



Orissa School of Mining Engineering Keonjhar

Department of Mechanical Engineering

Lesson Plan w.e.f 16.01.2024-26.04.2024

Subject: Theory of Machines			
Discipline: Mechanical Engineering		Name of the Faculty: <i>Dr .Niharika Mohanta</i>	
Course Code:	TH-1	Semester:	4 RD
Total Periods:	60	Examination:	2024(SUMMER)
Theory Periods:	4P/W	Class Test:	20
Maximum Marks:	100	End Semester Examination:	80

Month	Week	No of availability classes	Class Day	Theory Topics
JANUARY	1 st	02	16/01/2024	Chapter 1: Simple mechanism, 1.1 Link, Types, Pair , Types of Pair 1.3 lower pair, higher pair
			20/01/2024	Kinematic Chain, Types
	2 nd	03	22/01/2024	Mechanism, Machine, Structure, Difference
			22/01/2024	1.2 Four bar mechanism, Grashof's equation
			27/01/2024	Inversion, Inversion of Four bar chain mechanism
	3 rd	04	29/01/2024	Inversion of Single Slider crank mechanism
			29/01/2024	Inversion of Double Slider crank mechanism
			30/01/2024	1.4 Cams and Followers
			3/02/2024	Chapter 2 Friction, Friction on inclined surface
	4 th	04	5/02/2024	2.1 Friction between nut and screw of a square thread
			5/02/2024	Friction in screw jack
			6/02/2024	Numerical
10/02/2024			2.2 Bearing and its classification, Description of roller, needle roller & ball bearings	
5 th	04	12/02/2024		
		12/02/2024	2.3 Torque transmission in flat pivot & conical pivot bearings.	
		13/02/2024	2.4 Flat collar bearing of single and multiple types	
		16/02/2024	Numerical	
6 th	04	19/02/2024	2.5 Torque transmission for single and multiple clutches	
		19/02/2024	2.6 Working of simple frictional brakes	
		20/02/2024	2.7 Working of Absorption type of dynamo meter	
		24/02/2024	CLSAA TEST -I	

MARCH	7 th	04	26/02/2024	Chapter 3 Power Transmission 3.1 Concept of power transmission, 3.2 Type of drives, belt, gear and chain drive.	
			26/02/2024	3.3 Computation of velocity ratio in belt drive, Length of open belt drive	
			27/02/2024	Length of cross belt drive, with and without slip	
	8 th	03	02/03/2024	3.4 Ratio of belt tensions, centrifugal tension and initial tension.	
			04/03/2024	3.5 Power transmitted by the belt. Numerical	
			04/03/2024	3.6 Determination of belt thickness and width for given permissible stress for open and crossed belt considering centrifugal tension.	
	9 th	04	09/03/2024	3.7 V-belts and V-belts pulleys. 3.8 Crowning of pulleys,	
			11/03/2024	3.9 Gear drives and its terminology.	
			11/03/2024	3.10 Gear trains, working principle of simple, compound, reverted gear train	
			12/03/2024	Epicyclic gear trains, derivation	
	10 th	04	16/03/2024	Numerical	
			18/03/2024	Chapter 4: Governors and Flywheel, 4.1 Function of governor Classification of governor	
			18/03/2024	4.3 Working of Watt Governor, height of governor, Numerical,	
			19/03/2024	Working of Porter Governor, Numerical	
	11 th	01	23/03/2024	Working of Proel Governor, Numerical	
			27/03/2024	INTERNAL ASSESSMENT	
27/03/2024			INTERNAL ASSESSMENT		
APRIL	12 th	02	30/03/2024	INTERNAL ASSESSMENT	
			02/04/2024	Working of Hartnell Governor, Numerical	
	13 th	04	06/04/2024	4.4 Sensitivity, Stability and Isochronisms, Hunting of governors	
			08/04/2024	4.5 Function of flywheel, Comparison between flywheel & governor.	
			08/04/2024	4.7 Fluctuation of energy and coefficient of fluctuation of speed	
			09/04/2024	Chapter 5: Balancing of Machine, 5.1 Concept of static and dynamic balancing.	
	14 th	04	13/04/2024	5.2 Static balancing of rotating parts	
			15/04/2024	Numerical	
			15/04/2024	5.3 Principles of balancing of reciprocating parts.	
			16/04/2024	Principles of balancing of reciprocating parts.	
	15 th	03	20/04/2024	5.4 Causes and effect of unbalance	
			22/04/2024	Class test-2	
			22/04/2024	5.5 Difference between static and dynamic balancing	
				23/04/2024	Chapter 6: Vibration of machine parts, 6.1 Introduction to Vibration and related terms
				EXTRA CLASS	6.2 Classification of vibration, Basic concept of natural vibration.
EXTRA CLASS				6.3 Basic concept of natural, forced vibration	
EXTRA CLASS				VST	
EXTRA CLASS				6.4 Torsional vibration. Longitudinal vibration	
EXTRA CLASS				6.5 Causes & remedies of vibration	
			EXTRA CLASS	RIVISION.	