

LESSON PLAN FOR THERMAL ENGG.-II (SESSION: September - December, 2022) MECHANICAL ENGG. 5TH SEMESTER

S.NO.	Period No.'s	Topic	PARTICULARS
1	1-9	Power Cycles	Power Cycles : Concept of reversibility, Carnot cycle, Rankine cycle and its efficiency, Brayton cycle, Otto, Diesel and Dual Combustion cycle
2	10-18	Principles of I.C. Engine	Principles of I.C. Engines:- Introduction and classification of I.C. Engines. Working principle of twostrokes and four strokes cycle by representing on PV and valve timing diagrams. Petrol and diesel engines, their comparison and applications Location and functions of various parts of I.C. engines and materials used for them, Concept of IC engine terms: Bore, stroke, dead centres, crank throw, compression ratio, clearance volume, piston displacement and piston speed. Familiarity with ISI specification for I.C. engine parts.
3	19-25	Carburation and Ignition Systems of Petrol Engine	Carburation and Ignition Systems of Petrol Engine:- Concept of carburetion, Airfuel ratio, Simple carburettor and its limitations, Description of a battery coil and magneto ignitions system.
4	26-32	Fuel System in Diesel Engines	Fuel System in Diesel Engines: Components of Fuel system, Description and working of fuel feed pump, Fuel injection pump Injector, Multi Point Fuel Injection System
5	33-37	Cooling and Lubrication	Cooling and Lubrication :Necessity of Engine Cooling, Cooling systems: their main features,Thermostat Defects in cooling system and their rectification,Function of lubrication,Types and properties of Engine lubricants Lubrication systems of I.C. engine, ISI specification and brand names of Engine lubricants. Fault in cooling and lubrication system and their remedial actions.
6	38-50	I.C. Engine Testing	I.C. Engine Testing: Engine power - indicated and Brake power. Efficiency - Mechanical, Thermal, Relative and volumetric. Methods of finding indicated and brake power. Morse Test. Heat balance sheet
7	51-56	Air Compressors	Air Compressors: Industrial uses of compressed air Classification - description of reciprocating and Rotary air compressors Fans, Blowers and supercharger,Working principle of reciprocating single and two stage compressors, Intercooling, volumetric efficiency. Operation and Maintenance of reciprocating compressors.

Instruction Reference

- 1 Thermal Engineering by A.S. Sarao, SatyaPrakashan
- 2 Thermal Engineering by P.L. BallaneyKhanna Publisher
- 3 Thermal Engineering by PK Nag

Approved	HOD Sign.
Date 30/08/22	

