

SESSION:		WINTER 2023				
BRANCH:		MECHANICAL ENGINEERING				
SEMESTER:		3RD SEC-B				
SUBJECT:		THERMAL ENGINEERING (TH-4)				
NAME OF THE FACULTY:			ABHIJIT MOHANTY			
SL NO.	MONTH	CHAPT. NO.	DATE	TOPICS TO BE COVERED	NO. OF ACADEMIC DAYS AVAILABLE FOR THE SUBJECT	% COVERED
1	AUGUST	1	4.8.23	CH-1,1.1:Thermodynamic Systems (closed, open, isolated)	16	30%
			5.8.23	1.2:Thermodynamic properties of a system (pressure, volume, temperature, entropy,		
			8.8.23	1.2:enthalpy, Internal energy and units of measurement).		
			9.8.23	1.3:Intensive and extensive properties		
			11.8.23	1.4:Define thermodynamic processes, path, cycle, state, path function, point function		
			12.8.23	1.5:Thermodynamic Equilibrium		
		2	16.8.23	1.6Quasi-static Process		
			18.8.23	1.7:Conceptual explanation of energy and its sources		
			19.8.23	1.8:Work, heat and comparison between the two.		
			21.8.23	1.9:Mechanical Equivalent of Heat 1.10 Work transfer, Displacement work		
			22.8.23	CH-3,3.1:Laws of perfect gas:Boyle's law, Charle's law		
			23.8.23	Avogadro's law, Dalton's law of partial pressure, Guy lussac law, General gas equation,		
			25.8.23	characteristic gas constant, Universal gas constant		
			26.8.23	3.2:Explain specific heat of gas (Cp and Cv)		
			28.8.23	3.3:Relation between Cp & Cv.		
29.8.23	3.4:Enthalpy of a gas 3.5:Work done during a non-flow process					
2	SEPTEMBER	2	1.9.23	3.5:Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric, Isentropic and polytrophic process)	18	32%
			2.9.23	Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric, Isentropic and polytrophic process)		
			4.9.23	3.6Solve simple problems on above		
			5.9.23	Solve simple problems on above		
			8.9.23	Solve simple problems on above		

3		9.9.23	3.7:Free expansion & throttling process	9	15%		
		11.9.23	Solve simple problems on above				
		12.9.23	CH-2,2.1:State & explain Zeroth law of thermodynamics				
		13.9.23	2.2State & explain First law of thermodynamics				
		15.9.23	2.3Limitations of First law of thermodynamics				
		16.9.23	2.4:Application of First law of Thermodynamics (steady flow energy equation and its application to turbine and compressor)				
		22.9.23	2.4:Second law of thermodynamics (Clausius & Kelvin Plank statements				
		23.9.23	2.5:Application of second law in heat engine, heat pump, refrigerator & determination of				
		25.9.23	efficiencies & C.O.P				
		26.9.23	solve simple numerical				
		27.9.23	solve simple numerical				
		29.9.23	solve simple numerical				
		30.9.23	solve simple numerical				
3	OCTOBER	4	3.10.23	CH-4,4.1:Explain & classify I.C engine	9	15%	
			4.10.23	Explain & classify I.C engine			
			6.10.23	4.2:Terminology of I.C Engine such as bore, dead centers, stroke volume, piston speed & RPM			
			7.10.23	4.3:Explain the working principle of 2-stroke & 4-stroke engine C.I & S.I engine			
			9.10.23	Explain the working principle of 2-stroke & 4-stroke engine C.I & S.I engine			
		5	10.10.23	4.4:Differentiate between 2-stroke & 4-stroke engine C.I & S.I engine.			
			11.10.23	CH-5,5.1:Carnot cycle			
			13.10.23	Solve simple numerical			
			31.10.23	5.2:Otto cycle.			
			1.11.23	Solve simple numerical			
4	NOVEMBER	5	3.11.23	5.3:Diesel cycle.	12	22%	
			6	4.11.23			Solve simple numerical
				6.11.23			5.4: Dual cycle
		7.11.23		5.5:Solve simple numerical			
		8.11.23		CH-6,6.1:Define Fuel,6.2:Types of fuel			
		10.11.23		6.3:Application of different types of fuel,6.4:Heating values of fuel.			
		13.11.23		6.5:Quality of I.C engine fuels Octane number, Cetane number			
		14.11.23		Solve simple numerical			
		15.11.23	Solve simple numerical				
		17.11.23	Solve simple numerical				
		18.11.23	Solve simple numerical				

BRIEF SUMMARY OF THE PLAN

SL. NO.	MONTH	UNIT/CHAPTER TO BE COVERED	% COVERAGE
1	AUGUST	CH-1, CH-2	30%
2	SEPTEMBER	CH-2, CH-3	32%
3	OCTOBER	CH-4, CH-5	15%
4	NOVEMBER	CH-5, CH-6	22%

A. Mahanta
signature of faculty
03-08-23

[Signature]
signature of HOD
3/8/23

[Signature]
signature of Principal
3/8/23