


SESSION:		WINTER 2023				
BRANCH:		MECHANICAL ENGINEERING				
SEMESTER:		5TH SEC-A				
SUBJECT:		DESIGN OF MACHINE ELEMENTS (TH-02)				
NAME OF THE FACULTY:			SATYAJIT PANDA			
SL NO.	MONTH	CHAPT. NO.	DATE	TOPICS TO BE COVERED	NO. OF ACADEMIC DAYS AVAILABLE FOR THE SUBJECT	% COVERED
1	AUGUST	1	4.8.23	1.1 Introduction to Machine Design and Classify it. 1.2 Different mechanical engineering materials used in design with their uses and their mechanical and physical properties.	18	31%
			5.8.23	1.2 Different mechanical engineering materials used in design with their uses and their mechanical and physical properties.		
			8.8.23	1.3 Define working stress, yield stress, ultimate stress & factor of safety and stress-strain curve for M.S & C.I. 1.4 Modes of Failure (By elastic deflection, general yielding & fracture)		
			9.8.23	1.5 State the factors governing the design of machine elements. 1.6 Describe design procedure.		
		2	10.8.23	2.1 Joints and their classification. 2.2 State types of welded joints		
			11.8.23	2.3 State advantages of welded joints over other joints.		
			12.8.23	2.4 Design of welded joints for eccentric loads.		
			16.8.23	2.4 Design of welded joints for eccentric loads.		
			17.8.23	NUMERICALS		
			18.8.23	NUMERICALS		
			19.8.23	2.5 State types of riveted joints and types of rivets.		
			22.8.23	2.5 State types of riveted joints and types of rivets.		
			23.8.23	2.6 Describe failure of riveted joints.		
			24.8.23	2.6 Describe failure of riveted joints.		
			25.8.23	2.7 Determine strength & efficiency of riveted joints.		
			26.8.23	2.7 Determine strength & efficiency of riveted joints.		
			29.8.23	NUMERICALS		

2	SEPTEMBER	2	31.8.23	NUMERICALS	18	80%
			1.9.23	2.8 Design riveted joints for pressure vessel.		
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			5.9.23	2.8 Design riveted joints for pressure vessel.		
			7.9.23	NUMERICALS		
			8.9.23	NUMERICALS		
			9.9.23	NUMERICALS		
			12.9.23	2.9 Solve numerical on Welded Joint and Riveted Joints.		
			13.9.23	2.9 Solve numerical on Welded Joint and Riveted Joints.		
			3	14.9.23		
		15.9.23	3.3 Design solid & hollow shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress, (ii) Combined bending tension;			
		21.9.23	NUMERICALS			
		22.9.23	NUMERICALS			
		23.9.23	NUMERICALS			
		26.9.23	3.3 Design solid & hollow shafts to transmit a given power at given rpm based on b) Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulus of rigidity			
		27.9.23	NUMERICALS			
		28.9.23	3.5 State function of keys, types of keys & material of keys.			
29.9.23	3.6 Describe failure of key, effect of key way.					
30.9.23	3.7 Design rectangular sunk key considering its failure against shear & crushing.					
3	OCTOBER	3	3.10.23	3.8 Design rectangular sunk key by using empirical relation for given diameter of shaft.	10	17%
			4.10.23	3.9 State specification of parallel key, gib-head key, taper key as per I.S. 3.10 Solve numerical on Design of Shaft and keys.		
			5.10.23	NUMERICALS		
		6.10.23	NUMERICALS			
		4	7.10.23	4.0 Design of Coupling: 4.1 Design of Shaft Coupling		
		10.10.23	4.2 Requirements of a good shaft coupling 4.3 Types of Coupling.			

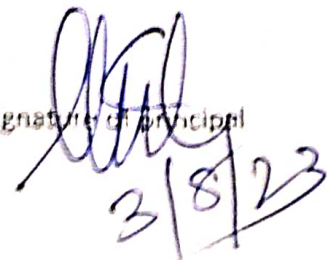
4	NOVEMBER	4	11.10.23	4.4 Design of Sleeve or Muff-Coupling.	13	22%
			12.10.23	NUMERICALS		
			13.10.23	NUMERICALS		
			31.10.23	4.5 Design of Clamp or Compression Coupling.		
		5	1.11.23	4.6 Solve simple numerical on above.		
			2.11.23	4.6 Solve simple numerical on above.		
		5	3.11.23	5.0 Design a closed coil helical spring: 5.1 Materials used for helical spring. 5.2 Standard size spring wire. (SWG). 5.3 Terms used in compression spring.		
			4.11.23	5.3 Terms used in compression spring. 5.4 Stress in helical spring of a circular wire. 5.5 Deflection of helical spring of circular wire.		
			7.11.23	5.6 Surge in spring. 5.7 Solve numerical on design of closed coil helical compression spring.		
			8.11.23	5.7 Solve numerical on design of closed coil helical compression spring.		
			9.11.23	5.7 Solve numerical on design of closed coil helical compression spring.		
			10.11.23			
			14.11.23			
			15.11.23			
16.11.23						
17.11.23						
18.11.23						

BRIEF SUMMARY OF THE PLAN

SL. NO.	MONTH	UNIT/CHAPTER TO BE COVERED	% COVERAGE
1	AUGUST	CH-1, CH-2	31%
2	SEPTEMBER	CH-2, CH-3	31%
3	OCTOBER	CH-3, CH-4	17%
4	NOVEMBER	CH-4, CH-5	22%

 signature of faculty

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 signature of principal 3/8/23