INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal, Hyderabad - 500 043

DEPARTMENT OF MECHANICAL ENGINEERING

APPLIED THERMODYNAMICS LABORATORY

The objective of the thermal engineering laboratory is to introduce the student the fundamental theories and the industrial applications of thermodynamics, heat transfer, and fluid mechanics. This laboratory supports the courses for the undergraduate studies. Thermal Engineering is a specialized sub discipline of Mechanical Engineering that deals exclusively with heat energy and its transfer between not only different mediums, but also into other usable forms of energy. A Thermal Engineer will be armed with the expertise to design systems and process to convert generated energy from various thermal sources into chemical, mechanical or electrical energy depending on the task at hand. Obviously, all Thermal Engineers are experts in all aspects of heat transfer.

List of Equipment

S. No	Item	Make	No. of Units	Cost per Unit (Rs.)	Total Cost (Rs.)
1	Engine Test Rig – 4 strokes Multi cylinder, petrol engine with hydraulic dynamometer test rig	Mechtrix Engineers	1	4,44,850	4,44,850
2	Variable compression ratio test rig Single cylinder, 4 stroke, water cooled diesel engine test rig	MechTrix Engineers	1	2,38,000	2,38,000
3	Air compressor test rig Two Stage ,Two Cylinders	MechTrix Engineers	1	87,920	87,920
4	Engine Test Rig – Single cylinder, 4 stroke, petrol engine test rig	Devale Engineering	1	82,500	82,500
5	Engine Test Rig – 2 strokes Single cylinder, air cooled petrol engine test rig	Devale Engineering	1	71,500	71,500
6	Engine Test Rig – 2 strokes Single cylinder, air cooled petrol engine cut section model (port timing diagram)	Devale Engineering	1	17,600	17,600
7	Engine Test Rig – 4 strokes Single cylinder, water cooled diesel engine cut section model (valve timing diagram)	Devale Engineering	1	16,500	16,500
8	Old engines for assembly and disassembly	Devale Engineering	1	6,000	6,000
9	Boilers model	MechTrix Engineers	2	6,300	6,300
				Total Cost (Rs.)	**9,71,170**
	(In words: Rupees Nine lakhs seventy one thousand one hundred and seventy only)				

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