Faculty of Mechanical Engineering

B.E. AEROSPACE 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	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. AEROSPACE ENGINEERING

(R 2017) Semester – III

CE8481 Strength of Materials Laboratory

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	UTM of minimum 400 kN capacity	1		
2.	Torsion testing machine	1		
3.	Izod impact testing machine	1		
4.	Hardness testing machine Rockwell Vicker's Brinnel (any 2)	1 each		
5.	Beam deflection test apparatus	1		
6.	Extensometer	1		
7.	Compressometer	1		
8.	Dial gauges	Few		
9.	Le Chatelier's apparatus	2		
10.	Vicat's apparatus	2		
11.	Mortar cube moulds	10		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – III

CE8462 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.	Orifice meter setup	1		
2.	Venturi meter setup	1		
3.	Rotameter setup	1		
4.	Pipe Flow analysis setup	1		
5.	Centrifugal pump/submergible pump setup	1		
6.	Reciprocating pump setup	1		
7.	Gear pump setup	1		
8.	Pelton wheel setup	1		
9.	Francis turbine setup	1		
10.	Kaplan turbine setup	1		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – IV

AC8411 Low and High Speed Aerodynamics Laboratory

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Wind Tunnel	1		
2.	Wings of various aerofoil sections (Symmetrical & cambered aerofoils)	2 Nos. each		
3.	Angle of incidence changing mechanism	1		
4.	Multiple Manometer stands	4		
5.	U-Tube Manometer	1		
6.	Static Pressure Probes	4		
7.	Total Pressure Probes	4		
8.	Pitot-Static Tubes	4		
9.	Wooden Models of Three-Dimensional bodies	2 Nos. each		
10.	Wind Tunnel balances (3 or 5 or 6 components)	1		
11.	Pressure Transducers with digital display	1		
12.	Hele-Shaw apparatus, Smoke Tunnel, Water flow channel	1		
13.	Supersonic Wind tunnel	1		
14.	Wooden models of cone, wedge and blunt body configurations of suitable size for flow visualization in a supersonic	1		
15.	Schlieren System	1		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – IV

AC8412 Structures Laboratory

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Beam Test set –up	2		
2.	Unsymmetrical sections like 'Z' sections	2		
3.	Channel section and angle section	2		
4.	Dial gauges	12		
5.	Weights 1 Kg	10		
6.	Weights 2 Kg	10		
7.	Strain indicator and strain gauges	One set		
8.	Photo – elastic apparatus	1		
9.	Amplifier	2		
10.	Exciter	2		
11.	Pick – up	2		
12.	Oscilloscope	2		
13.	Wagner beam	1		
14.	Hydraulic Jack	1		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – IV

AC8413 Flight 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 Flight 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. AEROSPACE ENGINEERING

(R 2017) Semester – V

AC8511 Aerospace Propulsion 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.	Supersonic Wind Tunnel	1		
3.	Propeller Blade	1		
4.	Pressure Probe Rack	1		
5.	Multi-tube Manometers	3 sets		
6.	Pressure Scanner	2 sets		
7.	High Resolution CCD Camera for Flow Visualization	1		
8.	Shadowgraph Technique	1		
9.	2D Traversing Mechanism with Pressure Probe holder and Pressure Scanner	1		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – VI

AC8611 CAD Laboratory

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	Computer nodes	30		
2.	CATIA – CAD Packages	30 Licenses		
3.	UPS	1		
4.	Printer	1		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – VI

AC8613 Avionics Laboratory

Requirements for a batch of 30 students

Sl. No.	Description of Equipment	Quantity required (R)	Quantity available (A)	Deficiency (R - A)
1.	MATLAB Software	30		
2.	Microprocessor 8085 Kit	10		
3.	Computers	10		
4.	Analog to Digital Converter	10		
5.	MIL-Std – 1553 Data Bus	10		

Faculty of Mechanical Engineering

B.E. AEROSPACE ENGINEERING

(R 2017) Semester – VII

AC8711 COMPUTATIONAL ANALYSIS 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 and Analysis packages (i) CATIA (ii) ANSYS (iii) Pro E (iv) NASTRAN	30 licenses		
4.	UPS	1		
5.	Printer	1		