

COURSE TITLE : HEAT ENGINES LABORATORY
COURSE CODE : 421
COURSE CATEGORY : A
PERIODS/WEEK : 3
PERIODS/SEMESTER : 54
CREDITS : 2

TIME SCHEDULE

S. NO	TOPIC	PERIODS
1.	Petrol Engines	11
2.	Diesel Engines	12
3.	Air compressor	11
4.	Viscosity, Flash & Fire point	7
5.	Calorific value of fuels	6
6.	Refrigeration plant	7
Total		54

OBJECTIVES

1 Petrol Engines

- 1.1 Identify the parts and functions of the petrol engine
- 1.2 Identify the various systems - in take system, exhaust system, lubricating system ,cooling system, electrical system, fuel system
- 1.3 Perform the tests on the petrol engine – load test, heat balance test, valve timing diagram, Morse test
- 1.4 Compute the values, draw various characteristic curves and obtain economic speed & power

2 Diesel Engines

- 2.1 Identify the parts and functions of diesel engine
- 2.2 Identify the various systems - intake system, exhaust system, lubricating system, fuel system, cooling system.
- 2.3 Perform the tests on the diesel engine – load test, heat balance test, valve timing diagram
- 2.4 Compute the values, draw various characteristic curves and obtain economic speed & power

3 Air compressor

- 3.1 Identify the various parts and indicate the functions
- 3.2 Perform the tests on the air compressor and determine volumetric efficiency, isothermal efficiency &adiabatic efficiency

4 Viscosity, Flash & Fire point

- 4.1 Perform the test on lubricating oils
- 4.2 Determine the viscosity of the given oil
- 4.3 Determine the flash and fire point of the given oil

5 . Calorific value of fuels

- 5.1 Determine the calorific value of given solid fuels
- 5.2 Determine the calorific value of the given liquid fuel

6 Refrigeration plant

- 6.1 Study the refrigeration plant; identify parts and its function
- 6.2 Perform tests on the refrigerators

6.3 Determine the COP of the refrigerator.