Discipline:- Mechanical Engg.	Semester:- 3rd	Name of the Teaching Faculty: Er Rakesh Roshan Appeta	
Subject:- Thermal Engg.-1	No. Of days/week class allotted - 04	Semester from 15.09.2022 to 22.12.2022	
		No. Of weeks:- 15	
Week	**No. Of Period**	**Theory Topics**	
15.09.2022 To 17.09.2022	1st	Thermodynamic Systems (closed, open, isolated)	
	2nd	Thermodynamic properties of a system (pressure, volume, temperature, entropy,	
19.09.2022 To 24.09.2022	1st	enthalpy, Internal energy and units of measurement	
	2nd	Intensive and extensive properties	
	3rd	Define thermodynamic processes, path, cycle , state, path function, point function.	
	4th	Thermodynamic Equilibrium.Quasi-static Process.	
26.09.2022 To 01.10.2022	1st	Conceptual explanation of energy and its sources	
	2nd	Work , heat and comparison between the two. Mechanical Equivalent of Heat.	
	3rd	Work transfer, Displacement work	
	4th	Revision of the chapter	
03.10.2022 To 08.10.2022	1st	**DURGA PUJA HOLIDAYS**	
	2nd		
	3rd		
	4th		
10.10.2022 To 15.10.2022	1st	State & explain Zeroth law of thermodynamics.	
	2nd	State & explain First law of thermodynamics.	
	3rd	Limitations of First law of thermodynamics	
	4th	Application of First law of Thermodynamics (steady flow energy equation and its application to turbine and compressor)	
17.10.2022 To 22.10.2022	1st	Second law of thermodynamics (Claucius & Kelvin Plank statements).	
	2nd	Application of second law in heat engine, heat pump	
	3rd	refrigerator & determination of efficiencies & C.O.P	
	4th	solve simple numerical	

Week	No. Of period	Theory Topics
24.10.2022 To 29.10.2022	1st	solve simple numerical
	2nd	Laws of perfect gas: Boyle's law, Charle's law, Avogadro's law,
	3rd	Dalton's law of partial pressure, Guy lussac law
	4th	General gas equation, characteristic gas constant, Universal gas constant.
31.10.2022 To 05.11.2022	1st	Explain specific heat of gas (Cp and Cv) Relation between Cp & Cv.
	2nd	Enthalpy of a gas.
	3rd	Work done during a non- flow process.
	4th	Application of first law of thermodynamics to various non flow process (Isothermal, Isobaric)
07.11.2022 To 12.11.2022	1st	**Kartika Purnima**
	2nd	Isentropic and polytrophic process
	3rd	Solve simple problems
	4th	Solve simple problems
14.11.2022 To 19.11.2022	1st	Free expansion & throttling process.
	2nd	**Prathama Ashtami**
	3rd	Explain & classify I.C engine.
	4th	Terminology of I.C Engine such as bore, dead centers, stroke volume, piston speed &RPM.
21.11.2022 To 26.11.2022	1st	
		Explain the working principle of 2-stroke & 4- stroke C.I. engine.
	2nd	Explain the working principle of 2-stroke & 4- stroke S.I engine.
	3rd	Differentiate between 2-stroke C.I & SI engine
	4th	Differentiate between 4- stroke CI & S.I engine .
28.11.2022 To 3.12.2022	1st	Carnot cycle
	2nd	Otto cycle
	3rd	Solve simple numerical
	4th	Diesel cycle

Week	No.of period	Theory Topics
5.12.2022 To 10.12.2022	1st	Dual Cycle
	2nd	Solve simple Numerical
	3rd	**Last Thursday of margasira**
	4th	Solve simple numerical
12.12.2022 To 17.12.2022	1st	Define Fuel. Types of fuel.
	2nd	Application of different types of fuel.
	3rd	Heating values of fuel.
	4th	Quality of I.C engine fuels Octane number, Cetane number.
19.12.2022 To 24.12.2022	1st	Revision of the chapter
	2nd	previous year question discussion
	3rd	previous year question discussions