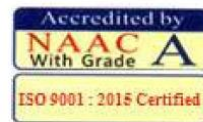




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DEPARTMENT OF CIVIL ENGINEERING
COURSE OUTCOMES MIC18 REGULATION

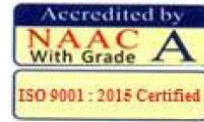
I SEMESTER (I BTECH -I SEM)	
18CE1T01	ENGLISH - I
CO 1	Use English language, both written and spoken, competently and correctly.
CO 2	Improve comprehension and fluency of speech
CO 3	Gain confidence in using English in verbal situations.
CO 4	Hone the communication skills to meet the challenges of their careers very successfully.
CO 5	Strengthen communication skills in different contexts like formal and informal.
18CE1T02	LINEAR ALGEBRA & DIFFERENTIAL EQUATIONS
CO 1	Apply the knowledge to solve a system of homogeneous and non-homogeneous linear equations
CO 2	Optimize functions of several variables and able to find extreme values of constrained functions
CO 3	Able to analyze the real life situations, formulate the differential equations and then applying the methods
CO 4	Apply the knowledge to solve the linear differential equations
CO 5	Provide the techniques of Laplace transformations and able to solve problems related to digital signal processing
18CE1T03	ENGINEERING CHEMISTRY
CO 1	study of polymers and composite materials enable us to use them in a goof number of engineering fields
CO 2	Electrochemical principles from the basis of batteries that are being developed. Destruction of metals and alloys can be prevented by understanding the science of corrosion
CO 3	methods of purification of water can be known so that more of them can be developed
CO 4	industries are run by the quality of fuels and energy crisis can be met by broad understanding of different fuels
CO 5	Study of the existing developed materials forms a basis for developing more number of advanced materials and the basics of analytical techniques helps in analyzing the material.
18CE1T04	PROBLEM SOLVING THROUGH C
CO 1	To formulate simple algorithms for arithmetic, logical problems and translate them to programs in c language
CO 2	To implement conditional branching, iteration and recursion.
CO 3	To decompose a problem into functions and synthesize a complete program using divide and conquer approach.



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CO 4	o use arrays, pointers and structures to formulate algorithms and programs
CO 5	To apply programming to solve matrix addition and multiplication problems and searching and sorting problems.
CO 6	To use structures and files
18CE1T05	ENGINEERING MECHANICS
CO 1	Identify and classify different types of forces acting on static structural systems and Model the problem using free-body diagrams and equilibrium equations
CO 2	Identify and model various types of loading and support conditions that act on structural systems
CO 3	Determine the centroid and moment of inertia for various structural elements
CO 4	Analyze motions of rigid body with concepts of dynamics.
CO 5	Analyze static structural frames subjected to loading by method of joints and method of section
18CE1L06	ENGLISH COMMUNICATION SKILLS LAB - I
CO 1	Acquire basic proficiency in English by learning functional aspects of English language
CO 2	Learn the methods of enhancing vocabulary
CO 3	Acquaint himself/ herself with nuances of phonetics
18CE1L07	ENGINEERING CHEMISTRY LAB
CO 1	student is exposed to different methods of chemical analysis and use of some commonly employed instruments. They thus acquire some experimental skills
18CE1L08	PROBLEM SOLVING THROUGH C LAB
CO 1	Demonstrate Knowledge on various concepts of a C language.
CO 2	Able to draw flowcharts and write algorithms.
CO 3	Able design and development of C problem solving skills.
CO 4	Able to design and develop modular programming skills.
CO 5	Able to trace and debug a program
18CE1L09	ENVIRONMENTAL STUDIES
CO 1	The concepts of the ecosystem and its function in the environment The importance of environment current global environmental challenges for the sustenance of the life on planet earth.
CO 2	Natural resources classification and their conservation
CO 3	The biodiversity of India and the threats to biodiversity, and conservation practices to protect the biodiversity
CO 4	The various attributes of the pollution and their impacts and measures to reduce or control the pollution along with waste management practices



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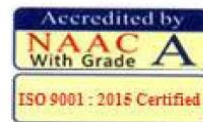
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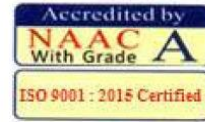
CO 5	The environmental legislations of India and Social issues and the possible means and EIA
II SEMESTER (I BTECH -II SEM)	
18CE2T01	ENGLISH - II
CO 1	Use English language in various contexts
CO 2	Improve comprehension and fluency of speech
CO 3	Appreciate a literary text
CO 4	Hone the communication skills to meet the challenges of their careers very successfully
CO 5	Understand the need for lifelong learning
18CE2T02	VECTOR CALCULUS & FOURIER TRANSFORMS
CO 1	Determine the areas and volumes using multiple integration
CO 2	Interpret the divergence, gradient and curl physically
CO 3	Analyze the general periodic functions in the form of an infinite convergent sine and cosine series
CO 4	Explain the techniques of Fourier transforms
CO 5	Illustrate the methods to solve the boundary value problems
18CE2T03	ENGINEERING PHYSICS
CO 1	To identify different crystal structures and to study different point defects.
CO 2	To gain basic knowledge of Simple harmonic waves and study of free and forced vibrations.
CO 3	To Develop the knowledge of science of Acoustics and Ultrasonics and their applications in various fields.
CO 4	The Analytical study of response of materials to Electromagnetic fields.
CO 5	The Study of lasers and optical fibers with an emphasis of their Engineering applications.
18CE2T04	BIOLOGY FOR ENGINEERS
CO 1	Understand how biological observations lead to major discoveries and the morphological, Bio chemical and ecological classification of organisms
CO 2	Understand that all forms of life have the same building blocks and their involvement in the maintenance and metabolic processes of living organisms
CO 3	Classify enzymes and distinguish between different mechanisms of enzyme action and study the chemical reactions that are catalysed by enzymes. Apply thermodynamic principles to biological systems and able to understand major chemical process that occur with in a living organism in order to maintain life
CO 4	Identify DNA as genetic material in the molecular basis of information transfer



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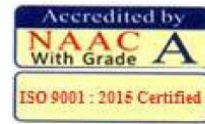
CO 5	Identify and classify micro organisms, Understand media compositions and growth of microorganisms
18CE2T05	BASIC ELECTRICAL & ELECTRONICS ENGINEERING
CO 1	Analyze various electrical networks.
CO 2	Understand operation of DC generators, single-phase transformer and acquire proper knowledge and working of 3-phase alternator and 3-phase induction motors
CO 3	Understand operation of Sources of Energy & power transmission and distribution using single line diagrams.
CO 4	Analyze operation of half wave, full wave bridge rectifiers and OP - AMPs.
CO 5	Understanding operations of CE amplifier and basic concept of feedback amplifier
18CE2L06	ENGINEERING GRAPHICS
CO 1	Understand the concepts of projections and draw projections for simple entities such as points and lines.
CO 2	To visualize projections of planes
CO 3	To visualize projections of solids
CO 4	To visualize interpenetrations of solids & Development of Surfaces
CO 5	Analyze the 2D drawings and convert to 3D isometric views & converting Isometric view to Orthographic views
18CE2L07	ENGINEERING PHYSICS lab
CO 1	Implement the basic principles of Optics through various phenomena of light.
CO 2	Implement the basic principles of Mechanics to measure different physical parameters.
CO 3	Enhance the knowledge of Usage of electronic devices in various applications
18CE2L08	BASIC ELECTRICAL & ELECTRONICS ENGINEERING LAB
CO1	Identify, assemble the connections of MCB, switches
CO2	Implement the DC Motor and DC Generator
CO3	able to implement Soldering for different circuits
CO4	able to perform characteristics for Mosfet, BJT, UJT
18CE2M09	BASIC ENGINEERING & IT WORKSHOP
CO1	Identify, assemble and update the components of a computer
CO2	Configure, evaluate and select hardware platforms for the implementation and execution of computer applications, services and systems
CO3	Make use of tools for converting pdf to word and vice versa



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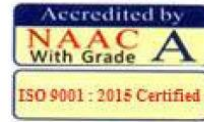
CO4	Develop presentation, documents and small applications using productivity tools such as word processor, presentation tools, spreadsheets, HTML, LaTeX
III SEMESTER (II BTECH -I SEM)	
18CE3T01	EFFECTIVE TECHNICAL COMMUNICATION
CO 1	Apply the knowledge to solve a system of homogeneous and non-homogeneous linear equations
CO 2	Illustrate the methods of computing Eigen values and Eigen vectors
CO 3	Able to analyze the real life situations, formulate the differential equations and then applying the methods
CO 4	Determine the solutions of linear differential equations
CO 5	Optimize functions of several variables and able to find extreme values of constrained functions
18CE3T02	NUMERICAL METHODS AND PROBABILITY STATISTICS
CO 1	To understand the various numerical techniques.
CO 2	To know the importance of the correlation coefficient & lines of regression
CO 3	To introduce the concepts of probability and statistics.
CO 4	To know sampling theory and principles of hypothesis testing.
18CE3T03	LIFE SCIENCE
CO 1	understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information
CO 2	ask and answer general questions on familiar topics
CO 3	employ suitable strategies to master the art of letter writing and email writing
CO 4	recognize paragraph structure and be able to match beginnings/ endings/ headings with paragraphs
CO 5	form sentences using proper grammatical structures and correct word forms
18CE3T04	BULDING MATERIALS & CONSTRUCTION
CO 1	Identify different building materials and their importance in building construction.
CO 2	Differentiate brick masonry, stone masonry
CO 3	Construction and use of lime and cement in various constructions.
CO 4	Importance of building components and finishing's.
CO 5	Know the classification of aggregates, sieve analysis and moisture content
18CE3T05	STRENGTH OF MATERIALS- I
CO 1	Implement the basic principles of simple stress and strains
CO 2	Implement the basic principles of shear force and bending moment



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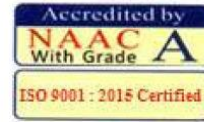
CO 3	Implement the basic principles of theory of simple bending and shear stress
CO 4	Implement the basic principles of deflection of beams
CO 5	Implement the basic principles of thin and thick cylinders
18CE3T06	FLUID MECHANICS
CO 1	To explain concepts of fluid mechanics used in Civil Engineering.
CO 2	To explain basics of statics, kinematics and dynamics of fluids and various measuring techniques of hydrostatic forces on objects.
CO 3	To enable the students measure quantities of fluid flowing in pipes, tanks and channels
CO 4	To strengthen the students with fundamentals useful in application-intensive courses dealing with hydraulics, hydraulic machinery and hydrology in future courses.
18CE3T07	SURVEYING
CO 1	Highlight the purpose of surveying in civil engineering construction
CO 2	Implement the basic principles of Mechanics to measure different physical parameters.
CO 3	Enhance the knowledge of Usage of electronic devices in various applications
CO 4	Apply the knowledge, techniques, skills, and applicable tools of the discipline to Engineering and surveying activities
CO 5	Explain different types of curves, their requirement and curve setting
18CE3L08	STRENGTH OF MATERIALS LAB
CO 1	To introduce various stress and strain measuring equipment.
CO 2	To familiarize with various physical, mechanical and strength properties of various engineering materials.
18CE3L09	SURVEYING FIELD WORK - I
CO 1	To familiarize with surveying equipment/ instruments like chain, compass, levelling instruments, theodolite and total station
CO 2	To impart the knowledge on linear, angular measurement
18CE3N10	ORGANIZATIONAL BEHAVIOR
CO 1	To understand the psychology of workers and other members in the organization.
CO 2	To be equipped with the right knowledge and skills regarding organizational processes, group behavior, organizational structure and culture.
CO 3	To build up strategies for development at their workplace.
CO 4	To motivate and control employees.
CO5	To resolve organizational conflict effectively.



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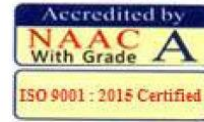
IV SEMESTER (II BTECH -II SEM)	
18CE4T01	PROFESSIONAL PRACTICE LAW & ETHICS
CO 1	To familiarize the students to what constitutes professional practice, introduction of various stakeholders and their respective roles; understanding the fundamental ethics governing the profession
CO 2	To give a good insight into contracts and contracts management in civil engineering, dispute resolution mechanisms; laws governing engagement overlabour
CO 3	To give an understanding of Intellectual Property Rights, Patents.
CO 4	To make the students understand the types of roles they are expected to play in the society as practitioners of the civil engineering profession
CO 5	To develop good ideas of the legal and practical aspects of their profession
18CE4T02	ENERGY SCIENCE & ENGINEERING
CO 1	Have basic understanding of the energy sources and scientific concepts/ principles behind them.
CO 2	Understand effect of using these sources on the environment and climate
CO 3	List and describe the primary renewable energy resources and technologies
CO 4	To quantify energy demands and make comparisons among energy uses, resources, and technologies.
CO 5	Understand the Engineering involved in projects utilizing these sources.
18CE4T03	BUILDING PLANNING & DRAWING
CO 1	Plan various buildings as per the building by-laws.
CO 2	Distinguish the relation between the plan, elevation and cross section
CO 3	Identify the form and functions among the buildings.
CO 4	Learn the skills of drawing building elements
CO 5	Plan the buildings as per requirements.
18CE4T04	STRENGTH OF MATERIALS-II
CO 1	To understand torsion of shafts and springs
CO 2	To understand columns and struts
CO 3	To understand direct and bending stress
CO 4	To understand unsymmetrical bending and shear center
CO 5	To understand analysis of determinate of trusses
18CE4T05	CONCRETE TECHNOLOGY
CO 1	Explain the functional role of ingredients of concrete and apply this knowledge to mix design philosophy



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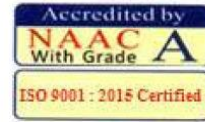
CO 2	Develop fundamental knowledge in the fresh and hardened properties of concrete
CO 3	Produce the testing methodology to evaluate the properties of concrete during fresh and hardened stage
CO 4	Knowledge on the behaviour of concrete with response to stresses developed.
CO 5	Knowledge on the special concretes and design a concrete mix which fulfils the required properties for fresh and hardened concrete
18CE4T06	HYDRAULIC ENGINEERING
CO 1	Introduce concepts of laminar and turbulent flows
CO 2	To understand the concept of boundary layer flows
CO 3	To teach principles of uniform and non-uniform flows through open channel.
CO 4	To impart knowledge on design of turbines.
CO 5	To impart knowledge on design of pumps.
18CE4L07	SURVEYING FIELD WORK -II
CO 1	To familiarize with surveying equipment/ instruments like chain, compass, levelling instruments, theodolite and total station
CO 2	To impart the knowledge on linear, angular measurement
18CE4L08	CONCRETE TECHNOLOGY LAB
CO1	Demonstrate Knowledge on various concepts of a C language.
CO2	Able to draw flowcharts and write algorithms.
CO3	Able design and development of C problem solving skills.
CO4	Able to design and develop modular programming skills.
CO5	Able to trace and debug a program
18CE4L09	FLUID MECHANICS & HYDRAULIC MACHINERY LAB
CO 1	To impart the knowledge on flow measurement through closed conduit/ tank/ channel.
CO 2	To familiarize with various losses in closed conduits.
CO 3	To familiarize with performance curves for various hydraulic turbines and pumps.
V SEMESTER (III BTECH -I SEM)	
18CE5T01	ENGINEERING GEOLOGY
CO 1	Identify and classify the geological minerals
CO 2	Classify the earthquake prone areas to practice the hazard zonation
CO 3	Analyses and interpret the Engineering Geological maps



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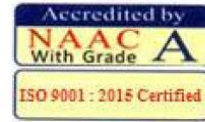
CO 4	Analyses the ground conditions from geophysical surveys.
CO 5	Investigate the project site for mega/ mini civil engineering projects. Site selection for mega engineering projects like Dams, Tunnels, disposal sites etc....
18CE5T02	TRANSPORTATION ENGINEERING
CO 1	Plan highway network for a given area.
CO 2	Determine Highway alignment and design highway geometrics
CO 3	Design Intersections and prepare traffic management plans
CO 4	Judge suitability of pavement materials and design flexible and rigid pavements
CO 5	Construct and maintain highways
18CE5T03	STRUCTURAL ANALYSIS
CO 1	Identify and classify different types of forces acting on static structural systems and Model the problem using free-body diagrams and equilibrium equations
CO 2	Identify and model various types of loading and support conditions that act on structural systems
CO 3	Determine the centroid and moment of inertia for various structural elements
CO 4	Analyze motions of rigid body with concepts of dynamics.
CO 5	Analyze static structural frames subjected to loading by method of joints and method of section
18CE5T04	GEOTECHNICAL ENGINEERING
CO 1	The student must know the definition of the various parameters related to soil mechanics and establish their inter-relationships.
CO 2	The student should be able to know the methods of determination of the various index properties of the soils and classify the soils.
CO 3	The student should be able to know the importance of the different engineering properties of the soil such as compaction, permeability, consolidation and shear strength and determine them in the laboratory.
CO 4	The student should be able to apply the above concepts in day-to-day civil engineering practice.
CO 5	To enable the students to differentiate between compaction and consolidation of soils and to determine the magnitude and the rate of consolidation settlement.
18CE5T05	HYDROLOGY & WATER RESOURCES ENGINEERING
CO 1	Be able to quantify major hydrologic components and apply key concepts to several practical areas of engineering hydrology
CO 2	Develop Unit hydrograph, Intensity-Duration-Frequency to design hydraulic structures
CO 3	Be able to develop design storms and carry out frequency analysis



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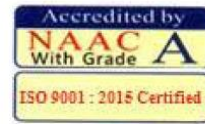
CO 4	Be able to estimate flood magnitude and carry out flood routing.
CO 5	Be able to determine aquifer parameters and yield of wells
18CE5T06	STRUCTURAL ENGINEERING-I(RCC)
CO 1	Identify the basic components of any structural system and the standard loading for the RC structure
CO 2	Identify and tell the various codal provisions given in IS.456
CO 3	Describe the salient feature of limit state method, compare with other methods and the concepts of limit state of collapse and limit state of serviceability
CO 4	Evaluate the behavior of RC member under flexure, shear and compression, torsion and bond.
18CE5L07	ENGINEERING GEOLOGY LAB
CO 1	To provide practical knowledge about physical properties of minerals, rocks, drawing of geological maps, showing faults, uniformities etc.
18CE5L08	GETECHNICAL ENGINEERING LAB
CO1	To obtain index and engineering properties of locally available soils, and to understand the behavior of these soil under various loads.
18CE5N09	CONSTITUTION OF INDIA
CO 1	The concepts of the ecosystem and its function in the environment The importance of environment current global environmental challenges for the sustenance of the life on planet earth.
CO 2	Natural resources
CO 3	The biodiversity of India and the threats to biodiversity, and conservation practices to protect the biodiversity
CO 4	The various attributes of the pollution and their impacts and measures to reduce or control the pollution along with waste management practices
CO 5	The environmental legislations of India and Social issues and the possible means and EIA
VI SEMESTER (III BTECH -II SEM)	
18CE6T01	STRUCTURAL ENGINEERING – II (STEEL)
CO 1	Explain the mechanical properties of structural steel, plasticity, yield.
CO 2	Analyze the Behaviour of steel structures under tension, compression and flexure.
CO 3	Design the tension, Compression, flexural members and plate girder
CO 4	Design the connection in steel structure, 'build -up member and (bolted and welded).
CO 5	Identify and Design the various components of welded plate girder including stiffeners



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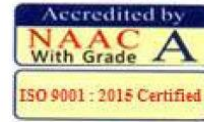
18CE6T02	ENVIRONMENTAL ENGINEERING-I
CO 1	Plan and design the water and distribution networks and sewerage systems
CO 2	Identify the water source and select proper intake structure
CO 3	Characterization of water
CO 4	Select the appropriate appurtenances in the water supply
CO 5	Selection of suitable treatment flow for raw water treatments
18CE6T03	STRUCTURAL ANALYSIS-II
CO 1	Identify and classify different types of forces acting on static structural systems and Model the problem using free-body diagrams and equilibrium equations
CO 2	Identify and model various types of loading and support conditions that act on structural systems
CO 3	Determine the centroid and moment of inertia for various structural elements
CO 4	Analyze motions of rigid body with concepts of dynamics.
CO 5	Analyze static structural frames subjected to loading by method of joints and method of section
18CE6T04	TRANSPORTATION ENGINEERING-II
CO 1	To know various components and their functions in a railway track
CO 2	To acquire design principles of geometrics in a railway track.
CO 3	To acquire design principles of airport geometrics and pavements.
CO 4	Design geometrics in a railway track.
CO 5	Design airport geometrics and airfield pavements.
18CE6T05	QUANTATIVE APTITUDE & REASONING
CO 1	Understand the basics concepts of Numerical Ability and Reasoning Skills
CO 2	Use the logical thinking and analytical abilities to solve Quantitative Aptitude questions from Companies specific and other competitive tests.
CO 3	Solve questions related to Time and Distance, Time and Work , Percentages, Simple interest , Compound interest. Etc.
CO 4	Solve questions related to Coding and Decoding, Number series, Directions, Puzzles etc.
CO 5	Understand and solve Puzzle related questions for Competitive and Campus Placement exams.
18CE6T06	LOW COST HOUSING
CO 1	To learn about Urban housing and Rural housing scenarios in India
CO 2	To learn about Living conditions and planning for housing in urban Land
CO 3	To learn about prefabrication technologies and its adaptation in India



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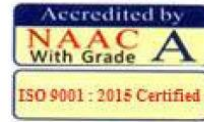
CO 4	To know about Low infrastructure services and Rural Housing.
CO 5	To look over the housing techniques in disaster prone areas
18CE6L07	ARCHITECTURAL PLANNING AND CAD LAB
CO 1	Master the usage of Auto cad commands for drawing 2D & 3D building drawings required for different civil engineering applications
18CE6L08	TRANSPORTATION ENGINEERING LAB
CO1	To test crushing value, impact resistance, specific gravity and water absorption, percentage attrition, percentage abrasion, flakiness index and elongation index for the given road aggregates.
CO2	To know penetration value, ductility value, softening point, flash and fire point, viscosity and stripping for the given bitumen grade.
CO3	To test the stability for the given bitumen mix
CO4	To carry out surveys for traffic volume, speed and parking
VII SEMESTER (IV BTECH -I SEM)	
18CE7T01	ESTIMATION, COSTING AND VALUATION
CO 1	Understand the technical specifications for various works to be performed for a project and how they impact the cost of a structure.
CO 2	Quantify the worth of a structure by evaluating quantities of constituents, derive their cost rates and build up the overall cost of the structure.
CO 3	Understand how competitive bidding works and how to submit a competitive bid proposal.
18CE7T02	WATER RESOURCES ENGINEERING-II
CO 1	Estimate irrigation water requirements
CO 2	Design irrigation canals and canal network and can plan an canal irrigation system
CO 3	Find the capacity of a reservoir
CO 4	Analyze stability of gravity dams
CO 5	Apply suitable spillways and energy dissipation works
18CE7T03	ENVIRONMENTAL ENGINEERING-II
CO 1	Plan and design the sewerage systems
CO 2	Select the appropriate appurtenances in the sewerage systems
CO 3	Analyze sewage and suggest and design suitable treatment system for sewage treatment
CO 4	Identify the critical point of pollution in a river for a specific amount of pollutant disposal into the river
CO 5	Suggest a suitable disposal method with respect to effluent standards.



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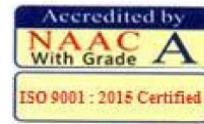


18CE7T04	GEOTECHNICAL ENGINEERING-II
CO 1	The student must be able to understand the various types of shallow foundations and decide on their location based on soil characteristics.
CO 2	The student must be able to design Piles based on the principles of bearing capacity.
CO 3	The student must be able to identify different components of well foundation and soil sampling methods
CO 4	student must be able to analyse slope stability
CO 5	To be able to estimate earth pressure using various theories
18CE7T05	REMOTE SENSING AND GIS
CO 1	Be familiar with ground, air and satellite based sensor platforms
CO 2	Interpret the aerial photographs and satellite imageries
CO 3	To be familiar with GIS components
CO 4	Create and input spatial data for GIS application
CO 5	Apply RS and GIS concepts in water resources engineering
18CE7L06	STAAD PRO LAB
CO 1	Work comfortably on GIS software
CO 2	Digitize and create thematic map and extract important features
CO 3	Use structural analysis software to analyze and design 2D and 3D frames
CO 4	Design and analyze retaining wall and simple towers using CADD software.
18CE7L07	ENVIRONMENTAL ENGINEERING LAB
CO 1	Perform the experiments to determine water and waste water quality
CO 2	Understand the water & waste water sampling, their quality standards
CO 3	Estimate quality of water, waste water, Industrial water
VIII SEMESTER (IV BTECH -II SEM)	
18CE8T01	PRESTRESSED CONCRETE
CO 1	Familiarize Students with concepts of prestressing
CO 2	Equip student with different systems and devices used in prestressing
CO 3	Understand the different losses of prestress including short- and long-term losses
CO 4	Familiarize students with the analysis and design of prestressed concrete members under flexure



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CO5	Familiarize students with the analysis and design of prestressed concrete members under shear and torsion
18CE8T02	CONSTRUCTION TECHNOLOGY AND MANAGEMENT
CO 1	Able to perform construction operation planning & management
CO 2	Able to perform classification of construction projects
CO 3	Able to perform resource planning
CO 4	Able to perform contracts
CO5	Able to perform management information system
18CE8T03	ADVANCED CIVIL ENGINEERING TECHNOLOGIES
CO 1	Apply the principles and uses of Electronic Surveying instruments
CO 2	Understand the Pre stressed concrete
CO 3	Advanced methods in Earth retaining structures
CO 4	Application Pre - fabricated building technology
18CE8L05	PROJECT
CO 1	Identify different works to be carried out in the Project.
CO 2	Select the most efficient method from the available choices based on preliminary investigation
CO 3	Design the required elements of the project as per standard Practice.
CO 4	Prepare working drawings for the project
CO 5	Prepare project report.