NameoftheInstitute:	**R.K. INSTITUTE OF ENGG. & TECH.**	
Department :	**CIVIL ENGINEERING**	
Semester:	4thSEM.	
SubjectNamewithcode:	DESIGN OF STEEL STRUCTURE	
TotalNo.ofClass(Required):	45	FROM-22/12/2025 TO-18/04/2026
FacultyName:	**Mrs. SAHID KHANUN**	

Class No.	**BriefDescriptionoftheTopic/Chaptertobetaught**	**Remarks**
1	Direct and Bending Stresses in vertical members	
2	Introduction to axial and eccentric loads, eccentricity about one principal axis only, nature of stresses, Maximum and minimum stresses, resultant stresses and distribution diagram	
3	Condition for no tension or zero stress at extreme fiber, Limit of eccentricity, core of section for rectangular and circular cross sections, Middle third rule.	
4	Chimneys of circular cross section subjected to wind pressure, Maximum and minimum stresses, resultant stresses and distribution diagram at base	
5	Analysis of dams subjected to horizontal water pressure, conditions of stability, Maximum and minimum stresses,	
6	resultant stresses and distribution diagram at base.	
7	Slope and Deflection	
8	Concept of slope and deflection, stiffness of beams, Relation among bending moment, slope, deflection and radius of curvature, (no derivation)	
9	Double integration method to find slope and deflection of cantilever and simply supported beams subjected to concentrated load and uniformly distributed load on entire span.	
10	Double integration method to find slope and deflection of cantilever and simply supported beams subjected to concentrated load and uniformly distributed load on entire span.	
11	Macaulay's method for slope and deflection	
12	application to cantilever and simply supported beam subjected to concentrated and uniformly distributed load on entire span.	
13	Determinate and Indeterminate structures (Fixed and Continuous Beam)	
14	Concept of Determinate and Indeterminate structures	

15	Concept of fixity, effect of fixity	
16	advantages and disadvantages of fixed beam over simply supported beam	
17	Principle of superposition	
18	n, Fixed end moments from first principle for beam subjected to point load	
19	, UDL over entire span.	
20	Application of standard formulae in finding end moments, end reactions and drawing S.F. and B.M. diagrams for a fixed beam.	
21	Definition, effect of continuity, nature of moments induced due to continuity, concept of deflected shape, practical examples	
22	Definition, effect of continuity, nature of moments induced due to continuity, concept of deflected shape, practical examples	
23	Clapeyron's theorem of three moment (no derivation), Application of Clapeyron's theorem maximum up to three spans and two unknown support moment only, Support at same level spans having same and uniform moment of inertia subjected to concentrated loads and uniformly distributed loads over entire span.	
24	Clapeyron's theorem of three moment (no derivation), Application of Clapeyron's theorem maximum up to three spans and two unknown support moment only, Support at same level spans having same and uniform moment of inertia subjected to concentrated loads and uniformly distributed loads over entire span.	
25	Concept of influence line diagram (ILD)	
26	Moment distribution method	
27	Moment distribution method	
28	Introduction to moment distribution method	
29	sign convention, Carry over factor, stiffness factor	
30	distribution factor.	
31	Application of moment distribution method to various types of continuous beams subjected to concentrated loads and uniformly distributed load over entire span having same or different moment of inertia, supports at same level, up to three spans and two unknown support moments only.	
32	Application of moment distribution method to various types of continuous beams subjected to concentrated loads and uniformly distributed load over entire span having same	
33	different moment of inertia, supports at same level, up to three spans and two unknown support moments only	

34	different moment of inertia, supports at same level, up to three spans and two unknown support moments only	
35	Introduction to portal frames	
36	Symmetrical and unsymmetrical portal frames with the concept of Bays and stories	
37	Types of trusses (Simple, Fink, compound fink, French truss, pratt truss,	
38	Howe truss, North light truss, King post and Queen post truss)	
39	Calculate support reactions for trusses subjected to point loads at joint	
40	Calculate support reactions for trusses subjected to point loads at joint	
41	Calculate forces in members of truss using Method of joints and Method of sections.	
42	REVISSION	
43	QUESTION DISCUSSION	
44	REVISSION	
45	QUESTION DISCUSSION	

HOD
CIVIL ENGG.

SUBJECT
EXPERT