GANDHI SCHOOL OF ENGINEERING
BHABANDHA, BERHAMPUR
PROPOSED WORK
3RD SEMESTER, BRANCH-MECHANICAL(GROUP 1)
STRENGTH OF MATERIAL(TH-2)

Name of the Faculty – ER. SANJAY KUMAR PANIGRAHY

SL NO & CHAPTER	Details of the topics	No. of Periods assigned by SCTE & VT	PLANNIND DATE	Remarks
1. Simple stress& strain	1.1 Types of load, stresses & strains,(Axial and tangential) Hookes law, Young's modulus, bulk modulus, modulus of rigidity, Poisson's ratio, derive the relation between three elastic constants, 1.2 Principle of super position, stresses in composite section 1.3 Temperature stress, determine the temperature stress in composite bar (single core) 1.4 Strain energy and resilience, Stress due to gradually applied, suddenly applied and impact load 1.5 Simple problems on above.	**10**	**4/10/2021 TO 2/11/2021**	
2. Thin cylinder and spherical shell under internal pressure	2.1 Definition of hoop and longitudinal stress, strain 2.2 Derivation of hoop stress, longitudinal stress, hoop strain, longitudinal strain and volumetric strain 2.3 Computation of the change in length, diameter and volume 2.4 Simple problems on above	**8**	**3/11/2021 TO 17/11/2021**	
3. Two dimensional stress systems	3.1 Determination of normal stress, shear stress and resultant stress on oblique plane 3.2 Location of principal plane and computation of principal stress 3.3 Location of principal plane and computation of principal stress and maximum shear stress using Mohr's circle	**10**	**18/11/2021 TO 4/12/2021**	
4. Bending moment& shear force	4.1 Types of beam and load 4.2 Concepts of Shear force and bending moment 4.3 Shear Force and Bending moment diagram and its salient features illustration in cantilever beam, simply supported beam and over hanging beam under point load and uniformly distributed load	**10**	**7/12/2021 TO 22/12/2021**	

5. Theory of simple bending	5.1 Assumptions in the theory of bending, 5.2 Bending equation, Moment of resistance, Section modulus& neutral axis. 5.3 solve simple problems	**10**	**23/12/2021 TO 12/01/2022**	
6. Combined direct & Bending stresses	6.1 Define column 6.2 Axial load, Eccentric load on column, 6.3 Direct stresses, Bending stresses, Maximum& Minimum stresses. Numerical problems on above. 6.4 Buckling load computation using Euler's formula (no derivation) in columns with various end conditions	**6**	**13/01/2022 TO 22/01/2022**	
7. Torsion	7.1 Assumption of pure torsion 7.2 The torsion equation for solid and hollow circular shaft 7.3 Comparison between solid and hollow shaft subjected to pure torsion	**6**	**25/01/2022 TO 30/01/2022**	

CLASS COVERED BY **HOD, MECHANICAL**

GANDHI SCHOOL OF ENGINEERING
BHABANDHA, BERHAMPUR
PROPOSED WORK
3RD SEMESTER, BRANCH-MECHANICAL(GROUP 2)
STRENGTH OF MATERIAL(TH-2)

Name of the Faculty – ER. SANJAY KUMAR PANIGRAHY

SL NO & CHAPTER	Details of the topics	No. of Periods assigned by SCTE & VT	PLANNIND DATE	Remarks
1. Simple stress& strain	1.1 Types of load, stresses & strains,(Axial and tangential) Hookes law, Young's modulus, bulk modulus, modulus of rigidity, Poisson's ratio, derive the relation between three elastic constants, 1.2 Principle of super position, stresses in composite section 1.3 Temperature stress, determine the temperature stress in composite bar (single core) 1.4 Strain energy and resilience, Stress due to gradually applied, suddenly applied and impact load 1.5 Simple problems on above.	**10**	**1/10/2021 TO 29/10/2021**	
2. Thin cylinder and spherical shell under internal pressure	2.1 Definition of hoop and longitudinal stress, strain 2.2 Derivation of hoop stress, longitudinal stress, hoop strain, longitudinal strain and volumetric strain 2.3 Computation of the change in length, diameter and volume 2.4 Simple problems on above	**8**	**2/11/2022 TO 16/11/2021**	
3. Two dimensional stress systems	3.1 Determination of normal stress, shear stress and resultant stress on oblique plane 3.2 Location of principal plane and computation of principal stress 3.3 Location of principal plane and computation of principal stress and maximum shear stress using Mohr's circle	**10**	**17/11/2021 TO 3/12/2021**	
4. Bending moment& shear force	4.1 Types of beam and load 4.2 Concepts of Shear force and bending moment 4.3 Shear Force and Bending moment diagram and its salient features illustration in cantilever beam, simply supported beam and over hanging beam under point load and uniformly distributed load	**10**	**7/12/2021 TO 22/12/2021**	

5. Theory of simple bending	5.1 Assumptions in the theory of bending, 5.2 Bending equation, Moment of resistance, Section modulus& neutral axis. 5.3 solve simple problems	**10**	**23/12/2021 TO 5/01/2022**	
6. Combined direct & Bending stresses	6.1 Define column 6.2 Axial load, Eccentric load on column, 6.3 Direct stresses, Bending stresses, Maximum& Minimum stresses. Numerical problems on above. 6.4 Buckling load computation using Euler's formula (no derivation) in columns with various end conditions	**6**	**6/01/2022 TO 18/01/2022**	
7. Torsion	7.1 Assumption of pure torsion 7.2 The torsion equation for solid and hollow circular shaft 7.3 Comparison between solid and hollow shaft subjected to pure torsion	**4**	**19/01/2022 TO 27/01/2022**	

CLASS COVERED BY **HOD, MECHANICAL**