






**SRI PADMAVATI MAHILA VISVA VIDYALAYAM**  
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**SCHOOL OF ENGINEERING AND TECHNOLOGY**  
DEPARTMENT OF MECHANICAL ENGINEERING

**INTERNAL COMBUSTION ENGINES LAB**

S.No.	Name of the Experiment	Key Features	Specification and Key Equipment Details	Equipment Photo																																				
1.	Variable Compression Engine Test Rig	The objective of this laboratory is to provide the student a good environment to understand important concepts and applications in the field of IC engines. These fundamentals will be used to link the phenomenological processes taking place in the engine for issues of: power generation, emissions and environmental impact, fuel economy and fuel composition effects on engine operation and mechanical limitations of obtaining ideal performance. This laboratory boasts of the latest internal combustion engines for research and academic purposes. Performance on single cylinder 4-stroke Diesel engine test rig, Performance on 4 cylinder 4-stroke Petrol engine test rig, and Variable compression ratio single cylinder 4-S Diesel engine test rig. Motoring test on 2 stroke single cylinder petrol engine, Two stroke SI & CI engines cutting sections and four stroke CI engine cutting section are available in	<table border="0"> <tr> <td>Engine</td> <td>KIRLOSKAR</td> </tr> <tr> <td>BHP</td> <td>5 HP</td> </tr> <tr> <td>Working stroke</td> <td>4 stroke</td> </tr> <tr> <td>Fuel</td> <td>Diesel</td> </tr> <tr> <td>NO.OF CYLINDERS</td> <td>SINGLE</td> </tr> <tr> <td>RPM</td> <td>1500RPM</td> </tr> <tr> <td>Compression Ratio</td> <td>12:1 to 20:1</td> </tr> <tr> <td>Bore</td> <td>80mm</td> </tr> <tr> <td>HP Cylinder Bore</td> <td>50mm</td> </tr> <tr> <td>Engine cooling</td> <td>Water cooled</td> </tr> <tr> <td>Starting</td> <td>Self start or cranking</td> </tr> <tr> <td>VCR Cooling</td> <td>Water cooled</td> </tr> <tr> <td>Ignition</td> <td>Compression Ignition</td> </tr> <tr> <td>Governor system</td> <td>Mechanical Governor</td> </tr> <tr> <td>Load Type</td> <td>Electrical loading</td> </tr> <tr> <td>Power</td> <td>3.7KW</td> </tr> <tr> <td>Orifice Diameter</td> <td>20mm</td> </tr> <tr> <td>Max.Torque</td> <td>2.4Kg-m</td> </tr> </table>	Engine	KIRLOSKAR	BHP	5 HP	Working stroke	4 stroke	Fuel	Diesel	NO.OF CYLINDERS	SINGLE	RPM	1500RPM	Compression Ratio	12:1 to 20:1	Bore	80mm	HP Cylinder Bore	50mm	Engine cooling	Water cooled	Starting	Self start or cranking	VCR Cooling	Water cooled	Ignition	Compression Ignition	Governor system	Mechanical Governor	Load Type	Electrical loading	Power	3.7KW	Orifice Diameter	20mm	Max.Torque	2.4Kg-m	
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2.	Four-Stroke, Single - Cylinder Petrol Engine Test Rig	laboratory to identify each and every parts in detail and also to drawn the port and valve timing Diagrams. Heat balance sheet,cooling curves for findout the friction power.	<table border="0"> <tr><td>Engine</td><td>AVTECH Make</td></tr> <tr><td>Power OutPut</td><td>84ps@5000RPM</td></tr> <tr><td>Max.Torque</td><td>14Kgm@3000RPM</td></tr> <tr><td>FUEL</td><td>Petrol</td></tr> <tr><td>NO.OF CYLINDERS</td><td>Four</td></tr> <tr><td>BORE</td><td>84mm</td></tr> <tr><td>STROKE LENGTH</td><td>82mm</td></tr> <tr><td>COMPRESSION RATIO</td><td>8.5:1</td></tr> <tr><td>STARTING</td><td>Self start</td></tr> <tr><td>WORKING STROKE</td><td>Four Stroke</td></tr> <tr><td>ENGINE COOLING</td><td>Water Cooled</td></tr> <tr><td>IGNITION</td><td>Spark Ignition</td></tr> <tr><td>Capacity</td><td>1817CC</td></tr> <tr><td>Battery</td><td>12V,45A</td></tr> <tr><td>LOAD TYPE</td><td>Hydraulic Loading</td></tr> <tr><td>Alternator</td><td>12V,45A</td></tr> <tr><td>Orifice Diameter</td><td>25mm</td></tr> </table>	Engine	AVTECH Make	Power OutPut	84ps@5000RPM	Max.Torque	14Kgm@3000RPM	FUEL	Petrol	NO.OF CYLINDERS	Four	BORE	84mm	STROKE LENGTH	82mm	COMPRESSION RATIO	8.5:1	STARTING	Self start	WORKING STROKE	Four Stroke	ENGINE COOLING	Water Cooled	IGNITION	Spark Ignition	Capacity	1817CC	Battery	12V,45A	LOAD TYPE	Hydraulic Loading	Alternator	12V,45A	Orifice Diameter	25mm	
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4.	Four- Stroke CI Engine Cut-Section (Diesel Engine)																																					



5	Two- Stroke SI Engine Cut-Section (Petrol Engine)			
6	Two Stage Reciprocating Air Compressor		<p>Engine Model Type Stage NO.OF CYLINDERS RPM Compression Ratio LP Cylinder Bore HP Cylinder Bore Starting Type of Starter Belt size Electrical Supply Type of lubrication Type cooling Type of Fan Orifice Diameter</p> <p>ELGI TS 03180 Reciprocating Type Two Stage Two 1420RPM 925RPM 70mm 50mm Electrical DOL A68 415V/380v,3Ph,50Hz Splash Air Cooled Forced Draught 15mm</p>	