Faculty of Mechanical Engineering

B.E. Manufacturing Engineering

(R 2017) Semester – III

EE8312 ELECTRICAL ENGINEERING 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.	DC & AC Starters	1		
2.	Transducers	1		
3.	Wheatstone Bridge & Schering Bridge 4	1		
4.	ADC & DAC Converters	1		
5.	DC Shunt Motor	1		
6.	Single-Phase Transformer	1		
7.	Three-Phase Induction Motor	1		
8.	Single-Phase Induction Motor	1		

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(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 – IV

ME8411 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.	Cylinderical Grinding Machine	1		
6.	Radial Drilling Machine	1		
7.	lathe Tool Dynamometer	1		
8.	Milling Tool Dynamometer	1		
9.	Gear Hobbing Machine	1		
10.	Tool Makers Microscope	1		
11.	CNC Lathe	1		
12.	CNC milling machine	1		
13.	Gear Shaping machine	1		
14.	Centerless grinding machine	1		
15.	Tool and cutter grinder	1		

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(R 2017) Semester – IV

CE8381 STRENGTH OF MATERIALS AND FLUID MECHANICS & 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	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 – IV

ME8481 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 a) cantilever	1		
	b) Free-Free beam	1		
	c) Simply supported beam	1		

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(R 2017) Semester – V

MF8511 METROLOGY LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Autocollimator & Reflector	1		
2.	a straight edge or straight component	1		
3.	Gear Tester	1		
4.	Master gear & test gear (s)	1		
5.	Optical Comparator	1		
6.	samples & slip gauge set	1		
7.	Electrical Comparator	1		
8.	samples & slip gauge set	1		
9.	Sine bar	1		
10.	tapered component	1		
11.	dial indicator	1		
12.	Bevel protractor & samples	1		
13.	Roughness tester (Contact & Non contact)	1		
14.	machined samples	1		
15.	Tool Makers Microscope & samples	1		
16.	suitable screw threads	1		
17.	Coordinate Measuring Machine & accessories	1		
18.	Gear tooth Vernier Caliper & a suitable master gear	1		

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(R 2017) Semester – V

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	1		
10.	Support for CAPP	1		

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(R 2017) Semester – VI

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		

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(R 2017) Semester – VII

MF8761 COMPUTER AIDED 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.	Computers with necessary accessories	30		
2.	Printer	1		
3.	Any Commercially available Finite element analysis software with preprocessor, solver & post processor	30		
4.	MATLAB Software (Basic modules) or other equivalent software	5		