Discipline:- **Mechanical Engg**.	**Semester**:- **3rd**	**Name of the Teaching Faculty:-** Er. Snigdharani Sahu
Subject:- **Strength of Materials**	**No. Of days/week class allotted - 05**	**Semester from**: **15.09.2022** **To**: **22.12.2022**
		No. Of weeks:- **15**
Week	**No. Of Period**	**Theory Topics**
15.09.2022 To 17.09.2022	1st	Types of load, stresses & strains,(Axial and tangential)
	2nd	**Vishwakarma Puja**
19.09.2022 To 24.09.2022	1st	Hooke's law, Young's modulus, bulk modulus, modulus of rigidity
	2nd	Poisson's ratio, derive the relation between three elastic constants
	3rd	Principle of super position, stresses in composite section
	4th	Temperature stress, determine the temperature stress in composite bar (single core)
	5th	Strain energy and resilience
26.09.2022 To 01.10.2022	1st	Stress due to gradually applied, suddenly applied and impact load
	2nd	Simple problems on above.
	3rd	Continue..
	4th	Definition of hoop stress and strain
	5th	Definition of longitudinal stress, strain.
03.10.2022 To 08.10.2022	**DURGA PUJA HOLIDAYS**	
10.10.2022 To 15.10.2022	1st	Derivation of hoop stress, longitudinal stress
	2nd	Derivation of hoop strain, longitudinal strain and volumetric strain.
	3rd	Computation of the change in length, diameter and volume
	4th	Continuation of previous topic.
	5th	Solve numerical on above.
17.10.2022 To 22.10.2022	1st	Solve numerical on above.
	2nd	Determination of normal stress, shear stress
	3rd	and resultant stress on oblique plane.
	4th	Continuation of previous topic.
	5th	Location of principal plane and computation of principal stress

Week	**No. Of period**	**Theory Topics**

24.10.2022 To 29.10.2022	1st	**Diwali**
	2nd	Location of principal plane and computation of principal stressand Maximum shear stress using Mohr's circle.
	3rd	Continuation of previous topic.
	4th	Types of beam and load
	5th	Concepts of Shear force and bending moment
31.10.2022 To 05.11.2022	1st	Continuation of previous topic.
	2nd	Shear Force and Bending moment diagram and its salient features
	3rd	illustration in cantilever beam, simply supported beam and over hanging beam under point load and uniformly distributed load
	4th	Revision the chapter
	5th	Numericals on cantilever beam, simply supported beam.
07.11.2022 To 12.11.2022	1st	**Last Monday Of Kartika**
	2nd	**Kartika Purnima**
	3rd	Assumptions in the theory of bending
	4th	Bending equation, Moment of resistance
	5th	Section modulus& neutral axis.
14.11.2022 To 19.11.2022	1st	Solve simple problems.
	2nd	Define column
	3rd	**Prathamastami**
	4th	Revision of the chapter
	5th	Axial load, Eccentric load on column
21.11.2022 To 26.11.2022	1st	Direct stresses, Bending stresses,
	2nd	Maximum& Minimum stresses.
	3rd	Solve simple numerical on above.
	4th	Solve numerical on Bending Stress.
	5th	Buckling load computation using Euler's formula (no derivation) in Columns with various end conditions
28.11.2022 To 3.12.2022	1st	Revision
	2nd	Assumption of pure torsion
	3rd	The torsion equation for solid circular shaft.
	4th	The torsion equation for hollow circular shaft
	5th	revision

Week	No.of period	Theory Topics
5.12.2022 To 10.12.2022	1st	Numericals on U.D.L and cantilever beam.
	2nd	Numericals on torsion.
	3rd	Discussed on bending moment and stress.
	4th	Numericals.
	5th	Revision
12.12.2022 To 17.12.2022	1st	Comparison between solid and hollow shaft subjected to pure torsion
	2nd	Solve Problems on Axial load, Eccentric load on column.
	3rd	Numericals on over hanging beam
	4th	Solve numerical on S F and BM diagram of different types of beams applying different types of Load.
	5th	Continue..
19.12.2022 To 24.12.2022	1st	Revision
	2nd	Revision and previous year question discussion
	3rd	Solve previous year numerical.
	4th	Discuss prev. Year question.