

SESSION	WINTER 2022				
BRANCH:	MECHANICAL ENGINEERING				
SEMESTER:	5TH SEC-B				
SUBJECT:	Design Of Machine Elements TH-2				
NAME OF THE FACULTY:	K. Das				
SL NO.	MONTH	No. of academic days available for the subject	DATE	TOPICS TO BE COVERED	% COVERED
1	Sep-22	10	16.09.22	Introduction to Machine Design and Classify it.	19%
			19.9.22	Different mechanical engineering materials used in design with their uses and their mechanical and physical properties.	
			21.9.22	Define working stress, yield stress, ultimate stress & factor of safety and stress-strain curve for M.S & C.I.	
			22.9.22	Modes of Failure (By elastic deflection, general yielding & fracture)	
			23.9.22	State the factors governing the design of machine elements.	
			24.9.22	Describe design procedure.	
			26.9.22	Joints and their classification.	
			28.9.22	State types of welded joints	
			29.9.22	State advantages of welded joints over other joints.	
			30.9.22	Design of welded joints for eccentric loads.	
			10.10.22	State types of riveted joints and types of rivets.	
			12.10.22	Describe failure of riveted joints.	
			13.10.22	Determine strength & efficiency of riveted joints.	
			14.10.22	Design riveted joints for pressure vessel.	
			15.10.22	Solve numerical on Welded Joint and Riveted Joints.	
			17.10.22	State function of shafts.	
			19.10.22	State materials for shafts.	
			20.10.22	Design solid & 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	

2	Oct-22	15	21.10.22	Design solid & 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	28%
			22.10.22	Design solid & 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	
			26.10.22	Design solid & 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	
			27.10.22	Design solid & 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	
			28.10.22	State standard size of shaft as per I.S.	
			29.10.22	State function of keys, types of keys & material of keys.	
			31.10.22	Describe failure of key, effect of key way.	
3	Nov-22	15	2.11.22	Design rectangular sunk key considering its failure against shear & crushing.	28%
			3.11.22	Design rectangular sunk key considering its failure against shear & crushing.	
			4.11.22	Design rectangular sunk key by using empirical relation for given diameter of shaft.	
			5.11.22	State specification of parallel key, gib-head key, taper key as per I.S.	
			9.11.22	Solve numerical on Design of Shaft and keys.	
			10.11.22	Solve numerical on Design of Shaft and keys.	
			11.11.22	Solve numerical on Design of Shaft and keys.	
			12.11.22	Design of Shaft Coupling	
			21.11.22	Design of Shaft Coupling	
			23.11.22	Requirements of a good shaft coupling	
			24.11.22	Types of Coupling	
			25.11.22	Design of Sleeve or Muff-Coupling.	
			26.11.22	Design of Clamp or Compression Coupling	
28.11.22	Solve simple numerical on above.				

4	Dec-22	13	30.11.22	Solve simple numerical on above.	25%
			1.12.22	Solve simple numerical on above.	
			2.12.22	Materials used for helical spring.	
			3.12.22	Standard size spring wire. (SWG).	
			5.12.22	Terms used in compression spring.	
			7.12.22	Stress in helical spring of a circular wire.	
			8.12.22	Deflection of helical spring of circular wire.	
			9.12.22	Surge in spring.	
			10.12.22	Solve numerical on design of closed coil helical compression spring.	
			12.12.22	Solve numerical on design of closed coil helical compression spring.	
			14.12.22	Solve numerical on design of closed coil helical compression spring.	
			15.12.22	REVISION	
			16.12.22	REVISION	
17.12.22	REVISION				

Kishore Das
Signature of Lect


SIGNATURE OF H.O.D. (MECHANICAL)

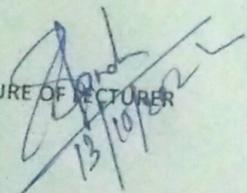
SESSION	WINTER 2022		
BRANCH	MECHANICAL ENGINEERING		
SEMEST	5TH SEC- A		
SUBJECT	DESIGN OF MACHINE ELEMENTS (TH-02)		

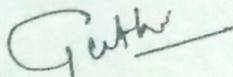
NAME OF THE FACULTY:		S PANDA	
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SL NO.	MONTH	No. of academic days available for	DATE	TOPICS TO BE COVERED	% COVERED
1	Sep-22	9	20.9.22	1.1 Introduction to Machine Design and Classify it	17%
			21.9.22	1.2 Different mechanical engineering materials used in design with their uses and their mechanical and physical properties.	
			22.9.22	1.3 Define working stress, yield stress, ultimate stress & factor of safety and stress-strain curve for M.S & C.I.	
			23.9.22	1.4 Modes of Failure (By elastic deflection, general yielding & fracture)	
			24.9.22	1.5 State the factors governing the design of machine elements.	
			27.9.22	1.6 Describe design procedure.	
			28.9.22	2.1 Joints and their classification.	
			29.9.22	2.2 State types of welded joints	
			30.9.22	2.3 State advantages of welded joints over other joints.	
2	Oct-22	15	11.10.22	2.4 Design of welded joints for eccentric loads.	28%
			12.10.22	2.5 State types of riveted joints and types of rivets.	
			13.10.22	2.6 Describe failure of riveted joints.	
			14.10.22	2.7 Determine strength & efficiency of riveted joints.	
			15.10.22	2.8 Design riveted joints for pressure vessel	
			18.10.22	2.9 Solve numerical on Welded Joint and Riveted Joints.	
			19.10.22	3.1 State function of shafts.	
			20.10.22	3.2 State materials for shafts.	
			21.10.22	3.3 Design solid & hollow shafts to transmit a given power at given rpm based on	
22.10.22	(i) Angle of twist, (ii) Deflection, (iii) Modulus of rigidity				

			25.10.22	Design solid & 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	
			26.10.22	Design solid & 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	
			27.10.22	Design solid & hollow shafts to transmit a given power at given rpm based on a) Strength: (i) Shear stress,	
			28.10.22	3.4 State standard size of shaft as per I.S.	
			29.10.22	3.5 State function of keys, types of keys & material of keys.	
3	Nov-22	16	1.11.22	3.6 Describe failure of key, effect of key way.	30%
			2.11.22	3.7 Design rectangular sunk key considering its failure against shear & crushing	
			3.11.22	Design rectangular sunk key considering its failure against shear & crushing	
			4.11.22	3.8 Design rectangular sunk key by using empirical relation for given diameter of shaft	
			5.11.22	3.9 State specification of parallel key, gib head key, taper key as per I.S.	
			9.11.22	3.10 Solve numerical on Design of Shaft and keys.	
			10.11.22	Solve numerical on Design of Shaft and keys.	
			11.11.22	Solve numerical on Design of Shaft and keys.	
			12.11.22	4.1 Design of Shaft Coupling	
			22.11.22	Design of Shaft Coupling	
			23.11.22	4.2 Requirements of a good shaft coupling	
			24.11.22	4.3 Types of Coupling	
			25.11.22	4.4 Design of Sleeve or Muff Coupling.	
			26.11.22	4.5 Design of Clamp or Compression Coupling	
			29.11.22	4.6 Solve simple numerical on above	
			30.11.22	Solve simple numerical on above	
			1.12.22	Solve simple numerical on above	
			2.12.22	5.1 Materials used for helical spring.	
			3.12.22	5.2 Standard size spring wire. (SWG).	
			6.12.22	5.3 Terms used in compression spring.	

4	Dec-22	13	7.12.22	5.4 Stress in helical spring of a circular wire.	25%
			8.12.22	5.5 Deflection of helical spring of circular wire	
			9.12.22	5.6 Surge in spring.	
			10.12.22	5.7 Solve numerical on design of closed coil helical compression spring.	
			13.12.22	Solve numerical on design of closed coil helical compression spring.	
			14.12.22	Solve numerical on design of closed coil helical compression spring.	
			16.12.22	Solve numerical on design of closed coil helical compression spring.	
			15.12.22	REVISION	
			17.12.22	REVISION	


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 13/10/22


 SIGNATURE OF H.O.D. (MECHANICAL)