

<b>Discipline:- MECHANICAL ENGG.</b>	<b>SEM:-4TH</b>	<b>Name of Teaching Faculty:- PRIYABRATA PANDA</b>
<b>SUB:-Theory of Machines</b>	<b>No of Days /per week class allotted:-4</b>	<b>No of Weeks-13</b>
<b>Week</b>	<b>Class Day</b>	<b>Theory Topics</b>
<b>1ST</b>	1st	Introduction, Link, kinematic chain
	2nd	Mechanism, machine
	3rd	Four bar link mechanism
	4th	Inversion
<b>2ND</b>	1st	Lower pair and higher pair, Cam and followers
	2nd	Chapter-1 Discussion & Assignment Questions
	3rd	Friction, Related Problem
	4th	Friction between nut and screw for square thread
<b>3RD</b>	1st	Screw jack
	2nd	Bearing and its classification, Description of roller, needle roller & ball bearings
	3rd	Torque transmission in flat pivot bearings, Related Problem
	4th	Torque transmission in conical pivot bearings, Related Problem
<b>4TH</b>	1st	Flat collar bearing of single and multiple types, Related Problem
	2nd	Torque transmission for single and multiple clutches, Related Problem
	3rd	Working of simple frictional brakes
	4th	Working of Absorption type of dynamometer
<b>5TH</b>	1st	Chapter-2 Discussion & Assignment Questions
	2nd	Concept of power transmission, Type of drives, belt, gear and chain drive
	3rd	Computation of velocity ratio
	4th	Length of belts (open) , Related Problem
<b>6TH</b>	1st	Length of belts (cross), Related Problem

	2nd	Ratio of belt tensions, Related Problem
	3rd	Centrifugal tension, Related Problem
	4th	Initial tension, Related Problem
7TH	1st	V-belts and V-belts pulleys, crowning of pulleys
	2nd	Gear drives and its terminology
	3rd	Gear trains, Working principle of simple gear trains
	4th	Working principle of compound gear trains
8TH	1st	Working principle of reverted gear trains
	2nd	Working principle of epicyclic gear trains
	3rd	Chapter-3 Discussion & Assignment Questions
	4th	Function of governor, Classification of governor
9TH	1st	Working of Watt governors, Related Problem
	2nd	Working of Porter governors, Related Problem
	3rd	Working of Proel governors, Related Problem
	4th	Working of Hartnell governors, Related Problem
10TH	1st	Sensitivity, stability and isochronism
	2nd	Function of flywheel, Comparison between flywheel & governor
	3rd	Fluctuation of energy and coefficient of fluctuation of speed
	4th	Chapter-4 Discussion & Assignment Questions
11TH	1st	Concept of static and dynamic balancing
	2nd	Static balancing of rotating parts
	3rd	Principles of balancing of reciprocating parts
	4th	Causes and effect of unbalance, Difference between static and dynamic balancing
12TH	1st	Chapter-5 Discussion & Assignment Questions
	2nd	Vibration and related terms (Amplitude, time period and frequency, cycle)
	3rd	Classification of vibration
	4th	Basic concept of natural vibration
13TH	1st	Basic concept of forced vibration

	2nd	Basic concept of damped vibration
	3rd	Causes & remedies of vibration
	4th	Chapter-6 Discussion & Assignment Questions

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