ORISSA S

Discipline : Mechanical	Semester: 4th
Subject : THEORY OF MACHINES	No. of Days / per week class allotted : 4
Week	Class Day
1	1st
	2nd
	3rd
	4th
2	1st
	2nd
	3rd
	4th
3	1st
	2nd
	3rd
	4th
4	1st
	2nd
	3rd
	4th
5	1st
	2nd
	3rd

	4th
6	1st
	2nd
	3rd
	4th
7	1st
	2nd
	3rd
	4th
8	1st
	2nd
	3rd
	4th
9	1st
	2nd
	3rd
	4th
	1st

10	2nd
	3rd
	4th
11	1st
	2nd
	3rd
	4th
12	1st
	2nd
	3rd
	4th
13	1st
	2nd
	3rd
	4th
14	1st
	2nd
	3rd
	4th
15	1st
	2nd
	3rd
	4th

SCHOOL OF ENGINEERING

LESSON PLANE

Name of the Teaching Faculty :ER KRUSHNA CHANDRA PADHY

Semester From date : 16.01.2024 To Date :26.04.2024

No. of Weesks : 15

Topics
Simple mechanism
Link ,kinematic chain, mechanism, machine
Inversion, four bar link mechanism and its inversion
Lower pair and higher pair
Cam and followers
Friction between nut and screw for square thread, screw jack
Bearing and its classification, Description of roller, needle roller& ball bearings.
Torque transmission in flat pivot& conical pivot bearings.
Flat collar bearing of single and multiple types.
Torque transmission for single and multiple clutches
Working of simple frictional brakes.
Working of Absorption type of dynamometer
Concept of power transmission
Type of drives, belt, gear and chain drive.
Computation of velocity ratio, length of belts (open and cross)with and without slip.
Ratio of belt tensions, centrifugal tension and initial tension.
Power transmitted by the belt.
3.6 Determine belt thickness and width for given permissible stress for open and crossed belt considering centrifugal tension.
3.7 V-belts and V-belts pulleys.

3.8 Concept of crowning of pulleys.
Gear drives and its terminology.
3.10 Gear trains, working principle of simple, compound, reverted and epicyclic gear trains.
Governors and Flywheel
Function of governor
Classification of governor
Working of Watt, Porter, Proel and Hartnell governors.
Conceptual explanation of sensitivity, stability and isochronisms.
Function of flywheel.
Comparison between flywheel &governor.
Fluctuation of energy and coefficient of fluctuation of speed.
Concept of static and dynamic balancing.
Static balancing of rotating parts.
Principles of balancing of reciprocating parts.
Causes and effect of unbalance.
Difference between static and dynamic balancing
Vibration of machine parts
Introduction to Vibration and related terms (Amplitude, time period and frequency, cycle)

Classification of vibration.
Basic concept of natural, forced & damped vibration
Torsional and Longitudinal vibration.
Causes & remedies of vibration.
Revision Class test Q & A discaussion
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