

TH2

GOVT. POLYTECHNIC, DHENKANAL

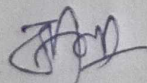
LESSON PLAN: DME, 5TH SEMESTER, WINTER -(2024-2025)

Discipline: Mechanical Engineering	Semester: 5 TH	Name of the teaching faculty: PRADEEP KUMAR JENA
Subject: DME	No of days/per week class allotted: 04	Semester From Date: 16.08.2024 To Date: 16.12.2024 No of weeks: 15
Week:	Class day:	Theory/practical topics:
1 ST	1 ST	INTRODUCTION TO MACHINE DESIGN AND ITS CLASSIFICATION
	2 ND	DIFFERENT MECHANICAL ENGINEERING MATERIALS USED IN DESIGN WITH THEIR USES
	3 RD	PHYSICAL AND MECHANICAL PROPERTIES OF ENGINEERING MATERIALS
	4 TH	WORKING STRESS, YIELD STRESS, ULTIMATE STRESS & FACTOR OF SAFETY
2 ND	1 ST	NUMERICALS ON WORKING, YIELD AND ULTIMATE STRESS.
	2 ND	STRESS-STRAIN CURVE FOR M.S & C.I AND SALIENT POINTS
	3 RD	MODES OF FAILURE BY ELASTIC DEFLECTION
	4 TH	MODES OF FAILURE BY GENERAL YIELDING
3 RD	1 ST	MODES OF FAILURE BY FRACTURE
	2 ND	FAILURE OF MACHINE ELEMENTS DUE TO FATIGUE AND CREEP.
	3 RD	FACTORS GOVERNING THE DESIGN OF MACHINE ELEMENTS.
	4 TH	DESIGN PROCEDURE
4 TH	1 ST	JOINTS AND THEIR CLASSIFICATION & TYPES OF WELDED JOINTS.
	2 ND	ADVANTAGES OF WELDED JOINTS OVER OTHER JOINTS

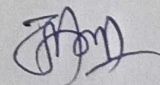
	3 RD	DESIGN OF WELDED JOINTS FOR NORMAL LOADS.
	4 TH	PERFORMANCE TEST.
5 TH	1 ST	DESIGN OF WELDED JOINTS FOR ECCENTRIC LOADS.
	2 ND	NUMERICALS ON DESIGN OF WELDED JOINTS
	3 RD	TYPES OF RIVETED JOINTS AND TYPES OF RIVETS.
	4 TH	FAILURE OF RIVETED JOINTS
6 TH	1 ST	STRENGTH & EFFICIENCY OF RIVETED JOINTS.
	2 ND	NUMERICALS ON DESIGN OF RIVETED JOINTS
	3 RD	DESIGN OF RIVETED JOINTS FOR PRESSURE VESSEL.
	4 TH	NUMERICALS ON DESIGN OF PRESSURE VESSEL
7 TH	1 ST	FUNCTION OF SHAFTS.
	2 ND	MATERIALS OF SHAFTS
	3 RD	DESIGN SOLID & HOLLOW SHAFTS TO TRANSMIT A GIVEN POWER AT GIVEN RPM BASED ON STRENGTH
	4 TH	NUMERICALS ON DESIGN OF SOLID SHAFTS AND HOLLOW SHAFTS BASED ON STRENGTH
8 TH	1 ST	DESIGN SOLID & HOLLOW SHAFTS TO TRANSMIT A GIVEN POWER AT GIVEN RPM BASED ON RIGIDITY
	2 ND	NUMERICALSONDESIGN OF SOLID SHAFTS AND HOLLOW
	3 RD	SHAFTS BASED ONRIGIDITY, STANDARD SIZE OF SHAFTS PERIS.
	4 TH	FUNCTION OF KEYS, TYPES OF KEYS & MATERIAL OF KEY& FAILURE OF KEY, EFFECT OF KEY WAY

9 TH	1 ST	DESIGN OF RECTANGULAR SUNK KEY CONSIDERING ITS FAILURE AGAINST SHEAR & CRUSHING AND NUMERICALS
	2 ND	DESIGN RECTANGULAR SUNK KEY BY USING EMPIRICAL RELATION FOR GIVEN DIAMETER OF SHAFT AND NUMERICALS
	3 RD	SPECIFICATION OF PARALLEL KEY, GIB-HEAD KEY, TAPER KEY AS PER I.S.
	4 TH	DISCUSSION OF IMPORTANT QUESTIONS
10 TH	1 ST	DISCUSSION OF IMPORTANT QUESTIONS
	2 ND	SHAFT COUPLING, DIFFERENCE BETWEEN CLUTCH AND COUPLING
	3 RD	REQUIREMENTS OF A GOOD SHAFT COUPLING
	4 TH	ADVANTAGES OF USING SHAFT COUPLINGS
11 TH	1 ST	TYPES OF COUPLING.
	2 ND	DESIGN OF SLEEVE OR MUFF-COUPLING.
	3 RD	NUMERICALS ON DESIGN OF SLEEVE COUPLING
	4 TH	DESIGN OF CLAMP OR COMPRESSION COUPLING
12 TH	1 ST	NUMERICALS ON CLAMP COUPLING
	2 ND	DISCUSSION OF IMPORTANT QUESTIONS
	3 RD	DISCUSSION OF IMPORTANT QUESTIONS
	4 TH	PREVIOUS SEMESTER QUESTION DISCUSSION
13 TH	1 ST	MATERIALS USED FOR HELICAL SPRING.

	2 ND	STANDARD SIZE SPRING WIRE (SWG).
	3 RD	TERMS USED IN COMPRESSION SPRING
	4 TH	STRESS IN HELICAL SPRING OF A CIRCULAR WIRE.
14 TH	1 ST	NUMERICALS OF STRESS ON HELICAL SPRINGS OF CIRCULARWIRE.
	2 ND	DEFLECTION OF HELICAL SPRING OF CIRCULAR WIRE.
	3 RD	NUMERICALS ON DEFLECTION OF SPRINGS & SURGE IN SPRING.
	4 TH	NUMERICAL ON DESIGN OF HELICAL SPRING
15 TH	1 ST	NUMERICAL ON DESIGN OF HELICAL SPRING
	2 ND	DISCUSSION OF IMPORTANT QUESTIONS
	3 RD	DISCUSSION OF IMPORTANT QUESTIONS
	4 TH	PREVIOUS SEMESTER QUESTION DISCUSSION



Sign. Of Faculty Concerned



Sign. of HOD