Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – III

PR8311 BASIC MACHINING PROCESS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Lathe	15		
2.	Drilling Machine	2		
3.	Shaper	2		
4.	Vertical Milling Machine	1		
5.	Horizontal Milling Machine	1		
6.	Surface Grinding Machine	1		
7.	Cylindrical Grinding Machine	1		
8.	Slotting Machine	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – III

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		

Faculty of Mechanical Engineering

B.E. Production Engineering

(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		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – IV

PR8481 METALLURGY LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Jominy End Quench Test	1		
2.	Specimen Mounting Test with Digital Measurements	1		
3.	Trinocular Microscopes with Objective Lens	2		
4.	Disc Polishing Machine	2		
5.	Muffle Furnace	1		
6.	Optical Microscope with Image Analyzing Software	1		
7.	Micro Vicker Hardness Tester	1		
8.	Printer to print the Microstructure	1		
9.	Hardness Tester (Brinnel or Rockwell)	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(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		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – IV

PR8411 FLUID POWER LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Hydraulic Trainer	1		
2.	Electro Hydraulic Trainer	1		
3.	PLC Based Pneumatic Trainer	1		
4.	Hydraulic Accumulator Intensifier, Press.	1		
5.	Transparent Hydraulic & Pneumatic Trainer	1		
6.	Vane Pump Test Rig	1		
7.	Pneumatic Trainer	1		
8.	Electro Pneumatic Trainer	1		
9.	PLC Based Pneumatic Trainer	1		
10.	Gear Pump Test Rig	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – V

PR8561 METROLOGY LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Vernier Calipers 0-150 mm	5		
2.	Vernier Calipers 0-300 mm	2		
3.	Micrometer 0-25 mm	5		
4.	Micrometer 25-50 mm	2		
5.	Micrometer 50-75 mm	2		
6.	Dial gauges LC 10micrometer	3		
7.	Dial gauge L.C. 2micrometer	12		
8.	Height gauge Analog	1		
9.	Height gauge Digital	1		
10.	Slip gauge set	2		
11.	Sine Bar 100 mm	1		
12.	Sine Bar 200 mm	2		
13.	Toolmakers microscope	1		
14.	Profile Projector	1		
15.	Gear tooth verniers	2		
16.	Flangernic 0-25	1		
17.	Flangemic 25-50	1		
18.	Floating carriage micrometer	1		

19.	Thread plug gauges m24 x 3	1		
20.	Thread plug gauges m20 x 2.5	1		
21.	3 wire set box	1		
22.	Surface roughness measuring Instrument	1		
23.	Precision spheres different dia	1		
24.	Dial Guage Caliberator	1		
25.	Precision level	1		
26.	Digital Micrometer	1		
27.	Digital Vernier 0-150 mm	1		
28.	Digital Ht. Guage	1		
29.	Bevel Protractor	1		
30.	CMM	1		
31.	Vision measuring system	1		
32.	Boredial gauge 16-35, 35-60	1		
33.	Depth Vernier 0-150mm	1		
34.	Depth micrometer with 6 rods	1		
35.	Internal micrometer with Extn sleeves	1		
36.	Precision Rollers 8	2		
37.	Surface plate	1		
38.	Bench centre	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – V

PR8511 WELDING AND FOUNDRY LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	5 Kg Muller	1		
2.	Sand rammer	1		
3.	Weighing balance	1		
4.	Universal sand strength testing with all accessories	1		
5.	Permeability tester	1		
6.	Quick moisture tester	1		
7.	Infra-red drier	1		
8.	Sieve shaker with Sieves	1		
9.	Crucible furnace	1		
10.	Oxy acetylene gas welding equipment	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – VI

PR8611 METAL FORMING LAB AND SPECIAL MACHINES LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Universal Testing Machine 10T	1		
2.	Erichsen cupping Tester	1		
3.	Hydraulic Press 50T	1		
4.	Water hammer forming apparatus	1		
5.	Two high Rolling mill	1		
6.	Top open muffle furnace (Max 1200 oC)	1		
7.	Dies for deep drawing	1		
8.	Dies for Micro forming	1		
9.	Dies for super plastic forming	1		
10.	FEM package	1		
11.	Dies for Constructing FLD of sheet metals	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – VI

PR8612 CNC MACHINE LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	CNC Lathe / Turning Centre	1		
2.	CNC Milling Machine / Machining Centre	1		

Faculty of Mechanical Engineering

B.E. Production Engineering

(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		

Faculty of Mechanical Engineering

B.E. Production Engineering

(R 2017) Semester – VII

PR8711 MICROPROCESSOR AND 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	1		
2.	Basic Hydraulic Trainer Kit	1		
3.	Hydraulics and Pneumatics Systems Simulation Softwares	10		
4.	8051 - Microcontroller kit with stepper motor and drive circuit	2		
5.	Simulation Softwares and Sensors to measure Pressure, Flow rate, direction, speed, velocity and force	2		