

MECHANICAL ENGINEERING DEPARTMENT

Session 2024-2025(4th semester)

Subject:-TD-II

Load:-3 hrs Theory ,4 hrs Practical

Lesson Plan

WEEK	THEORY		PRACTICALS	
	LECTURE NO.	TOPIC	PRACTICAL No.	TOPIC
1st	1	UNIT I : CHAPTER 1- IC Engines -Introduction and classification of IC engine,	1	Dismantle an IC engine and note down the condition of various parts , removal and fitting of piston , ring , mesuring of bore size , crank shaft ovality and assemble it
	2	Description of Otto Cycle, Carnot cycle with PV & TS diagram		
	3	Diesel Cycle with PV and TS diagram,Working principle of two stroke and four stroke cycle,		
2nd	4	SI engines and CI engines, Location and functions of ,various parts of IC engines and materials used,various parts of IC engines and	2	Servicing of petrol engine
	5	Valve timing diagram for four stroke CI and SI engines,Comparison between SI and CI engines, comparison between two stroke and four stroke engines,		
	6	CHAPTER 2 -Fuel Supply & Ignition system in Petrol Engine,Concept of carburetion, Air fuel ratio, mixture required at different conditions and loads on engine		
3rd	7	Simple carburetor and its limitations and application,Working of Solex carburettor	3	Demonstration of electronic ignition system
	8	Description of Petrol Injection System,Description of battery coil And electronic ignition system		
	9	UNIT II : CHAPTER 3 -Fuel System of Diesel Engine,		
4th	10	Components of fuel supply system of diesel engine, Fuel feed pump, fuel injection pump	1,2,3	Revision of previous practicals
	11	Fuel injectors and fuel filters,		
	12	Types of fuel injection system		
5th	13	Revision & 1st sessional Test		Viva voce
	14			
	15			
6th	16	CHAPTER 4-Cooling and Lubrication ,Function of cooling system in IC engine,Air cooling and water cooling system	4	Valve servicing, grinding , lapping and fitting mechanism and tappet adjustment
	17	Use of thermostat and radiator, function and types of coolant, Function of lubrication		
	18	Lubrication system of IC engine		
7th	19	UNIT III : CHAPTER 5-Testing of IC Engines -Engine power - indicated and brake power , Efficiency - mechanical, thermal. relative and volumetric	5	Determination of BHP by dynamometer.
	20	Methods of finding indicated and brake power, Morse test for petrol engine		
	21	Heat balance sheet		
8th	22	Concept of pollutants in SI and CI engines	6	Morse test on multi-cylinder petrol engine.
	23	Pollution control, norms for two or four wheelers		
	24	Bharat stage emission standards (BS norms), Methods of reducing pollution in ic engines		
9th	25	Revision & 2nd sessional Test		Viva voce
	26			
	27			
10th	28	UNIT IV :CHAPTER 6 - Steam Turbine and steam condensers - Introduction and Main parts, Uses and classification of steam turbine	7	testing of engine pollution
	29	Construction and working principle of impulse steam turbines, steam nozzles		
	30	governing of steam turbines, Construction and working principle of reaction steam turbines		
11th	31	function of a steam condenser elements of condensing plant	8	demonstration and study of lubrication system of a multi cylinder IC engine
	32	types of steam condenser (Jet and surface), comparison between Jet condenser and surface		
	33	cooling pond and cooling towers		
12th	34	UNIT V : CHAPTER 7-Gas turbine and jet propulsion - classification, open cycle guest and closed cycle gesture by	9	draw heat balance sheet of a four
	35	comparison of gas turbine with reciprocating IC engine, application send limitations of gas turbine		

	36	Open cycle constant pressure gas turbines- generally out period and TS diagram and working of gas turbine		stroke IC engine
13th	37	Closed cycle gas turbine, PV and TS diagram and working	7,8,9	Revision of previous practicals
	38	Ram Jet engine and turbo jet engine		
	39	Supercharger and turbocharger engine		
14th	40	Revision & 3rd sessional Test		Viva voce
	41			
	42			
15th	43	Revision		Revision of previous practicals
	44	Revision		
	45	Revision		

Subject Incharge-Ms Reena

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