

Lesson Plan

Subject: DESIGN OF MACHINE ELEMENTS (Th-2) Name of faculty: SARBESWAR ROUT

Semester: 5th Class allotted: 4p/week Branch: Mechanical Session: 2023(W)

Discipline	Semester	From date:	To date:	Teaching Aid
Subject:	No. of days/ per week	Theory/ Practical –Topics/Lesson		
Week	Date/Period			
1	01/08/2023	1.0 Introduction:		White Board
	to	1.1 Introduction to Machine Design and Classify		Marker
	05/08/2023	Different mechanical engineering materials used in design with their uses and their mechanical and physical properties.		Smart board
		Continue.....		
2	07/08/2023	1.3 Define working stress, yield stress, ultimate stress & factor of safety and stress –strain curve for M.S & C.I.		White Board
	to	Continue...		Marker
	12/08/2023	1.4 Modes of Failure (By elastic deflection, general yielding & fracture)		Smart board
		Continue...		
3	14/08/2023	1.5 State the factors governing the design of machine elements.		White Board
	to	Continue...		Marker
	19/08/2023	1.6 Describe design procedure.		Smart board
		Continue....		
4	21/08/2023	2.0 Design of fastening elements:		White Board
	to	2.1 Joints and their classification.		Marker
	26/08/2023	2.2 State types of welded joints .		Smart board
		2.3 State advantages of welded joints over other joints.		
5	28/08/2023	2.4 Design of welded joints for eccentric loads.		White Board
	to	Continue...		Marker
	02/09/2023	2.5 State types of riveted joints and types of rivets.		Smart board
		2.6 Describe failure of riveted joints.		
6	04/09/2023	2.7 Determine strength & efficiency of riveted joints.		White Board
	to	2.8 Design riveted joints for pressure vessel.		Marker
	09/09/2023	2.9 Solve numerical on Welded Joint and Riveted Joints.		Smart board
		Continue....		
7	11/09/2023	3.0 Design of shafts and Keys:		White Board
	to	3.1 State function of shafts.		Marker
	16/09/2023	3.2 State materials for shafts.		Smart board
		3.3 Design solid & hollow shafts to transmit a given power at given rpm based on.		

Signature of HOD

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8	18/09/2023	a) Strength: (i) Shear stress, (ii) Combined bending tension;	White Board
	to	b) Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulus of rigidity	Marker
	23/09/2023	3.4 State standard size of shaft as per I.S. 3.5 State function of keys, types of keys & material of keys.	
		3.6 Describe failure of key, effect of key way.	
9	25/09/2023	3.7 Design rectangular sunk key considering its failure against shear & crushing.	White Board
	to	3.8 Design rectangular sunk key by using empirical relation for given dia of shaft.	Marker
	30/09/2023	3.9 State specification of parallel key, gib-head key, taper key as per I.S.	Smart board
		3.10 Solve numerical on Design of Shaft and keys.	
10	03/10/2023	4.0 Design of Coupling:	White Board
	to	4.1 Design of Shaft Coupling	Marker
	07/10/2023	4.2 Requirements of a good shaft coupling	Smart board
		Continue...	
11	09/10/2023		
	to	Internal Exam	
	14/10/2023		
12	16/10/2023	4.3 Types of Coupling.	White Board
	to	Continue...	Marker
	20/10/2023	4.4 Design of Sleeve or Muff-Coupling.	Smart board
		Continue...	
13	30/10/2023	4.5 Design of Clamp or Compression Coupling.	White Board
	to	Continue...	Marker
	04/11/2023	4.6 Solve simple numerical on above.	Smart board
		Continue...	
14	06/11/2023	5.0 Design a closed coil helical spring:	White Board
	to	5.1 Materials used for helical spring.	Marker
	11/11/2023	5.2 Standard size spring wire. (SWG).	Smart board
		Continue...	
15	13/11/2023	5.2 Standard size spring wire. (SWG).	White Board
	to	5.4 Stress in helical spring of a circular wire.	Marker
	18/11/2023	Continue...	Smart board
		Continue...	
16	20/11/2023	5.5 Deflection of helical spring of circular wire.	White Board
	to	5.6 Surge in spring.	Marker
	25/11/2023	5.7 Solve numerical on design of closed coil helical compression spring.	Smart board
		Continue...	
17	28/11/2023	Revision...	White Board
	to	Revision...	Marker
	30/11/2023	Revision...	Smart board
		Revision...	

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