Faculty of Mechanical Engineering

B.E. Aeronautical 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. Aeronautical Engineering

(R 2017) Semester – III

AE8311 THERMODYNAMICS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	4 stroke twin cylinder diesel engine	1		
2.	Cut section model of 4 stroke diesel engine and cut section model of 2 stroke petrol engine	1		
3.	Parallel and counter flow heat exchanger test rig	1		
4.	Bomb Calorimeter	1		
5.	Vapour compression refrigeration test rig	1		
6.	Vapour compression air -conditioning test rig	1		
7.	Conductive heat transfer set up	1		
8.	Composite wall	1		

Faculty of Mechanical Engineering

B.E. Aeronautical Engineering

(R 2017) Semester – IV

AE8411 AERODYNAMICS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Subsonic Wind tunnel	1		
2.	Models(aerofoil, rough and smooth cylinder , flat plate)	2		
3.	Angle of incidence changing mechanism	1		
4.	Multi tube Manometer	1		
5.	Pitot-Static Tubes	1		
6.	Cylinder models (Rough and Smooth)	2		
7.	Wind Tunnel balances (3 or 6 components)	1		
8.	Smoke Generator	1		
9.	Water flow channel	1		

Faculty of Mechanical Engineering

B.E. Aeronautical Engineering

(R 2017) Semester – IV

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 – V

AE8511 AIRCRAFT STRUCTURES LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	100 kN Universal Testing Machine	1		
2.	Beams with weight hangers and dial gauges	6		
3.	Column set up with dial gauges	2		
4.	Photo elasticity set up	1		
5.	Vibration set up with accessories	1		
6.	Wagner beam	1		
7.	Unsymmetrical bending set up	1		
8.	Set up for combined bending and torsion	1		

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(R 2017) Semester – V

AE8512 PROPULSION LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Jet engine	1		
2.	Piston engine	1		
3.	Jet facility with compressor and storage tank	1		
4.	Multitube manometer	3		
5.	Wind tunnel	1		
6.	0-5 bar pressure transducer with pressure indicator	8		
7.	DSA pressure scanner	1		
8.	Ramjet facility	1		
9.	Conical flame holder model	1		
10.	Hemispherical flame holder model	1		
11.	Water flow channel	1		
12.	Compressor blade set	1		
13.	Schlieren or Shadowgraph set up	1		
14.	Convergent nozzle	1		
15.	Convergent divergent nozzle	1		
16.	Thruster with load cells	1		

Faculty of Mechanical Engineering

B.E. Aeronautical Engineering

(R 2017) Semester – VI

AE8611 AERO ENGINE AND AIRFRAME LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Aircraft Piston engines	1		
2.	Set of basic tools for dismantling and assembly	1		
3.	NDT equipment	1		
4.	Micrometers, depth gauges, vernier calipers	2		
5.	Valve timing disc	1		
6.	Shear cutter pedestal type	1		
7.	Drilling Machine	1		
8.	Bench Vices	1		
9.	Radius Bend bars	1		
10.	Pipe Flaring Tools	1		
11.	Welding Machine	1		
12.	Glass fibre, epoxy resin	1		
13.	Strain gauges and strain indicator	1		

Faculty of Mechanical Engineering

B.E. Aeronautical Engineering

(R 2017) Semester – VI

AE8612 COMPUTER AIDED SIMULATION LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Internal server (or) Work station	1		
2.	Computers	30		
3.	Modelling packages (i) CATIA	30		
	(ii) ANSYS	30		
	(iii) Pro E	30		
	(iv) NASTRAN	30		
4.	UPS	1		
5.	Printer	1		

Faculty of Mechanical Engineering

B.E. Aeronautical Engineering

(R 2017) Semester – VII

AE8711 AIRCRAFT SYSTEMS LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Serviceable aircraft with all above systems	1		
2.	Hydraulic Jacks (Screw Jack)	5		
3.	Trestle adjustable	5		
4.	Spirit Level	2		
5.	Levelling Boards	2		
6.	Cable Tensiometer	1		
7.	Adjustable Spirit Level	1		
8.	Plumb Bob	1		

Faculty of Mechanical Engineering

B.E. Aeronautical Engineering

(R 2017) Semester – VII

AE8712 FLIGHT INTEGRATION SYSTEMS AND CONTROL LABORATORY

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Microprocessor 8085 Kit	10		
2.	Adder/Subtractor Binary bits Kit	10		
3.	Encoder Kit	10		
4.	Decoder Kit	10		
5.	Multiplexer Kit	10		
6.	Demultiplexer Kit	10		
7.	computers	10		
8.	Regulated power supply	10		
9.	Standard Mathematical analysis software	1		