

Course Outcomes	ADVANCED STRUCTURAL ANALYSIS- 20CSE11
CO1	Apply Winkler Bach and Strain Energy principles to obtain stresses and deformation in curved members
CO2	Derive the expressions to Foundation pressure, Deflection, Slope, BM and SF of infinite and semi-infinite Beams resting on Elastic Foundation
CO3	Obtain the equations for the shear centre for symmetrical and unsymmetrical from fundamental.
CO4	Extrapolate the bending theory to calculate the stresses and deformations in unsymmetrical bending
CO5	Develop the characteristic equation for the buckling load of compound column and stresses and deformations in beam-column
Course Outcomes	MATRIX METHODS OF STRUCTURAL ANALYSIS- 20CSE12
CO1	Formulate force displacement relation by flexibility and stiffness method
CO2	Analyze the plane trusses, continuous beams and portal frames by transformation approach
CO3	Analyse the structures by direct stiffness method
Course Outcomes	Advanced design of RCC structures - 20CSE13
CO1	Achieve Knowledge of design and development of problem solving skills.
CO2	Understand the principles of Structural Design
CO3	Design and develop analytical skills.
CO4	Summarize the principles of Structural Design and detailing
CO5	Understands the structural performance.
Course Outcomes	MECHANICS OF DEFORMABLE BODIES - 20CSE14
CO1	Achieve Knowledge of design and development of problem solving skills
CO2	Understand the principles of stress-strain behaviour of continuum
CO3	Design and develop analytical skills
CO4	Describe the continuum in 2 and 3- dimensions
CO5	Understand the concepts of elasticity and plasticity.
Course Outcomes	STRUCTURAL DYNAMICS – 20CSE15
CO1	Achieve Knowledge of design and development of problem solving skills.
CO2	Understand the principles of Structural Dynamics
CO3	Design and develop analytical skills.
CO4	Summarize the Solution techniques for dynamics of Multi-degree freedom systems
CO5	Understand the concepts of damping in structures.
Course Outcomes	Structural engineering lab 1 -20CSEL16
CO1	Achieve Knowledge of design and development of experimenting skills.
CO2	Understand the principles of design of experiments
CO3	Design and develop analytical skills.
CO4	Summarize the testing methods and equipments.
Course Outcomes	RESEARCH METHODOLOGY AND IPR -20RMI17
CO1	Discuss research methodology and the technique of defining a research problem

CO2	Explain the functions of the literature review in research, carrying out a literature search, developing
CO3	Explain various research designs and their characteristics.
CO4	Explain the art of interpretation and the art of writing research reports
CO5	Discuss various forms of the intellectual property, its relevance and business impact in the changing global business environment and leading International Instruments concerning IPR
Course Outcomes	ADVANCED DESIGN OF STEEL STRUCTURES - 20CSE21
CO1	Able to understand behavior of Light gauge steel members
CO2	Able to understand design concepts of cold formed/unrestrained beams
CO3	Able to understand Fire resistance concept required for present days.
CO4	Able to analyze beam column behavior
Course Outcomes	FINITE ELEMENT METHOD OF ANALYSIS - 20CSE22
CO1	Explain the basic theory behind the finite element method.
CO2	Formulate force-displacements relations for 2-D elements
CO3	Use the finite element method to analyze real structures.
CO4	Use a Finite Element based program for structural analysis
Course Outcomes	EARTHQUAKE RESISTANT STRUCTURES - 20CSE23
CO1	Achieve Knowledge of design and development of problem solving skills.
CO2	Understand the principles of engineering seismology and concepts of earthquake resistance of reinforced concrete buildings.
CO3	Design and develop analytical skills.
CO2	Understand the concepts of earthquake resistance of reinforced concrete buildings.
CO4	Summarize the Seismic evaluation and retrofitting of structures.
Course Outcomes	ADVANCED DESIGN OF PRE- STRESSED CONCRETE STRUCTURES (Elective 1) - 20CSE242
CO1	Analyse , Design and detail PSC elements
Course Outcomes	ADVANCED STRUCTURAL ANALYSIS (Elective 2) - 18CSE251
CO1	Apply Winkler Bach and Strain Energy principles to obtain stresses and deformation in curved members
CO2	Derive the expressions to Foundation pressure, Deflection, Slope, BM and SF of infinite and semi-infinite Beams resting on Elastic Foundation
CO3	Obtain the equations for the shear centre for symmetrical and unsymmetrical from fundamental
CO4	Extrapolate the bending theory to calculate the stresses and deformations in unsymmetrical bending
CO5	Develop the characteristic equation for the buckling load of compound column and stresses and deformations in beam-column
Course Outcomes	DESIGN OF TALL STRUCTURES (Elective 2) - 20CSE252
CO1	Achieve Knowledge of design and development of problem solving skills.
CO2	Understand the principles of strength and stability
CO3	Design and develop analytical skills.
CO4	Summarize the behavior of various structural systems.
CO5	Understand the concepts of P-Delta analysis

Course Outcomes	STRUCTURAL ENGINEERING LAB-2 -20CSEL26
CO1	Achieve Knowledge of design and development of programming skills.
CO2	Understand the principles of structural analysis and design
CO3	Design and develop analytical skills
CO4	Summarize the performance of structures for static and dynamic forces.
Course Outcomes	DESIGN OF BRIDGES - 20CSE31
CO1	Describe historical growth, select ideal site and bridge, calculate values of design parameters of slab culvert at critical section as per IRC, design and detailing required for the execution of the project.
CO2	Carry out analysis of box culvert as per IRC to obtain the values of design parameters and to design and detail the components following IS code procedure.
CO3	Demonstrate the use of Pigeauds Method and Courbon's Method in the analysis of T beam bridge as per IRC, design to obtain the safe dimensions various components, optimum reinforcement required following IS code procedure.
CO4	Display the use of Courbon's Method in the analysis of PSC bridge as per IRC, design to obtain the safe value of pre stressing force, obtain the dimensions of various components to keep the stresses within codal provisions following IS code procedure.
CO 5	Analysis a balanced cantilever bridge as per IRC and to obtain the safe values of design parameters and to design and detail the components as per IS code procedure
Course Outcomes	DESIGN CONCEPTS OF SUBSTRUCTURES (Elective- 1) - 20CSE321
CO1	Achieve Knowledge of design and development of problem solving skills
CO2	Understand the principles of subsoil exploration
CO3	Design and develop analytical skills.
CO4	Understand the concepts of Settlement analysis.
Course Outcomes	FRACTURE MECHANICS APPLIED TO CONCRETE (Elective 2) - 20CSE331
CO1	Apply principles of fracture mechanics.
CO2	Design concrete structures using fracture mechanics approach.
CO3	Explain the importance of fracture mechanics.
CO4	Take special care of very large sized structures
Course Outcomes	PROJECT WORK PHASE -2 - 20CSE41