B. Tech. Civil Engineering				
Course code: Course Title	**Course Structure**			**Pre-Requisite**
CE204: Analysis of Structures - II	**L**	**T**	**P**	**CE209: Analysis of Structures - I**
	3	**1**	**0**	

Course Objective: To familiarize the students with the concepts of Analysis of Indeterminate Structures.

S. No	Course Outcomes (CO)
CO1	Analyse indeterminate beams and frames by the Method of Consistent Deformation, the Strain Energy Method, the Three Moment Equation Method, the slope deflection method, and the moment distribution method.
CO2	Analyse beams and frames by flexibility and stiffness matrix methods.
CO3	Analyse portal frames for lateral loads by the Portal and Cantilever Method.
CO4	Analyse two-hinged arches and stiffening girders.
CO5	Draw the ILD of Indeterminate structural elements.

S. No	Contents	Contact Hours
UNIT 1	**Analysis of indeterminate structures** such as fixed beams, continuous beams, and indeterminate frames by Method of Consistent Deformation, Strain Energy Method, and the Three-Moment Equation Method	8
UNIT 2	**Analysis of continuous beams**, frames with and without translation of joints using the Slope Deflection Method and the Moment Area Method	8
UNIT 3	**Analysis of beams**, rigid and pin jointed frames by Flexibility (Force Method) & Stiffness (Displacement Method) Matrix Method	8
UNIT 4	Approximate Analysis of Rectangular Building Frames by Portal Method and Cantilever Method	8

Get all syllabi at dtuelectives.in↗

UNIT 5	Analysis of two-hinged Arches, basics of stiffening bridges with two and, three-hinged stiffening girders. Influence Lines of indeterminate beams, plane frames.	10
	Total	**42**

REFERENCES		
S. No.	**Name of Books/Authors/Publishers**	**Year of Publication / Reprint**
1	Theory of Structures (SMTS II), B. C. Punmia, A. K. Jain, A. K. Jain, Laxmi Publications Pvt. Ltd.	2004
2	Structural Analysis: A Matrix Approach, G. Pandit and S. Gupta, McGraw-Hill Education.	2008
3	Structural Analysis, R.C. Hibbeler, Prentice Hall.	2012
4	Structural Analysis, Aslam Kassimali, Sengage Learning.	2011
5	Structural Analysis: A unified classical and matrix approach, A. Ghali, A M Neville and T G Brown, Spon Press	2003
6	Structural Analysis – II, S.S. Bhavikatti, Vikas Publishing House.	2011
7	Matrix Methods of Structural Analysis, S.S. Bhavikatti, I.K. International Publishing House Pvt. Ltd.	2011
8	Matrix Analysis ff Framed Structures, James M. Gere and William Weaver, Chapman and Hall.	1990

Get all syllabi at dtuelectives.in