NM Institute Of Engineering and Technology, Bhubaneswar

DEPARTMENT:CIVIL ENG

LESSON PLAN: Academic Year 2022-23 (Odd Semester) **COURSE: DIPLOMA** **SEMESTER: 3RD**

Subject/Code: STRUCTURAL MECHANICS/Th-1 **Faculty Name: Dr. JNYANENDRA K PRUSTY**

	Sl. No.	Name of the Topic to Cover	Text Book	Teaching Method	Remark
Ch-1	1	Simple Stresses and Strains: Introduction to stresses and strains	T1	P	OK
	2	Types of stresses and strains	T2	G	OK
	3	Poisson's Ratio and Hooke's law	T2	P	OK
	4	Application of simple stress and strain in engineering field	T3	G	OK
Ch-2	5	Behaviour of ductile and brittle materials under direct loads	T1	G	OK
	6	Limit of proportionality, Elastic limit, Yield stress	R1	G	OK
	7	Percentage elongation, Percentage reduction in area, Significance of percentage elongation and reduction in area of cross section	T2	G	OK
Ch-3	8	Deformation of prismatic bars due to uniaxial load	R1	G	OK
	9	Deformation of prismatic bars due to its self weight	T1	G	OK
	10	Principal stresses and strains	T2	P	OK
	11	Mohr's Circle and its application to solve problems of complex str	R1	G	OK
Ch-4	12	Stresses in beams due to bending: Bending stress in beams	T1	P	OK
	13	Theory of simple bending	T2	G	OK
	14	Equation for Flexure– Flexural stress distribution	T3	G	OK
	15	Position of N.A. and Centroidal Axis	T1	G	OK
Ch-5	16	Shear stresses in beams	T2	G	OK
	17	Stresses in shafts due to torsion	T2	P	OK
	18	Polar moment of inertia	T1	G	OK
	19	Equation of torsion	R1	G	OK
	20	Combined bending and direct stresses	R2	G	OK
C	21	Rectangular and circular sections, chimneys	R1	G	OK

h - 6	22	Dams and retaining walls	T3	P	OK
	23	Columns and Struts	T2	G	OK
	24	Short and Long columns	T1	G	OK
	25	Euler's theory of long columns	T3	G	OK
	26	Critical load for Columns with different end conditions	T2	G	OK
	27	Shear Force and Bending Moment	T2	P	OK
	28	Types of loads and beams	T1	P	OK
Ch - 7	29	Types of Supports	T2	G	OK
	30	Types of Reactions	T1	G	OK
	31	Types of Beams based on support conditions	T2	G	OK
	32	Shear force and bending moment in beams	T2	G	OK
	33	Sign convention, SFD and BMD	T3	G	OK
	34	Sign convention, SFD and BMD	R1	P	OK
	35	Slope and Deflection	R1	P	OK
	36	Shape and nature of elastic curve	T2	G	OK
	37	Slope and deflection of cantilever beams	T3	G	OK
	38	Slope and deflection of simply supported beams	T3	G	OK
Ch - 8	39	Indeterminacy in beams	T2	P	OK
	40	Analysis of beams by principle of superposition	R1	P	OK
	41	SF and BM diagrams	T3	G	OK
	42	Trusses: Types of Trusses	T2	G	OK
	43	Statically determinate and indeterminate trusses	R1	G	OK
	44	Degree of indeterminacy	T2	G	OK
	45	Stable and unstable trusses	R1	P	OK
				Method of Teaching	
				G: Green Board Teaching	
				P: Power Point Teaching	

Faculty Signature J.D