

Lesson Plan for Thermal engg.1, 3rd Sem. Mechanical Engg. (2021-2022)

Discipline: Mechanical Engg	Semester: 3rd	Name of the Teaching Faculty: SRITAM ROUT
Subject: THERMAL ENGINEERING-1	No. of Days/ week class allotted= 4	Semester From Date: 1.10.2021 To date : 18.1.2022
Week	Class Day	Theory / Practical Topics
1st	1st	Introduction to thermodynamic system
	2nd	Thermodynamic properties of a system
	3rd	Intensive and extensive properties
	4th	Thermodynamic process, path, cycle, state
2nd	1st	Path function and point function
	2nd	Thermodynamic equilibrium
	3rd	Quasi-static process
	4th	Conceptual explanation of energy and its sources
3rd	1st	Work and heat and diff. the two
	2nd	Mechanical equivalent of heat
	3rd	Work transfer
	4th	Displacement work
4th	1st	Laws of thermodynamics
	2nd	state and explain zeroth law of thermodynamics
	3rd	State 1st law of thermodynamics
	4th (CH-3)	Explain 1st law of thermodynamics
5th	1st	Limitations of 1st law of thermodynamics
	2nd	Application of 1st law of thermodynamics
	3rd	Steady flow energy equation
	4th	Application of 1st law of thermodynamics
6TH	1st	Steady flow energy equation
	2nd	Application of steady flow energy equation

	3rd	2nd law of thermodynamics
	4th	Application of 2nd law of thermodynamics
7th	1st	Laws of perfect gas
	2nd	Laws of perfect gas
	3rd	Explain c_p and c_v
	4th	Relation between c_p and c_v
8th	1st	Enthalpy of gas
	2nd	Workdone during a non-flow process
	3rd	Application of 1st law of thermodynamics to various non-flow process
	4th	Application of 1st law of thermodynamics to various non-flow process
9th	1st	Simple problem on non-flow process
	2nd	Free expansion and throttling process
	3rd	Explain IC engine
	4th	Classify IC engine
10th	1st	IC engine terminology
	2nd	IC engine terminology
	3rd	Working of 4-stroke SI and CI engine
	4th	Working of 2-stroke SI and CI engine
11th	1st	difference between 4-stroke CI and SI engine
	2nd	difference between 2-stroke CI and SI engine
	3rd	carnot cycle
	4th	problem on carnot cycle
12th	1st	otto cycle
	2nd	problem on otto cycle
	3rd	diesel cycle
	4th	problem on diesel cycle

13th	1st	problem on diesel cycle
	2nd	dual cycle
	3rd	problem on dual cycle
	4th	problem on dual cycle
14th	1st	introduction to fuels and combustion
	2nd	define fuel
	3rd	types of fuel
	4th	application of diff. types of fuel
15th	1st	application of diff. types of fuel
	2nd	heating value of a fuel
	3rd	quality of a IC engine fuel
	4th	octane and cetane no
16th	1st	Introduction to thermodynamic system
	2nd	Thermodynamic properties of a system
	3rd	Intensive and extensive properties
	4th	Thermodynamic process, path, cycle, state

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