Single / two stage reciprocating air compressor	Sem VI
12.	Refrigeration test rig	Sem VI
13.	Air-conditioning test rig	Sem VI

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DEPARTMENT OF MECHANICAL ENGINEERING

ME3781 - MECHATRONICS AND IOT LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2021
1.	Basic Pneumatic Trainer Kit with manual and electrical controls / PLC Control each	Sem VII
2.	Basic Hydraulic Trainer Kit	Sem VII
3.	Hydraulic and Pneumatics Systems Simulation Software	Sem VII
4.	8051 – Microcontroller kit with stepper motor and drive circuit sets	Sem VII
5.	Image processing system with hardware & software	Sem VII
6.	MT Connect , Production Monitoring System	Sem VII
7.	Six-Axis Articulated Robot	Sem VII
8.	IoT based Home Automation kit	Sem VII
9.	Quadcopter	Sem VII
10.	3D Printer	Sem VII
11.	Machine Vision Kit	Sem VII
12.	Solar-powered surveillance mobile robot	Sem VII
13.	Electric Vehicle	Sem VII
14.	GPS- and GSM-Based Vehicle Tracking Kit	Sem VII

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M.E COMPUTER AIDED DESIGN

P24ME4105 - COMPUTER AIDED DESIGN LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2024
1.	Desktop Computer with 1 year Processor - Intel Core i7- 10700 processor (2.90GHz, 16MB L3 cache); Memory -16 GB DDR4 SDRAM @ 2933 MHz Expandable up to 64 GB with one free slot; 2PCI/PCI Express Slots, Integrated Graphics Controller, 10/100/1000 Mbps Network Card, 6 USB Ports with at least two with 3.0, 2 Additional USB Ports, HDMI, VGA /Display Port necessary converter to be provided, audio 3.5mm jack, Internal/External speakers, RJ 45; Monitor - 19 inch (+/- 0.5) TFT/ Wide LED Color Monitor: Resolution 1366 X 768; Hard Disk Drive - 1TB Monitor SATA HDD, 5400 RPM;USB Membrane Keyboard; USB Optical Mouse; Operating System - Pre loaded Linux; OS Compatibility - Windows & Linux. 21" LED Monitor in lieu of 19" LED Monitor 2GB Graphics Card	Sem I

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M.E COMPUTER AIDED DESIGN

P24ME4205 - VIBRATION LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2024
1.	Spring Mass fixture set up with 3 springs, 5 loads, load hanger, scale, stopwatch	Sem II
2.	Shaft rotor setup with one end fixed and other end supported to rotor, 4 loads, scale and stopwatch.	Sem II
3.	Shaft rotor setup with one end fixed and other end attached to rotor submerged in oil / fluid with 4 loads, scale and stopwatch.	Sem II
4.	Shaft supported at its end (different support conditions) rotated at different speeds by motor coupled to shaft, with digital speed display, scale.	Sem II
5.	Free vibration set up of a demonstration specimen supported in a fixture (different support conditions like cantilever), scale, accelerometer, Data Acquisition system, PC installed with model analysis software and impact hammer.	Sem II
6.	Forced vibration set up of a supported under different end conditions with accelerometer, Data Acquisition system, Modal shaker PC installed with model analysis software.	Sem II
7.	Tri-filar suspension set up to determine radius of gyration of irregular body.	Sem II

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M.E COMPUTER AIDED DESIGN

P24ME4206 - SIMULATION AND ANALYSIS LABORATORY

LIST OF EQUIPMENTS

S.No	Equipment Name	Regulation 2024
1.	Finite Element Analysis packages, Ansys workbench – Academic version Desktop Computer with high end configuration	Sem II

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