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| <b>Product Name :</b><br>Multi Cylinder 4 Stroke Water Cooled Diesel Engine Test Rigwith Rope<br>Brake Dynamometer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>Product Code :</b><br>NLAB-MECHANICALAB410001 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                  |
| <b>Description :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                  |
| Multi Cylinder 4 Stroke Water Cooled Diesel Engine Test Rigwith Rope Brake Dynamometer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                  |
| <b>Technical Specification :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                  |
| <p>IC engines are widely used in automobile, domestic and industrial sector. They are classified according to cycle, number of cylinders, arrangement of cylinders, fuel used, type of ignition, valve arrangement, cooling system. Test rigs are used to find out the performance of an IC engine. It consists of an IC Engine, dynamometer, fuel measuring, air intake measuring and various other arrangements.</p> <p><b>EXPERIMENTATION:</b></p> <p>To determine specific fuel consumption.</p> <p>To determine Brake Horse Power.</p> <p>To determine mechanical efficiency.</p> <p>To determine Brake Thermal Efficiency.</p> <p>To determine volumetric efficiency measurement.</p> <p><b>UTILITIES REQUIRED:</b></p> |                                                  |

Electric Supply: Single Phase, 220 V, 5 Amp.

Continuous Water Supply : 10 LPM Approx. at  $\frac{1}{2}$  kg/cm<sup>2</sup>

Pressure for Engine cooling and 10 LPM at 2 kg/cm<sup>2</sup>

Fuel : 20 Ltrs. (Diesel)

Floor Area : 3m X 2m

Tachometer : For RPM measurement

Battery Unit: 12 Volt 88 Amp.

Type of Engine: Four cylinder, four stroke engine, vertical water cooled, Self start, diesel engine.

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: It consists of inlet outlet piping with flow control valve, water Away by Cooling Water meter and Temperature Sensor.

Temperature Measurement: Digital Temperature Indicator with multi-channel switch

Temperature Sensors: RTD PT-100 type

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