Faculty of Mechanical Engineering

B.E. Mechanical Engineering

(R 2017) Semester – III

ME8361 MANUFACTURING TECHNOLOGY LABORATORY I

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Centre Lathes	7		
2.	Horizontal Milling Machine	1		
3.	Vertical Milling Machine	1		
4.	Shaper	1		
5.	Arc welding transformer with cables and holders	2		
6.	Oxygen and acetylene gas cylinders, blow pipe and other welding outfit	1		
7.	Moulding table, Moulding equipments	2		
8.	Sheet metal forming tools and equipments	2		

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(R 2017) Semester – III

EE8361 ELECTRICAL ENGINEERING LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	DC Shunt motor	2		
2.	DC Series motor	1		
3.	DC shunt motor-DC Shunt Generator set	1		
4.	DC Shunt motor-DC Series Generator set	1		
5.	Single phase transformer	2		
6.	Three phase alternator	2		
7.	Three phase synchronous motor	1		
8.	Three phase Squirrel cage Induction motor	1		
9.	Three phase Slip ring Induction motor	1		

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(R 2017) Semester – III

ME8381 Computer Aided Machine Drawing

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Computers with necessary accessories	30		
2.	Assembly drawings using any 2D /3D CAD Software	30		
3.	Printer	1		

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(R 2017) Semester – IV

ME8462 MANUFACTURING TECHNOLOGY LABORATORY II

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Turret and Capstan Lathes	1		
2.	Horizontal Milling Machine	2		
3.	Vertical Milling Machine	1		
4.	Surface Grinding Machine	1		
5.	Cylindrical Grinding Machine	1		
6.	Radial Drilling Machine	1		
7.	lathe Tool Dynamometer	1		
8.	Milling Tool Dynamometer	1		
9.	Gear Hobbling Machine	1		
10.	Tool Makers Microscope	1		
11.	CNC Lathe	1		
12.	CNC milling machine	1		
13.	Gear Shaper machine	1		
14.	Center less grinding machine	1		
15.	Tool and cutter grinder	1		

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(R 2017) Semester – IV

CE8381 STRENGTH OF MATERIALS AND FLUID MECHANICS AND MACHINERY LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Universal Tensile Testing machine with double 1 shear attachment –40 Ton Capacity	1		
2.	Torsion Testing Machine (60 NM Capacity)	1		
3.	Impact Testing Machine (300 J Capacity)	1		
4.	Brinell Hardness Testing Machine	1		
5.	Rockwell Hardness Testing Machine	1		
6.	Spring Testing Machine for tensile and compressive loads (2500 N)	1		
7.	Metallurgical Microscopes	3		
8.	Muffle Furnace (800 C)	1		
9.	Orifice meter setup	1		
10.	Venturi meter setup	1		
11.	Rotameter setup	1		
12.	Pipe Flow analysis setup	1		
13.	Centrifugal pump/submergible pump setup	1		
14.	Reciprocating pump setup	1		
15.	Gear pump setup	1		
16.	Pelton wheel setup	1		
17.	Francis turbine setup	1		
18.	Kaplan turbine setup	1		

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(R 2017) Semester – V

ME8511 KINEMATICS AND DYNAMICS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Cam follower setup	1		
2.	Motorised gyroscope	1		
3.	Governor apparatus - Watt, Porter, Proell and Hartnell governors	1		
4.	Whirling of shaft apparatus	1		
5.	Dynamic balancing machine	1		
6.	Two rotor vibration setup	1		
7.	Spring mass vibration system	1		
8.	Torsional Vibration of single rotor system setup	1		
9.	Gear Models	1		
10.	Kinematic Models to study various mechanisms	1		
11.	Turn table apparatus	1		
12.	Transverse vibration setup of cantilever	1		

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(R 2017) Semester – V

ME8512 THERMAL ENGINEERING LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	I.C Engine – 2 stroke and 4 stroke model	1		
2.	Apparatus for Flash and Fire Point	1		
3.	4-stroke Diesel Engine with mechanical loading	1		
4.	4-stroke Diesel Engine with hydraulic loading	1		
5.	4-stroke Diesel Engine with electrical loading	1		
6.	Multi-cylinder Petrol Engine	1		
7.	Single cylinder Petrol Engine	1		
8.	Data Acquisition system with any one of the above engines	1		
9.	Steam Boiler with turbine setup	1		
10.	Guarded plate apparatus	1		
11.	Lagged pipe apparatus	1		
12.	Natural convection-vertical cylinder apparatus	1		
13.	Forced convection inside tube apparatus	1		
14.	Composite wall apparatus	1		
15.	Thermal conductivity of insulating powder apparatus	1		
16.	Pin-fin apparatus	1		
17.	Stefan-Boltzmann apparatus	1		
18.	Emissivity measurement apparatus	1		
19.	Parallel/counter flow heat exchanger apparatus	1		

20.	Single/two stage reciprocating air compressor	1		
21.	Refrigeration test rig	1		
22.	Air-conditioning test rig	1		

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(R 2017) Semester – V

ME8513 METROLOGY and MEASUREMENTS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Micrometer	5		
2.	Vernier Caliper	5		
3.	Vernier Height Gauge	2		
4.	Vernier depth Gauge	2		
5.	Slip Gauge Set	1		
6.	Gear Tooth Vernier	1		
7.	Sine Bar	1		
8.	Floating Carriage Micrometer	1		
9.	Profile Projector / Tool Makers Microscope	1		
10.	Parallel / counter flow heat exchanger apparatus	1		
11.	Mechanical / Electrical / Pneumatic Comparator	1		
12.	Autocollimator	1		
13.	Temperature Measuring Setup	1		
14.	Force Measuring Setup	1		
15.	Torque Measuring Setup	1		
16.	Coordinate measuring machine	1		
17.	Surface finish measuring equipment	1		
18.	Bore gauge	1		
19.	Telescope gauge	1		

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(R 2017) Semester – VI

ME8681 CAD/CAM LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Computer Server	1		
2.	Computer nodes or systems (High end CPU with atleast 1 GB main memory) networked to the server	30		
3.	A3 size plotter	1		
4.	Laser Printer	1		
5.	CNC Lathe	1		
6.	CNC milling machine	1		
7.	Any High end integrated modeling and manufacturing CAD / CAM software	15		
8.	CAM Software for machining centre and turning centre (CNC Programming and tool path simulation for FANUC / Sinumeric and Heidenhain controller)	15		
9.	Licensed operating system	30		
10.	Support for CAPP	30		

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(R 2017) Semester – VII

ME8711 SIMULATION AND ANALYSIS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Computer Work Station	15		
2.	Color Desk Jet Printer	1		
3.	Multibody Dynamic Software Suitable for Mechanism simulation and analysis	15		
4.	C / MATLAB	5		

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(R 2017) Semester – VII

ME8781 MECHATRONICS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Basic Pneumatic Trainer Kit with manual and electrical controls/ PLC Control each	1		
2.	Basic Hydraulic Trainer Kit	1		
3.	Hydraulics and Pneumatics Systems Simulation Software	10		
4.	8051 - Microcontroller kit with stepper motor and drive circuit sets	2		
5.	Image processing system with hardware & software	1		