Panipat Institute of Engineering and Technology

Department of Civil Engineering

For Lecture's in **B. Tech. Civil Engineering Vth Semester**

Course No.	Title of the Course	Course Structure	
CE-301A	STRUCTURAL ANALYSIS-II	**L-T-P**	**2-1-0**

COURSE OUTCOMES (CO)	
CO1	Students will be able to study behavior in the form of S.F and B.M for continuous beams by influence line method
CO2	Students will be able to analyze the behavior of rolling load on structures and fixed arches
CO3	Students will be able to analyze the frames structures
CO4	Students will be able to study about methods for stiffness and flexibility.

UNIT NO`	**Topics To Be Covered**	Lecture Nos
1	Introduction to influence line diagram	1
	Influence lines for three hinged	2-3
	Influence lines for two hinged arches	4-5
	load position for Max. S.F. and B.M. at a section in the span	6-7
	Influence Line for statically indeterminate Beams	8
	Muller-Breslau Principle	9
	I.L. for B.M. & S.F. for continuous Beams	10-11
II	Introduction to rolling load	12
	Single concentrated load	13
	Uniformly distributed load longer than span	14-15
	uniformly distributed load shorter than span	16-17
	Two-point loads, several point loads	18
	Max. B.M. and S.F. Absolute Max. B.M	19
	Fixed Arches expression for Horizontal Thrust and Bending Moment at a section	20
	Elastic Centre	21-22
III	Kani's Method: Analysis of continuous beams	23-26
	Analysis of Simple frames	27-29
	Analysis of frames with different column lengths	30
	Analysis of frames end conditions of	31-32

	the bottom story.	
IV	**Approximate Analysis of frames**:(i) For vertical loads, (ii) for lateral loads	33
	Portal method	34
	Cantilever method	35
	Matrix Methods Introduction	36
	Stiffness Coefficients, Flexibility Coefficients	37
	Development of flexibility & stiffness matrices for plane frame	38
	Global axis and local axis,	39
	Analysis of plane frame	40
	Pin jointed and rigid jointed.	41

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