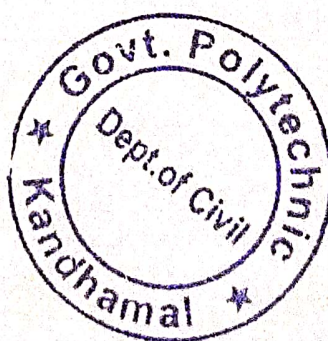**LESSON PLAN : TH-2.Theory of Structure , SESSION -2025-2026 (SUMMER 2026)BATCH-2024-2027(4th Semester)**

Discipline: civil engineering	Semester: 4th	Name of the Teaching Faculty: Swastik Pradhan,(Lect. Stage-II in Civil Engg.)		
Subject: Th.2- Theory of Structure	No. of days/ per week class allotted: 3	Semester From Date : 22-12-2025 to Date: 18-04-2026 No. of Weeks: 15		
Week	**Class Day**	**Theory/ Practical Topics**		
1ST	1	Introduction to axial and eccentric loads		
	2	Limit of eccentricity, core of sectionfor rectangular and circular cross sections		
	3	Chimneys of circular cross section subjected to wind pressure		
2ND	1	Analysis of dams subjected to horizontal water pressure		
	2	Concept of slope and deflection		
	3	Double integration method to find slope and deflection of cantilever		
3RD	1	Double integration method to find slope and deflection ofsimply supported beams		
	2	Macaulay's method for slope and deflection		
	3	Macaulay's method for slope and deflection		
4TH	1	Concept of Determinate and Indeterminate structures		
	2	Concept of fixity, effect of fixity, advantages and disadvantages of fixed beam		
	3	Principle of superposition, Fixed end moments from first principle for beam subjected to point load, UDL over entire span		
5TH	1	Definition, effect of continuity, nature of moments induced due to continuity		
	2	Clapeyron's theorem of three moment		
	3	Clapeyron's theorem of three moment		
6TH	1	Application of Clapeyron's theorem maximum up to three spans and two unknown support moment only		
	2	Concept of influence line diagram		
	3	Concept of influence line diagram		
7TH	1	Introduction to moment distribution method		
	2	Carry over factor, stiffness factor, distribution factor		
	3	Application of moment distribution method to various types of continuous beams		
8TH	1	Application of moment distribution method to various types of continuous beams		
	2	Introduction to portal frames		
	3	Introduction to portal frames		
9TH	1	internal assessment 1		

	2	Symmetrical and unsymmetrical portal frames with the concept of Bays and stories.
	3	Symmetrical and unsymmetrical portal frames with the concept of Bays and stories.
10TH	1	monthly quiz test
	2	Types of trusses
	3	Calculate support reactions for trusses
11TH	1	Calculate support reactions for trusses
	2	Calculate forces in members of truss using Method of joints
	3	Calculate forces in members of truss using Method of joints
12TH	1	Monthly Quiz test
	2	Calculate forces in members of truss using Method of joints
	3	Calculate forces in members of truss using method of sections.
13TH	1	Calculate forces in members of truss using method of sections.
	2	Calculate forces in members of truss using method of sections.
	3	Calculate forces in members of truss using method of sections.
14TH	1	internal assessment 2
	2	previous year question revision
	3	previous year question revision
15TH	1	previous year question revision
	2	previous year question revision
	3	previous year question revision

Govt. Polytechnic
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Kandhamal

Spondhan
20/12/25