

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHANICAL ENGINEERING



LESSON PLAN

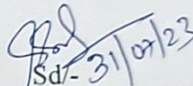
SUBJECT: **DESIGN OF MACHINE ELEMENT (TH-2)**

FACULTY: **PRIYADARSINI MALLICK**

ACADEMIC SESSION: **2023-24**

SEMESTER: **5TH**

SECTION-A


Sd/- 31/07/23
H O D (Mechanical Engg.)

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Discipline- Mechanical Engg	Semester :- 5 th		Name of the teaching faculty :- Priyadarsini Mallick
Subject- Design of Machine Elements	No of periods Allotted per Week- 04 (Monday Tuesday Wednesday Thursday)		Semester from Date - 01/08/2023 To Date - 30/11/2023 No. of Weeks: 18
Week	Class	No Of Periods available	Theory Topics
1st	01/08/2023	1	1.1.1 Introduction to Machine Design
	02/08/2023	1	1.1 .2 Classification of Machine Design .
	03/08/2023	1	1.2.1 Different mechanical engineering materials used in design with their uses.
2nd	07/08/2023	1	1.2.2 Different mechanical engineering materials with their mechanical and physical properties.
	08/08/2023	1	1.3.1 Define working stress, yield stress, ultimate stress & factor of safety
	09/08/2023	1	1.3.2 stress –strain curve for M.S
	10/08/2023	1	1.3.3 stress –strain curve for C.I.
3rd	14/08/2023	1	1.4.1 Modes of Failure (By elastic deflection general yielding & fracture)
	16/08/2023	1	1.5 State the factors governing the design of machine elements.
	17/08/2023	1	1.6 Describe design procedure.
4th	21/08/2023	1	Design of fastening elements: 2.1 Joints and their classification..
	22/08/2023	1	2.2 State types of welded joints

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	23/08/2023	1	2.3 State advantages of welded joints over other joints.
	24/08/2023	1	2.4 Design of welded joints for eccentric loads.
5th	28/08/2023	1	SOLVE NUMERICALS ON CH-2.4
	29/08/2023	1	2.5 State types of riveted joints and types of rivets.
	31/08/2023	1	2.6 Describe failure of riveted joints.
6th	04/09/2023	1	SOLVE NUMERICALS ON CH-2.6
	05/09/2023	1	2.7 Determine strength & efficiency of riveted joints
	07/09/2023	1	SOLVE NUMERICALS ON CH-2.7
7th	11/09/2023	1	Design riveted joints for pressure vessel.
	12/09/2023	1	SOLVE NUMERICALS ON CH-2.8
	13/09/2023	1	CLASS TEST-1
	14/09/2023	1	Design of shafts and Keys: 3.1 State function of shafts. 3.2 State materials for shafts
8th	18/09/2023	1	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;
	21/09/2023	1	SOLVE NUMERICALS ON CH-3.3 a
9th	25/09/2023	1	b) Rigidity: (i) Angle of twist, (ii) Deflection, (iii) Modulus of rigidity
	26/09/2023	1	SOLVE NUMERICALS ON CH-3.3 b
	27/09/2023	1	3.4 State standard size of shaft as per I.S.
	28/09/2023	1	3.5 State function of keys, types of keys & material of keys.

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10th	03/10/2023	1	3.6 Describe failure of key, effect of key way.
	04/10/2023	1	3.7 Design rectangular sunk key considering its failure against shear & crushing.
	05/10/2023	1	SOLVE NUMERICALS ON CH-3.7
11th	09/10/2023	1	3.8 Design rectangular sunk key by using empirical relation for given diameter of shaft.
	10/10/2023	1	SOLVE NUMERICALS ON CH-3.8
	11/10/2023	1	3.9 State specification of parallel key, gib-head key, taper key as per I.S
	12/10/2023	1	INTERNAL ASCEMENT
12 TH	16/10/2023	1	INTERNAL ASCEMENT
	17/10/2023	1	4.1.1 Definition of Shaft coupling
	18/10/2023	1	4.1.2 Design of Shaft coupling
	19/10/2023	1	4.2 Requirements of a good shaft coupling
13 TH	30/10/2023	1	4.3 Types of Coupling.
	31/10/2023	1	4.4.1 Definition of Sleeve or Muff-Coupling.
	01/11/2023	1	4.4.2 Design of Sleeve or Muff-Coupling.
	02/11/2023	1	SOLVE NUMERICALS ON CH-4.4
14 TH	06/11/2023	1	4.5 Design of Clamp or Compression Coupling.
	07/11/2023	1	SOLVE NUMERICALS ON CH-4.5
	08/11/2023	1	5.1 Materials used for helical spring.

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	09/11/2023	1	5.2 Standard size spring wire. (SWG).
15 TH	13/11/2023	1	5.3 Terms used in compression spring.
	14/11/2023	1	5.4 Stress in helical spring of a circular wire.
	15/11/2023	1	5.5 Deflection of helical spring of circular wire
	16/11/2023	1	SOLVE NUMERICALS ON CH-5.5
16th	20/11/2023	1	5.6 Surge in spring.
	21/11/2023	1	5.7 Design of closed coil helical compression spring.
	22/11/2023	1	SOLVE NUMERICALS ON CH-5.7
	23/11/2023	1	CLASS TEST-2
17th	28/11/2023	1	REVISION
	29/11/2023	1	REVISION
	30/11/2023	1	Previous year question discussion