

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Name of the Teaching Faculty		
Discipline: <u>Mech</u>	Semester: <u>4TH</u>	
Subject:	No. of days per week	
	Class Allotted:	
Semester from Dt. <u>14.02.2022</u> to Dt. <u>23.05.2022</u>		
No. of Weeks: <u>15</u>		
Week	Class Day	Theory / Practical Topics
1st	1st	1.0. Simple mechanism
	2nd	1.1. Link, Kinematic chain, mechanism, machine.
	3rd	1.2. Inversion, Fourbar Link mechanism & its inversion.
2nd	1st	1.3. Lower Pair & Higher Pair.
	2nd	1.4. Cam & follower.
	.	2.0 Friction
3rd	3rd	2.1. Friction between nut & screw for square thread, screw Jack
	4th	
	5th	2.2 Bearing & its Classification. Description of roller, needle roller & ball bearings.
4th	1st	
	2nd	2.3. Torque transmission in flat Pivot & conical Pivot bearings.
	1st	2.4. Flat Collar bearing of single and multiple types.
	2nd	2.5. Torque transmission for single and multiple clutches.
	3rd	2.6. Working of simple frictional brakes

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Week	Class Day	Theory / Practical Topics
5th	1st	2.7. Working of Absorption type of dynamometer.
	2nd	3.0 Power transmission 2.1. Concept of Power transmission
	3rd	3.2. Type of drives, belt, gear and chain drive.
6th	1st	3.3. Computation of Velocity ratio, length of belts (open & cross) with and without slip.
	2nd	
	3rd	3.4. Ratio of belt tensions, Centrifugal tension and initial tension.
	4th	2.5. Power transmitted by the belt
	5th	3.6 Determine belt thickness and width for given Permissible stress for open and crossed belt considering Centrifugal tension.
7th	1st	3.7. V-belts and V-belts Pulleys
	2nd	3.8 Concept of crowning of Pulleys
	3rd	3.9. Gear drives and its terminology.
	4th	

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

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8th	5th	3.10. Gear trains, Working Principle of simple, compound, reverted and epicyclic gear train.
	4th	
	2nd	
9th	3rd	4.0. Governors and Flywheel
	4th	4.1 Function of Governor.
	2nd	4.2 Classification of Governor.
	3rd	4.3 Working of Watt, Porter, Proell & Hartnell governors.
	4th	4.4 Conceptual explanation of Sensitivity, Stability and Isochronism.
	4th	4.5. Function of flywheel
	2nd	4.6. Comparison between Flywheel & Governor.
10th	3rd	4.7. Fluctuation of energy & Co-efficient of fluctuation of Speed.
	4th	5.0 Balancing of Machine
	2nd	5.1 Concept of Static & Dynamic balancing.
	3rd	5.2. Static balancing of rotating parts.
	4th	
11th		

DHABALESWAR INSTITUTE OF POLYTECHNIC

LESSON PLAN

Week	Class Day	Theory / Practical Topics
12th	5th	5.3. Principles of balancing of reciprocating parts.
	4th	
	2nd	5.4. Causes and effect of unbalance.
	3rd	5.5. Difference between static & dynamic balancing.
	4th	
13th	5th	6.0 Vibration of Machine Parts.
	4th	
	3rd	6.1 Introduction to Vibration and related terms (Amplitude, time period, frequency & cycle)
	2nd	
	1st	6.2. Classification of Vibration.
14th	5th	
	4th	6.3. Basic concept of natural forced & damped vibration.
	3rd	
	2nd	6.4. Torsional & Longitudinal Vibration.
	1st	
15th	2nd	6.5. Causes and remedies of Vibration.
	1st	