

GOVT.POLYTECHNIC MAYURBHANJ LESSON PLAN-2025/26

Discipline:		Semester:5th Sem		Name of the Teaching Faculty:THAKURA HANSDAH	
MECHANICAL ENGG.					
Subject: DME		No.of Days/		Semester From date:14.07.2025. To Date:15.11.2023	
		Per week class allotted:04			
MONT H	Week	Day	Unit	Topics	
JULY	3rd	1st	UNIT-1	1.Introduction:	
		2nd		Introduction to Machine Design	
		3rd		Classification of Machine Design	
		5th		Different mechanical engineering materials used in design with their uses and their mechanical and physical properties	
		1st		Different mechanical engineering materials used in design with their uses and their mechanical and physical properties	
	4th	2nd		Define working stress, yield stress, ultimate stress & factor of safety and stress –strain curve for M.S & C.I.	
		3rd		Define working stress, yield stress, ultimate stress & factor of safety and stress –strain curve for M.S & C.I.	
		5th		Modes of Failure (By elastic deflection, general yielding & fracture)	
		1st		Solve of simple problem.	
	5th	2nd		Revision	
		3rd			
		1ST			
AUGUST	2ND	1st	UNIT-2	Introduction about fasting Elements	
		2nd		Joints and their classification.	
		3rd		State types of welded joints .	
		5th		State advantages of welded joints over other joints.	
		1st		Design of welded joints for eccentric loads.	
	3rd	2nd		State types of riveted joints and types of rivets.	
		3rd		Describe failure of riveted joints.	
		5th		Determine strength & efficiency of riveted joint	
		1st		CLASS TEST-1	
		1st		Design riveted joints for pressure vessel	

SEPTEMBER	4TH	2nd	UNIT-3	Design riveted joints for pressure vessel	
		3rd		Solve numerical on Welded Joint and Riveted Joints	
		5 TH		Solve numerical on Welded Joint and Riveted Joints	
	5TH	1st		3.0 Design of shafts and Keys:	
		2nd		State function of shafts	
		5th		State materials for shafts.	
	1ST	1st		Design solid shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress, (ii) Combined bending tension; b) Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulus of rigidity	
		2nd			
		3rd		Design hollow shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress, (ii) Combined bending tension; b) Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulus of rigidity	
		5th		Solve numerical problem on shaft.	
	2ND	1 ST			
		2nd		State standard size of shaft as per I.S.	
		3rd		State function of keys, types of keys & material of keys	
		5 TH		Describe failure of key, effect of key way.	
	3rd	1st		Design rectangular sunk key considering its failure against shear & crushing.	
		2nd		Design rectangular sunk key considering its failure against shear & crushing.	
		3rd		Design rectangular sunk key considering its failure against shear & crushing.	
		5th		INTERNAL ASSESMENT	
	4TH	1st		State specification of parallel key, gib-head key, taper key as per I.S	
		2nd		State specification of parallel key, gib-head key, taper key as per I.S	
3rd		State specification of parallel key, gib-head key, taper key as per I.S			
5th		Solve numerical on Design of keys.			
OCTOBER	1ST	5th	UNIT4	4.0 Design of Coupling:	
	2ND	1st		Design of Shaft Coupling, Requirements of a good shaft coupling,	
		2nd		Design of Sleeve or Muff-Coupling	
		3rd		Design of Clamp or Compression Coupling.	
		5th			
	3rd	1st		QuestionDiscussion	
		2nd		Solve simple numerical on above	
		3rd		Design a closed coil helical spring:	
		5th	Materials used for helical spring. Standard size spring wire. (SWG).		
	4TH	1 ST		UNIT-5	
		2nd	Terms used in compression spring.		
		3rd	Stress in helical spring of a circular wire.		
		5 TH	Deflection of helical spring of circular wire		

	5TH	1 ST	Surge in spring.
		2nd	QuestionDiscussion
		3rd	Solve numerical on design of closed coil helical compression spring.
		5 TH	Solve numerical on design of closed coil helical compression spring.
NOVEMBER	2ND	1st	QuestionDiscussion
		2nd	Revision
		3rd	CLASS TEST-2
	3rd	1st	Revision
		2nd	Revision