

SOM  
 Discipline: Mechanical Engg.  
 Subject: Strength of Material

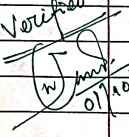
Semester: 3rd  
 No. of Days/Week  
 class allotted: 5

Name of the teaching faculty: Snigdharani Sahu  
 Semester from: 01 Oct. 2021  
 to: 08 Jan. 2022

Week	No. of Period	Topics to be covered
1st Oct	1st	Introduction to SOM. Type & def
2		load stress & strain
2nd Oct		Gandhi Jayanti
	1st	Hooke's law, Young's modulus, bulk modulus
4th Oct	2nd	Poisson's Ratio, Rel <sup>n</sup> between modulus &
to	3rd	elastic const. Principle of super position
9th Oct	4th	Stress in composite section.
	5th	Temp. Stress, temp. strain in comp. bar
		Strain energy & resilience
11th Oct		DURGA PUTA HOLIDAYS
to		- - - - -
18th Oct		- - - - -
	1st	Stress due to gradually, suddenly applied load
	2nd	Kuman Purnima
	3rd	Simple problem on above topics.
19th Oct	4th	Simple problem.
to	5th	Definition of hoop & long. stress, strain.
23rd Oct		Derivation of hoop stress & strain & long strain.
	1st	Computation of the change in length,
25th Oct	2nd	dia. & volume.
to	3rd	Simple problems on thin cylindrical shell.
30th Oct	4th	Solved problem on above topic.
	5th	2-Dimensional stress system discussion.
1st Nov	1st	Determination of normal stress
to	2nd	Shear stress on oblique plane.
	3rd	Derive the shear strain on oblique plane.
6th Nov	4th	Location of principal plane
	5th	Computation of principal stress
		Max <sup>m</sup> shear stress using Mohr's Circle.

Week	No. of period	Topics to be covered
8th Nov	1st	Revision
to	2nd	Revision
13th Nov	3rd	Bending moment & Shear force.
	4th	Types of Beam & load.
	5th	Concept of shear force & bending moment.
15th Nov	1st	Concept of Bending moment
to	2nd	Diagram & its salient features.
20th Nov	3rd	Illustration of cantilever beam
	4th	Simply supported beam overhanging
	5th	Kartika Purnima
22nd Nov	1st	Uniformly distributed load
to	2nd	Numerical
27th Nov	3rd	Numerical
	4th	Theory of simple bending.
	5th	Assumption of theory of bending equation Prathamastami
29th Nov	1st	Section modulus neutral axis
to	2nd	Bending equation derivation.
4th Dec	3rd	Derivation of section modulus & solving problems.
	4th	Numericals on the above topic
	5th	Revision of the topic.
6th Dec	1st	Numericals on section modulus.
to	2nd	Combined direct & bending equation (Introduction)
11th Dec	4th	Define Column, Axial load, eccentric load on column
	5th	Direct stress & Bending stress.

Week	No. of Period	Topics to be covered.
13th Dec	1st	Maximum & Minimum stresses & Numerical
to	2nd	Buckling load computation.
18th Dec	3rd	Using Euler's formula in column with various load end condition
	4th	Last Thursday of Mangarain
	5th	Numericals on above topic.
20th Dec	1st	Torsion (Introduction)
to	2nd	Introduction to moment
25th Dec	3rd	Introduction to momentum & torque
	4th	Centre of Gravity.
	5th	Crist. mass
27th Dec	1st.	Assumption of pure torsion
to	2nd.	The torsion equation of solid shaft
1st Jan	3rd.	The torsion equation of hollow shaft
	4th	Comparison between the solid & hollow shaft subjected to pure torsion
	5th	New year.
3rd Jan	1st.	Numericals on above topics.
to	2nd.	Numericals on stress, strain energy.
8th Jan	3rd.	Revision of S.F & B.M
	4th	Revision of Torsion.
	5th	Revision of previous year question

Verified  
  
 01/10/2022

Rahar