

AIRCRAFT PROPULSION LAB

S. No	Apparatus/Equipment required	Specifications	Qty
1	Multi cylinder aircraft Engines	Different cylinder arrangements	02 Units
2	Working Model of JET Engine	A trolley mounted single Shaft Turbojet designed for flight is to be supplied so as to demonstrate the Turbojet principle. It is to be instrumented, so as to all allow a performance analysis of the turbojet at various speeds to be undertaken. The unit should alternatively be provided with a physical mimic diagram plate or be instrumented for data acquisition and a digital mimic diagram. Thrust produced must greater than the range up to 230N and be measured electronically. Speed is to be up to 110,000 rpm and full power pressure is to be over 2 bar. The fuel is to be kerosene.	01 Unit
3	Engine with Dynamometer	Type of Engine : Single cylinder, four stroke, vertical water cooled, Crank start, <ul style="list-style-type: none"> • Diesel engine developing 5 HP at 1500 • Type of Loading: Rope Brake Dynamometer • Fuel Measuring System: Fuel measuring system consists of a fuel tank, a burette and a three way cock arrangement. • Air Intake Measuring System: Air tank fitted with orifice and water manometer. • Measurement of Heat Carried: Calorimeter; It consist of inlet-outlet piping and flow control valve to control the rate of flow of cooling water. Sensors are provided to measure the Temperature of Inlet & Outlet water and also to measure the exhaust gas inlet and outlet temperature. • Temperature Measurement : Digital Temperature Indicator with multi-channel switch • Temperature Sensors : RTD PT-100 type • ROPE BRAKE DYNAMOMETER: 300mm brake drum radius with 25 Kg spring balance on each side. • Instruction Manual : An ENGLISH Instruction manual will be provided along with the Apparatus • The whole setup is well designed and supported by a good quality painted rigid M.S. Structure. 	01 U nit
4	Axial Compressor Test Rig	Power: 5 KW; Type: Multi-Stage Axial Cooling Medium : Air Capacity: 0.6m ³ /min Max. Pressure: 10Bar Speed: 95 RPM Note: Quotations can be considered of superior quality.	01 Unit
5	Propeller Test Rig	3 Blades propeller with variable pitch. Diameter of propeller 600mm approximate. Drive: Driven by electric motor 1/4HP with variable speed. Thrust: Digital Voltmeter and Digital Ammeter, 2amp dimmer stat. Thrust Cell with Digital thrust	01

		<p>indicator.</p> <p>Speed: By Digital Speed Indicator.</p> <p>Air Velocity: Measured by a Digital Anemometer.</p> <p>The whole assembly must be housed inside.</p> <p>The circular duct with sturdy base frame.</p> <p>The whole set-up must be well designed and arranged on a rigid structure painted with industrial PU Paint.</p>	
6	Manometer	Standard	01
7	Tachometer	Standard	01
8	Stopwatch	Standard	03

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