

LESSON PLAN-3 RD SEMESTER (2020)				
Subject- Elementary mechanical Engg.				
Name of the Faculty-Debendra jena				
MONT H	CHAPTER /UNIT	COURSE TO BE COVERED	CLASSES REQUIRED	REMARKS (IF ANY)
	Chapter-1	Shear Force and Bending Moment;	10	
	1.1	Define shear force and bending moment	3	
	1.2	Construct shear force and bending moment diagram of cantilevers, simple supported beam with point load and uniformly distributed load.	5	
	1.1	Determine stress of loaded beams	2	
	Chapter-2	Machine and Mechanism	8	
	2.1	2.1 Define machine, mechanism, kinematics, link, kinematics pair, kinematics chain I	2	
	2.2	Illustrate four – bar linkage, crank – connecting rod, quick return mechanism	4	
	2.3	Understand function of a cam and cam follower.	2	
	Chapter-3	Belt, Rope and Chain drives, Brakes and Bearings	8	
	3.1	Determine the length of open belt drive	1	
	3.2	Determine the ratio of tensions and power transmitted by belt drive	2	
	3.3	Discuss advantage of rope and chain drive	1	
	3.4	State working principle of simple brake and dynamo meters	2	
	3.5	Define and classify bearings (bush and anti-friction)	2	
	Chapter-4	Basic Principles of Thermodynamics	6	
	4.1	Define heat and work and derive inter – relationship	1	
	4.2	Determine work done by compression and expansion of gases	2	
	4.3	Explain properties of steam (sensible, latent heat & dryness fraction)	1	
	4.4	Discuss use of steam tables	2	
	Chapter-5	Boilers and Turbines	10	
	5.1	Explain the functions of the boiler	2	
	5.2	Define fire tube, water tube, boiler.	4	
	5.3	Define and classify steam turbines (impulse and reaction type and steam condensers)	4	
	Chapter-6	Internal Combustion Engines,	08	
	6.1	Define and classify internal combustion (I.C.) engine	1	
	6.2	2 Explain Otto and Diesel cycle	2	
	6.3	Explain and compare 2 stroke and 4 stroke and I.C. engine	3	
	6.4	Define Indicate power, brake power and mech, efficient	2	
	Chapter-7	Refrigeration and Air-Conditioning	06	
	7.1	Define Refrigeration and Air – conditioning and state various application	1	
	7.2	Explain simple vapour compression refrigeration system	1	
	7.3	State types of refrigerants and explain their properties	2	
	7.4	Describe the basic concept of air – conditioning with reference to a room air conditioner	2	
	Chapter-8	Machine Tools	06	
	8.1	Define machine tools	1	
	8.2	8.2 Describe different machine tools and their functions (lathe, drill, shaper, milling machine and grinding machine) Brief idea on CNC	5	

		milling and CNC Turning		
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