

Discipline: Mechanical Engineering	Semester : 4thSemester	Name of the Teaching Faculty: Shri SHEKHAR KUMAR SAHU, PTGF mechanical Engineering
Subject: Theory Of Machine	No. of Days/week Class Allotted: 60	No of weeks: 18
week	Class Day	Theory Topics
1 st	1 st	Link ,kinematic chain, mechanism, machine
	2 nd	Inversion, four bar link mechanism and its inversion
	3 rd	Lower pair and higher pair
	4 th	Cam and followers
2 nd	1 st	Friction between nut and screw for square thread, screw jack
	2 nd	Solving Basic Problems
	3 rd	Bearing and its classification, Description of roller, needle roller& ball bearings.
	4 th	Torque transmission in flat pivot & conical pivot bearings.
3 rd	1 st	Solving Basic Problems
	2 nd	Flat collar bearing of single and multiple types.
	3 rd	Solving Basic Problems
	4 th	Torque transmission for single and multiple clutches
4 th	1 st	Solving Basic Problems
	2 nd	Working of simple frictional brakes.
	3 rd	Working of Absorption type of dynamometer
	4 th	Solving Basic Problems
5 th	1 st	Concept of power transmission
	2 nd	Type of drives, belt, gear and chain drive.
	3 rd	Computation of velocity ratio, length of belts (open and cross) with and without slip.
	4 th	Solving Basic Problems
6 th	1 st	Ratio of belt tensions, centrifugal tension and initial tension.
	2 nd	Solving Basic Problems
	3 rd	Power transmitted by the belt.
	4 th	Determine belt thickness and width for given permissible stress for open and crossed belt considering centrifugal tension.
7 th	1 st	V-belts and V-belts pulleys.

	2 nd	Concept of crowning of pulleys.
	3 rd	Gear drives and its terminology.
	4 th	Gear trains, working principle of simple, compound
8 th	1 st	Problems on Gear Ratio
	2 nd	Reverted and epicyclic gear trains.
	3 rd	Problems on Gear Ratio
	4 th	Function of governor
9 th	1 st	Classification of governor
	2 nd	Working of Watt governor
	3 rd	Solving Some Basic Problems
	4 th	Working of Porter governor.
10 th	1 st	Solving Some Basic Problems
	2 nd	Working of Proel governor.
	3 rd	Solving Some Basic Problems
	4 th	Working of Hartnell governors.
11 th	1 st	Solving Some Basic Problems
	2 nd	Conceptual explanation of sensitivity, stability and isochronisms
	3 rd	Function of flywheel.
	4 th	Fluctuation of energy and coefficient of fluctuation of speed.
12 th	1 st	Basic Problem On Fly Wheel
	2 nd	Concept of static and dynamic balancing.
	3 rd	Static balancing of rotating parts.
	4 th	Principles of balancing of reciprocating parts.
13 th	1 st	Solving Some Basic Problems
	2 nd	Causes and effect of unbalance.
	3 rd	Difference between static and dynamic balancing
	4 th	Introduction to Vibration and related terms (Amplitude, time period and frequency, cycle)
14 th	1 st	Classification of vibration.
	2 nd	Basic concept of natural, forced & damped vibration
	3 rd	Torsional and Longitudinal vibration.
	4 th	Solving Some Basic Problems
15 th	1 st	Causes & remedies of vibration
	2 nd	Revision chapter 1
	3 rd	Revision chapter 2
	4 th	Revision chapter 3
16 th	1 st	Revision chapter 3
	2 nd	Revision chapter 4
	3 rd	Revision chapter 4
	4 th	Revision chapter 5 and 6
17 th	1 st	Model test 1
	2 nd	Model test 2
	3 rd	Model test 3
	4 th	Model test 4
18 th	1 st	Model test 5
	2 nd	Model test 6
	3 rd	Model test 7
	4 th	Model test 8

