

DISCIPLINE		SEMESTER	NAME OF THE FACULTY
MECHANICAL ENGG.		3RD	ER. DEVI PRASAD ACHARYA
SUBJECT/CODE		NO. OF PERIODS ALLOTTED IN A WEEK : 03	SEMESTER W.E.F.: 01.07.2026
THERMAL ENGG.-I/ TH-05			TO DATE : 05.11.2026
			NUMBER OF WEEKS : 15
LEARNING/COURSE OUTCOMES: After completion of the course, the students will be able to			
CO1: Describe various sources of Energy and their applications.			
CO2: Classify I.C. engines and their working and constructional features.			
CO3: Draw the energy flow diagram of an I.C. engine and evaluate its performance.			
CO4: Describe the constructional features of air compressor and working of different air compressors.			
CO5: Describe the applications of refrigeration and Classify air-conditioning systems.			
Month	Period	Date	Topics to be Covered
JULY	1	01.07.2026	UNIT-I: Introduction to Energy Sources
JULY	2	06.07.2026	Classification of Energy Sources: Renewable & Non-Renewable
JULY	3	06.07.2026	Fossil Fuels: Coal, Oil, Natural Gas (CNG, LPG)
JULY	4	08.07.2026	Solar Energy: Flat Plate & Concentrating Collectors
JULY	5	13.07.2026	Applications of Solar Energy
JULY	6	13.07.2026	Wind, Tidal & Ocean Thermal Energy
JULY	7	15.07.2026	Geothermal, Biogas, Biomass, Biodiesel
JULY	8	20.07.2026	Hydraulic & Nuclear Energy
JULY	9	20.07.2026	Fuel Cell Technology
JULY	10	22.07.2026	Recap & Quiz
JULY	11	27.07.2026	UNIT-II: Air Standard Cycle: Carnot, Otto, Diesel
JULY	12	27.07.2026	Combustion Engines: IC vs EC Engines
JULY	13	29.07.2026	Classification & Components of IC Engines
AUGUST	14	03.08.2026	Parts: Cylinder, Crankshaft, Connecting Rod, Piston, Valves
AUGUST	15	03.08.2026	Working of 4-Stroke Petrol & Diesel Engines
AUGUST	16	05.08.2026	Working of 2-Stroke Engines
AUGUST	17	10.08.2026	Comparison: 2-Stroke vs 4-Stroke, SI vs CI
AUGUST	18	10.08.2026	Valve & Port Timing Diagrams
AUGUST	19	12.08.2026	Unit Quiz & Recap
AUGUST	20	17.08.2026	UNIT-III: Petrol Engine Fuel System & Carburetor
AUGUST	21	17.08.2026	Diesel Engine Fuel System, Injectors, Pumps
AUGUST	22	19.08.2026	Cooling Systems: Air & Water Cooling
AUGUST	23	24.08.2026	Thermo Siphon & Radiator Circulation
AUGUST	24	24.08.2026	Ignition Systems: Battery Coil & Magneto
AUGUST	25	31.08.2026	Lubrication Systems: Types with Diagrams
AUGUST	26	31.08.2026	Governing Methods & Applications
SEPTEMBER	27	02.09.2026	Supercharging Objectives
SEPTEMBER	28	07.09.2026	Recap & Evaluation
SEPTEMBER	29	07.09.2026	UNIT-IV: BP, IP, FP Concepts
SEPTEMBER	30	09.09.2026	Mean Effective Pressures, Efficiencies
SEPTEMBER	31	21.09.2026	Mechanical & Relative Efficiency
SEPTEMBER	32	21.09.2026	Performance Tests & Morse Test
SEPTEMBER	33	23.09.2026	Heat Balance Sheet
SEPTEMBER	34	28.09.2026	Determination of BP, IP, FP
SEPTEMBER	35	28.09.2026	Numerical Problem Practice - I

SEPTEMBER	36	30.09.2026	Numerical Problem Practice - II
OCTOBER	37	05.10.2026	Quiz + Recap
OCTOBER	38	05.10.2026	UNIT-V: Functions & Types of Compressors
OCTOBER	39	07.10.2026	Single Stage Reciprocating Compressors
OCTOBER	40	12.10.2026	Multi-Stage Compressors & Advantages
OCTOBER	41	12.10.2026	Rotary Compressors: Centrifugal, Axial, Vane
OCTOBER	42	14.10.2026	Refrigeration: Air & Vapor Compression System
OCTOBER	43	21.10.2026	Air Conditioning Systems & Classifications
OCTOBER	44	26.10.2026	Comfort & Industrial AC; Summer, Winter, Year-Round Systems
OCTOBER	45	26.10.2026	Final Review & Test
OCTOBER	46	28.10.2026	Final Review & Test

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LECTURER STAGE- II
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