

SESSION		WINTER 2022			
BRANCH:		MECHANICAL ENGINEERING			
SEMESTER:		3RD SEC - A			
SUBJECT:		THERMAL ENGINEERING (TH-4)			
NAME OF THE FACULTY:		A JENA			
SL NO.	MONTH	No. of academic days available for the subject	DATE	TOPICS TO BE COVERED	% COVERED
1	Sep-22	10	16.09.22	CH-1,1.1:Thermodynamic Systems (closed, open, isolated)	19%
			19.9.22	1.2:Thermodynamic properties of a system (pressure, volume, temperature, entropy,	
			21.9.22	1.2:enthalpy, Internal energy and units of measurement).	
			22.9.22	1.3:Intensive and extensive properties	
			23.9.22	1.4:Define thermodynamic processes. path. cycle . state. path function. point function	
			24.9.22	1.5:Thermodynamic Equilibrium	
			26.9.22	1.6Quasi-static Process	
			28.9.22	1.7:Conceptual explanation of energy and its sources	
			29.9.22	1.8:Work . heat and comparison between the two.	
			30.9.22	1.9:Mechanical Equivalent of Heat 1.10 Work transfer. Displacement work	
2	Oct-22	15	10.10.22	CH-3,3.1:Laws of perfect gas:Boyle's law, Charle's law	28%
			12.10.22	Avogadro's law, Dalton's law of partial pressure, Guy lussac law, General gas equation,	
			13.10.22	characteristic gas constant, Universal gas constant	
			14.10.22	3.2:Explain specific heat of gas (Cp and Cv)	
			15.10.22	3.3:Relation between Cp & Cv.	
			17.10.22	3.4:Enthalpy of a gas 3.5:Work done during a non- flow process	
			19.10.22	3.5:Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric, Isentropic and polytropic process)	
			20.10.22	Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric, Isentropic and polytropic process)	
21.10.22	3.6Solve simple problems on above				

			22.10.22	Solve simple problems on above	
			26.10.22	Solve simple problems on above	
			27.10.22	3.7:Free expansion & throttling process	
			28.10.22	Solve simple problems on above	
			29.10.22	CH-2,2.1:State & explain Zeroth law of thermodynamics	
			31.10.22	2.2State & explain First law of thermodynamics	
3	Nov-22	15	2.11.22	2.3Limitations of First law of thermodynamics	28%
			3.11.22	2.4:Application of First law of Thermodynamics (steady flow energy equation and its application to turbine and compressor)	
			4.11.22	2.4:Second law of thermodynamics (Clausius & Kelvin Plank statements)	
			5.11.22	2.5:Application of second law in heat engine, heat pump, refrigerator & determination of	
			9.11.22	efficiencies & C.O.P	
			10.11.22	solve simple numerical	
			11.11.22	solve simple numerical	
			12.11.22	solve simple numerical	
			21.11.22	solve simple numerical	
			23.11.22	CH-4,4.1:Explain & classify I.C engine	
			24.11.22	Explain & classify I.C engine	
			25.11.22	4.2:Terminology of I.C Engine such as bore, dead centers, stroke volume, piston speed & RPM	
			26.11.22	4.3:Explain the working principle of 2-stroke & 4- stroke engine C.I & S.I engine	
			28.11.22	Explain the working principle of 2-stroke & 4- stroke engine C.I & S.I engine	
			30.11.22	4.4:Differentiate between 2-stroke & 4-stroke engine C.I & S.I engine.	
4	Dec-22	13	1.12.22	CH-5,5.1:Carnot cycle	25%
			2.12.22	Solve simple numerical	
			3.12.22	5.2:Otto cycle.	
			5.12.22	Solve simple numerical	
			7.12.22	5.3:Diesel cycle.	
			8.12.22	Solve simple numerical	
			9.12.22	5.4: Dual cycle	
			10.12.22	5.5:Solve simple numerical	
			12.12.22	CH-6,6.1:Define Fuel,6.2:Types of fuel	

14.12.22	6.3:Application of different types of fuel,6.4:Heating values of fuel.
15.12.22	6.5:Quality of I.C engine fuels Octane number. Cetane number
16.12.22	Solve simple numerical
17.12.22	Solve simple numerical

Ashish Jang
SIGNATURE OF LECTURER

Chandrasekhar Puthu
SIGNATURE OF H.O.D. (MECHANICAL)

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SEMESTER		3RD SEC - B				
SUBJECT:		THERMAL ENGINEERING (TH-4)				
NAME OF THE FACULTY		C K PATHI				
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			1.11.22	2.3 Limitations of First law of thermodynamics	
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			16.12.22	6.5: Quality of I.C engine fuels Octane number, Cetane number	
			17.12.22	Solve simple numerical	
3	Nov-22	16			31%
4	Dec-22	11			21%

Chandrasekhar Patil

SIGNATURE OF LECTURER

Guthi
13/12/22

SIGNATURE OF H.O.D. (MECHANICAL)

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