

TEACHING PLAN FOR THEORY

Name of Subject Teacher: Prasad A Dhumal

Subject: Structural Analysis-II		Class: T.E (A)	Branch: Civil	Year 2017-2018
Lecture No	Scheduled Date	Topics to be covered on the scheduled date		
		UNIT-I		
1	15/6/2017	Slope-deflection method of analysis: Slope-deflection equations.		
2	19/6/2017	Equilibrium equation of Slope deflection method, application to beams with joint translation and rotation.		
3	20/6/2017	Application to beams without joint translation and rotation.		
4	21/6/2017	Yielding of support		
5	22/6/2017	Application to non-sway rigid jointed rectangular portal frames.		
6	27/6/2017	Shear force and bending moment diagram.		
7	28/6/2017	Sway analysis of rigid jointed rectangular portal frames using slope-deflection method		
8	29/6/2017	Sway analysis of rigid jointed rectangular portal frames using slope-deflection method (Involving not more than three unknowns)		
		UNIT-II		
9	3/7/2017	Moment distribution method of analysis: Stiffness factor, carry over factor, distribution factor		
10	4/7/2017	Application to beams with joint translation and yielding of support, application to nonsway		
11	5/7/2017	Application to beams with and without joint translation and yielding of support, application to nonsway		
12	6/7/2017	Rigid jointed rectangular portal frames, shear force and bending moment diagram.		

Lecture No	Scheduled Date	Topics to be covered on the scheduled date
13	10/7/2017	Sway analysis of rigid jointed rectangular single bay single storey portal frames using moment distribution method
14	11/7/2017	Sway analysis of rigid jointed rectangular single bay single storey portal frames using moment Distribution method.
15	12/7/2017	Sway analysis of rigid jointed rectangular single bay single storey portal frames using moment Distribution method (Involving not more than three unknowns).
16	13/7/2017	Sway analysis of rigid jointed rectangular single bay single storey portal frames using moment Distribution method (Involving not more than three unknowns).
		UNIT-III
17	17/7/2017	Fundamental concepts of flexibility method of analysis.
18	18/7/2017	Formulation of flexibility matrix.
19	19/7/2017	Application to pin jointed plane trusses.
20	20/7/2017	Application to pin jointed plane trusses (Involving not more than three unknowns).
21	24/7/2017	Application of flexibility method to beams and rigid jointed rectangular portal frames.
22	25/7/2017	Application of flexibility method to beams and rigid jointed rectangular portal frames.
23	26/7/2017	Application of flexibility method to beams and rigid jointed rectangular portal frames(Involving Not more than three unknowns).
24	27/7/2017	Application of flexibility method to beams and rigid jointed rectangular portal frames(Involving Not more than three unknowns).
		UNIT-IV
25	31/7/2017	Fundamental concepts of stiffness method of analysis.
26	1/8/2017	Formulation of stiffness matrix.

27	2/8/2017	Application to trusses by member approach.
----	----------	--

Lecture No	Scheduled Date	Topics to be covered on the scheduled date
28	3/8/2017	Application to beams by structure approach only (Involving not more than three unknowns).
29	8/8/2017	Application to rigid jointed rectangular portal frames by structure approach only.
30	9/8/2017	Application to rigid jointed rectangular portal frames by structure approach only.
31	10/8/2017	Application to rigid jointed rectangular portal frames by structure approach only (Involving not more than three unknowns).
32	14/8/2017	Application to rigid jointed rectangular portal frames by structure approach only (Involving not more than three unknowns).
		UNIT-V
33	16/8/2017	Finite Difference Method – Introduction.
34	22/8/2017	Application to deflection problems of determinate beams by central difference method.
35	23/8/2017	Application to deflection problems of determinate beams by central difference method.
36	24/8/2017	Approximate methods of analysis of multi-storied multi-bay 2 - D rigid jointed frames by substitute frame method.
37	28/8/2017	Approximate methods of analysis of multi-storied multi-bay 2 - D rigid jointed frames by substitute frame method.
38	29/8/2017	Approximate methods of analysis of multi-storied multi-bay 2 - D rigid jointed frames by cantilever method.
39	30/8/2017	Approximate methods of analysis of multi-storied multi-bay 2 - D rigid jointed frames by cantilever method.
40	31/8/2017	Approximate methods of analysis of multi-storied multi-bay 2 - D rigid jointed frames by portal method.
		UNIT-VI

41	4/9/2017	Finite element method: Introduction, discretization.
42	6/9/2017	Types of elements-1D, 2D, 3D, isoperimetric and axisymmetric, convergence criteria
43	7/9/2017	Pascal's triangle, direct stiffness method.
44	11/9/2017	Principal of minimum potential energy, principal of virtual work (No numerical).
45	12/9/2017	Shape functions: CST elements by using polynomials by using Lagrange's Method.
46	13/9/2017	Shape functions: CST elements by using polynomials 1D elements by using Lagrange's Method.
47	14/9/2017	Shape functions: CST elements by using polynomials 2D elements by using Lagrange's method.
48	18/9/2017	Shape functions: CST elements by using polynomials 2D elements by using Lagrange's Method.