

Discipline:- MECHANICAL ENGG.	SEM:-4TH	Name of Teaching Faculty:-PRAVAT KUMAR SWAIN
SUB:- Theory of machine (TH-1)	No of Days /perweek class allotted:-4	Semester From Date:-14.02.2023 To Date:23.05.2023 No of Weeks-15
Week	Class Day	TheoryTopics
1ST	1st	<ul style="list-style-type: none"> • CHAPTER-1 SIMPLE MECHANISM • Introduction,Link,kinematic chain
	2nd	<ul style="list-style-type: none"> • Mechanism, machine
	3rd	<ul style="list-style-type: none"> • Four bar link mechanism
	4th	<ul style="list-style-type: none"> • Inversion
2ND	1st	<ul style="list-style-type: none"> • Lower pair and higher pair,
	2nd	<ul style="list-style-type: none"> • Cam and followers
	3rd	<ul style="list-style-type: none"> • Cam and followers
	4th	<ul style="list-style-type: none"> • Discussion of chapter and &probable Questions
3RD	1st	<ul style="list-style-type: none"> • CHAPTER-2 FRICTION • Friction between nut and screw for square thread
	2nd	<ul style="list-style-type: none"> • Screw jack, Friction Related Problem
	3rd	<ul style="list-style-type: none"> • Bearing and its classification, Description of roller, needle roller & ball bearings
	4th	<ul style="list-style-type: none"> • Torque transmission in flat pivot bearings,
4TH	1 st	<ul style="list-style-type: none"> • Solve Numerical
	2nd	<ul style="list-style-type: none"> • Torque transmission in conical pivot bearings, Related Problem
	3rd	<ul style="list-style-type: none"> • Torque transmission in flat collar bearings single and multiple type, Related Problem
	4th	<ul style="list-style-type: none"> • Torque transmission for single and multiple clutches, Related Problem
5TH	1st	<ul style="list-style-type: none"> • Solve Numerical
	2nd	<ul style="list-style-type: none"> • Working of simple frictional brakes
	3rd	<ul style="list-style-type: none"> • Working of Absorption type of dynamometer
	4th	<ul style="list-style-type: none"> • Solved numerical and probable question
6TH	1st	<ul style="list-style-type: none"> • CHAPTER-3 POWER TRANSMISSION • Concept of power transmission, Type of drives, belt, gear and chain drive
	2nd	<ul style="list-style-type: none"> • Computation of velocity ratio
	3rd	<ul style="list-style-type: none"> • Length of belts(open), Related Problem
	4th	<ul style="list-style-type: none"> • Length of belts(cross), Related Problem

7 th	1st	<ul style="list-style-type: none"> • Ratio of belt tensions, Related Problem
	2nd	<ul style="list-style-type: none"> • Centrifugal tension, Related Problem
	3rd	<ul style="list-style-type: none"> • Initial tension, Related Problem
	4th	<ul style="list-style-type: none"> • V-belts and V-belts pulleys, crowning of pulleys
8 th	1st	<ul style="list-style-type: none"> • Gear drives and its terminology
	2nd	<ul style="list-style-type: none"> • Gear trains, Working principle of simple gear trains
	3rd	<ul style="list-style-type: none"> • Working principle of compound gear trains
	4th	<ul style="list-style-type: none"> • Working principle of reverted gear trains
9 th	1st	<ul style="list-style-type: none"> • Working principle of epicyclic gear trains
	2nd	<ul style="list-style-type: none"> • CHAPTER-4 GOVERNORS AND FLY WHEEL • Function of governor, Classification of governor
	3rd	<ul style="list-style-type: none"> • Working of Watt governors,
	4th	<ul style="list-style-type: none"> • Solve Related Problem
10 th	1st	<ul style="list-style-type: none"> • Working of Porter governors, Related Problem
	2nd	<ul style="list-style-type: none"> • Working of Proel governors, related problem
	3rd	<ul style="list-style-type: none"> • Working of Hartnell governors,
	4th	<ul style="list-style-type: none"> • Solve Related Problem
11 th	1st	<ul style="list-style-type: none"> • Sensitivity, stability and isochronism
	2nd	<ul style="list-style-type: none"> • Function of flywheel, Comparison between flywheel & governor
	3rd	<ul style="list-style-type: none"> • Fluctuation of energy and coefficient of fluctuation • Of speed
	4th	<ul style="list-style-type: none"> • Solve numerical of above chapter
12 th	1st	<ul style="list-style-type: none"> • Discussion of probable question
	2nd	<ul style="list-style-type: none"> • CHAPTER-5 BALANCING OF MACHINE • Concept of static and dynamic balancing
	3rd	<ul style="list-style-type: none"> • Static balancing of rotating parts
	4th	<ul style="list-style-type: none"> • Principles of balancing of reciprocating parts
13 th	1st	<ul style="list-style-type: none"> • Principles of balancing of reciprocating parts
	2nd	<ul style="list-style-type: none"> • Causes and effect of unbalance,
	3rd	<ul style="list-style-type: none"> • Difference between static and dynamic balancing
	4th	<ul style="list-style-type: none"> • Discussion of probable question
	1st	<ul style="list-style-type: none"> • CHAPTER-6 VIBRATION OF MACHINE PARTS • Vibration and related terms (Amplitude, time

14th		<ul style="list-style-type: none"> • Period and frequency, cycle)
	2nd	<ul style="list-style-type: none"> • Classification of vibration
	3rd	<ul style="list-style-type: none"> • Basic concept of natural vibration
	4th	<ul style="list-style-type: none"> • Basic concept of forced vibration
15th	1st	<ul style="list-style-type: none"> • Basic concept of damped vibration
	2nd	<ul style="list-style-type: none"> • Causes & remedies of vibration
	3rd	<ul style="list-style-type: none"> • Discussion of probable question
	4th	<ul style="list-style-type: none"> • Discussion of probable question

Learning Resources:

Sl No	Name of the Book	Author Name	Publisher
1	Text Book of Theory of Machine	R.S Khurmi	S.Chand
2	Text Book of Theory of Machine	R.K. Rajput	S.Chand
3	Text Book of Theory of Machine	P.L.Ballany	Dhanpat Rai
4	Text Book of Theory of Machine	Thomas Bevan	Pearsion