GOVERNMENT CO ED POLYTECHNIC RAIPUR							
DEPARTMENT OF CIVIL							
Teachers Diary							
SESSION-							
SESSION START AS PER UNIVERSITY CALANDER :							
COURSE NAME- STRENGTH OF MATERIALS							
NAME OF SUBJECT TEACHER-Mr.Pankaj Golchha							
lecture plan-4hr/week							
course code-2020472(020)							
Unit No.	**Topic**	**Topic to be covered**	**No. of periods planned**	**Total Hours**	**Actual No of periods taken**	**Date of Class Conduction**	**Remarks if any**
1	Simple Stresses and Strain	Mechanical Properties of material - Strength Elasticity, Plasticity, Ductility, Brittleness, Malleability, Toughness, Hardness and Rigidity & stiffness, Direct Stresse,Strain, Hook's Law.	1	12			
		Stress Strain Curve of mild steel . Modulus of elasticity . Yield stress, breaking stress , working stress & ultimate stress and factor of	1				
		principle of superposition , stresses in bars of different section , Stresses in composite bars	2				
		Lateral Strain and Poisson's Ration, volumetric strain due to Uni Axial , bixial and triaxial force and change in volume.	3				
		Shear Stress, Principle of Shear Stress, Shear Modulus, Bulk Modulus and relation among C, Eand K	3				
		Strain Energy, Resiliance, Proof resiliance , modulus of Resilience.	2				

2	Shear Force and Bending Moment	Types Of Beam- Cantilever, simply Supported , Fixed , Overhanging, Continuous beam	1	13			
		types of loading- point load, uniformly distributed load ,UVL ,Reaction	1				
		concept of shear force and bending moment, sign convention	1				
		Relation Between Bending Moment , Shear force and rate of loading	1				
		Shear Force and Bending moment diagrams for simply supported beam, Simply supported beams with overhang and cantilever subjected to point loads, UDL, Point of Contraflexure.	7				
		Load and bendiong moment diagram from shear force diagram	2				
3	Bending Stresses in Beams	Concept of pure bending , theory of simple bending , assumption in theory of bending , neutral axis	1	13			
		Bending Stresses and their Nature, Bending Stress Distribution Diagram	1				
		Moment of Resistance	2				
		Application of theory of bending to symetrical and unsymmterical sections	1				
	Shear Stresses in Beams	Shear stress equation, meaning of terms in the eqautions , shear stress distribution for Rectangular, hollow rectangular, circular section and hollow circular sections, I section, T section, channel section, diamond section, triangular section	7				

		Relation Between Maximum shear stress and average shear stress for rectangular section, Circular section, Triangular Section	1				
4	Compound Stresses	Stresses on inclined plane with different stress conditions	1	13			
		principal planes and principal stresses, analytical method and graphical method and graphical method using mohr's stress circle method.	6				
	Slope and Deflection	slope and deflection and their interrelation, macaulay's method for determination slope and deflection , maximum values slope and deflection for UDL and point loads for SS cantilever and Fixed Beams	6				
5	Fixed Beam	Concept, advantages and drawbacks, computation of fixed end	2	13			
		Drawing of B.M. diagrams indicating the max. +ve and -ve values	5				
	Column	columns and strut, short and long column. End conditions of col. And effective length of col. , mode of failure in col.	2				
		radius of gyration , slenderness ratio, euler's crippling load formula	3				
		Rankine's Formula for col.	1				
	Total Load		64	64			