Faculty of Mechanical Engineering

M.E. Aeronautical Engineering

(R 2021) Semester - I

Course Code: AO4111 **Course Title: Low Speed and High Speed Aerodynamics Laboratory**		
Sl.No.	**Description of Equipment**	**Required members (for batch of 25 students)**
1.	Subsonic wind tunnel	1 No.
2.	Supersonic wind tunnel	1 No.
3.	3 (or) 6 Component type Wind tunnel balance	1 No.
4.	Schlieren System	1 No.
5.	Pressure Transducer / Pressure scanner (1 psi)	1 No.
6.	Multitube Manometer	1 No.
7.	Pitot-Static Tube	1 No.
8.	Yaw probe	1 No.
9.	Smooth cylinder model	1 No.
10.	Rough cylinder model	1 No.
11.	Symmetric aerofoil model	1 No.
12.	Cambered aerofoil model	1 No.
13.	Wing of Cambered aerofoil section model	1 No.
14.	Bluff body model	1 No.
15.	Flat plate with accessories for velocity boundary layer Measurement	1 No.
16.	Aircraft model with provision to mount on wind tunnel balance	1 No.
17.	Subsonic flow visualization setup (Smoke generator/Heleshaw/Water flow channel)	1 No.
18.	Blower	1 No.

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Course Code: AO4112	**Course Title: Jet Propulsion Laboratory**	
Sl.No.	**Description of Equipment**	**Required members (for batch of 25 students)**
1.	High Speed Jet Test facility	1 No.
2.	Supersonic Wind Tunnel	1 No.
3.	Subsonic Wind tunnel	1 No.
4.	Schlieren system/Shadowgraph system	1 No.
5.	Pressure Transducer / Pressure scanner (16 psi)	1 No.
6.	C-D Nozzle	1 No.
7.	Convergent Nozzle	1 No.
8.	Convergent Nozzle with wall pressure tapings	1 No.
9.	Pitot tube	1 No.
10.	3 Axis Traverse Mechanism	1 No.
11.	Pitot Static tube	1 No.
12.	Flame holder model	1 No.
13.	Non-circular combustor	1 No.
14.	Wide angle subsonic diffusers	1 No.
15.	Multitube Manometer	1 No.
16.	Compressor cascade blade setup with provision to change incidence angle	1 No.
17.	Cavity model	1 No.
18.	Spike or Ramp type supersonic inlet with wall pressure tapings	1 No.
19.	C-D Nozzle with wall pressure tapings	1 No.
20.	Blower	1 No.
21.	Yaw probe	1 No.

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AO4211 STRUCTURES LABORATORY

Sl.No.	Description of Equipment	Required Numbers
1.	Cantilever beam with symmetric cross section	1 No
2.	Cantilever beam with un-symmetric cross section (Z section)	1 No
3.	Column setup with provision for different end conditions	1 No
4.	Experimental setup of a open section beam	1 No
5.	Experimental setup of a closed section beam	1 No
6.	Cantilever beam setup to find Influence Coefficients & Flexibility Matrix	1 No
7.	Experimental setup for combined bending and torsion	1 No
8.	Diffuser transmission type Polariscope with accessories	1 No
9.	Experimental setup for vibration of beams	1 No
10.	Universal Testing Machine	1 No
11.	Acoustic Emission / Ultrasonics Equipment	1 No
12.	Computer with FE software	1 per student
13.	Fatigue testing machine	1 No
14	3D Printer	1 No
15	Wagner beam setup	1 No

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AO4213 COMPUTATIONAL LABORATORY

Sl. No.	Description of Equipment	Required Numbers
1.	Workstation / High End Computers	1 per student
2.	FEA Software (ANSYS / NASTRAN etc.)	1 No
3.	CFD Software (ANSYS - CFX / SOLIDWORKS FLOW SIMULATION etc.)	1 No