GOVERNMENT POLYTECHNIC, KORAPUT

DEPARTMENT OF MECHANICAL ENGINEERING

Discipline: MECHANICAL ENGG	Semester: 4th	Name of the Teaching Faculty: SHARMILA SABAR
Subject: THEORY OF MACHINE	No. of days/per week class allotted:4	Semester From date: 20/4/22 To Date: 03/8/22
		No. of Weeks:15

COURSE OUTCOMES	Students will develop an ability towards
	1.Understanding machine system consisting of different link assemblies as components
	2.Comprehending Working principle of machine components such as clutch, brakes, bearings based on friction
	3. Comprehending working principles related to power transmission systems and predicting the work involved and efficiency.
	4.Comprehending working principle in speed and torque regulating devices such as governor and flywheels
	5.Determination of amount and position of masses required towards static and dynamic balancing
	6. Comprehending types and causes of vibration in machines and predicting remedies measure

Week	Class Day	Theory/Practical Topics
1ST	1ST	Introduction, kinamatic link,kinematic pair, classification of kinamatic pair
	2ND	Types of constrained motion,kinamatic chain
	3RD	Mechanism, machine ,inversion
	4TH	Four bar link mechanism & inversions
2ND	1ST	Continued....
	2ND	Lower pair, higher pair, cam & follower
	3RD	Cam & follower
	4TH	Review of the chapter....
3RD	1ST	Friction, friction between nut & screw for square thread
	2ND	Screwjack
	3RD	Bearing & it's classification
	4TH	Description of roller, needle roller & ball bearing
4TH	1ST	Toque transmission in flat pivot bearing & related numerical
	2ND	Torque transmission in conical pivot bearing & related numerical
	3RD	Flat collar bearing of single & multiple types related numerical
	4TH	Torque transmission for single plate clutch & related numerical
5TH	1ST	Torque transmission for multiple clutch & related numerical
	2ND	Working of simple frictional brake
	3RD	Working of absorption type of dynamometer

	4TH	Review of the chapter...	
6TH	1ST	Concept of power transmission, types of drives	
	2ND	Types of belt, gear & chain drives, computation of velocity ratio	
	3RD	Length of open belt & related numerical	
	4TH	Length of cross belt & related numerical	
7TH	1ST	Ratio of belt tension, centrifugal tension , initial tension	
	2ND	Vbelts & v belt pulleys crowning	
	3RD	Gear drives & terminology	
	4TH	Gear trains , working of simple gear train	
8TH	1ST	Working of reverted & compound gear train	
	2ND	Working of epicyclic gear train	

	3RD	Numericals	
	4TH	Review of the chapter....	
9TH	1ST	Governor, classification of governors	
	2ND	Working of watt governor & related numerical	
	3RD	Working of proel governor & related numerical	
	4TH	Working of porter governor & related numerical	
10TH	1ST	Working of hartnell governor & related numerical	
	2ND	Continued..	
	3RD	Sensitivity, stability, isochronism	
	4TH	Flywheel, function of flywheel, difference between flywheel & govern	
11TH	1ST	Fluctuation of energy & cofficieant of fluctuation speed	
	2ND	Numerical	
	3RD	Numerical	
	4TH	Review of the chapter....	
12TH	1ST	Balancing , concept of static balancing	
	2ND	Static balancing	
	3RD	Dynamic balancing	
	4TH	Dynamic balancing	
13TH	1ST	Principle of balancing of reciprocating parts	
	2ND	Causes & effect of balancing	
	3RD	Difference between static & dynamic balancing	
	4TH	Review of the chapter....	
14TH	1ST	Introduction to vibration & related terms	
	2ND	Classification of vibration	
	3RD	Basic concept of natural vibration	
	4TH	Basic concept of forced vibration	
15TH	1ST	Basic concept of damped vibration	
	2ND	Torsional & longitudinal vibration	
	3RD	Causes & remedies of vibration	
	4TH	Review of the chapter.....	

NING RESOURCES:

ext 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

Sign. Of Faculty
concerned

Sharmila Sabar
Signature. Of
HOD

Principal