



D.N.R COLLEGE OF ENGINEERING & TECHNOLOGY::BHIMAVARAM

DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	II/I
Faculty Name:		Regulation	R16

Upon completion of the course, students will be able to:

Subject Code	Subject: Probability & Statistics	Taxonomy Level
C211.1	Analyze various Probability distributions for Discrete Random Variables & Distributions	Analyse
C211.2	Analyse various Probability distributions for Continuous Random Variables & Distributions	Analyse
C211.3	Illustrate confidence intervals for the mean of a population.	Analyse
C211.4	Formulate confidence intervals for the proportion and the variance of a population and test the hypothesis concerning mean, proportion and variance.	Create
C211.5	Evaluate ANOVA test & fit a curve to the numerical data.	Evaluate
C211.6	Estimate the Statistical Quality Control using X-bar, P, R Charts	Evaluate

Blooms Taxonomy: Analyse, Evaluate, Create.

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Upon completion of the course, students will be able to:

Subject Code	Subject: Basic Electrical & Electronics Engineering	Taxonomy Level
C212.1	Describe the various electrical networks	Remember
C212.2	Understand the operation of DC generators,3-point starter and Conduct the Swinburne's Test.	Apply
C212.3	Analyse the performance of transformer	Analyse
C212.4	Assess the operation of 3-phase alternator and 3-phase induction motors	Evaluate
C212.5	Analyse the operation of half wave, full wave rectifiers and OP-AMPs.	Analyse
C212.6	Explain the single stage CE amplifier and concept of feedback amplifier	Understand

Blooms Taxonomy: Remember, Understand, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Strength of Materials-I	Taxonomy Level
C213.1	Understand the basic materials behavior under the influence of different external loading conditions and the support conditions.	Understand
C213.2	Outline the relationship between bending moment, shear force and rate of loading with the help of diagrams.	Analyse
C213.3	Apply the theory of simple bending to beams for computing the flexural strength across the section.	Apply
C213.4	Apply the theory of simple bending to beams for computing the shear stress across the section	Apply
C213.5	Evaluate the Slopes and Deflections in beams and trusses subjected to various load combinations using energy methods.	Evaluate
C213.6	Apply fluid pressure concepts for computing circumferential and longitudinal stresses and strains on thick and thin-walled cylinders.	Apply

Blooms Taxonomy: Understand, Analyse, Apply, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Building Materials & Construction	Taxonomy Level
C214.1	Identify different building materials and their importance in building construction.	Remember
C214.2	Categorize brick masonry, stone masonry construction	Analyse
C214.3	Use Lime and Cement in various construction activities	Apply
C214.4	Contrast Building Components like arches, Trusses and lintel.	Analyse
C214.5	Evaluate the importance of building components and finishings.	Evaluate
C214.6	Identify the classification of aggregates, sieve analysis and moisture content usually required in building construction.	Remember

Blooms Taxonomy: Remember, Analyse, Apply, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Surveying	Taxonomy Level
C215.1	Operate and use surveying equipment.	Apply
C215.2	Sketch plan or map of the existing permanent features on the ground.	Apply
C215.3	Classify the ground features from the map or plan.	Analyse
C215.4	Analyse temporary adjustments and check permanent adjustments of the Theodolite	Analyse
C215.5	Derive different types of Curves & know their applications	Create
C215.6	Evaluate Construction Survey & Various Space Based Positioning System.	Evaluate

Blooms Taxonomy: Analyse, Apply, Evaluate, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Fluid Mechanics	Taxonomy Level
C216.1	Understand Various Properties Of Fluids And Their Influence On Fluid Motion and Analyse Variety of Problems in Fluid Statics And Dynamics.	Analyse
C216.2	Calculate the Forces that Act on Submerged Planes and Curves.	Apply
C216.3	Analyse Various types Of Fluid Flows & draw simple hydraulic and energy gradient lines.	Analyse
C216.4	Apply Integral Forms of 3 Fundamental Laws of Fluid Mechanics to Turbulent And Laminar Flow to Predict Relevant Pressures, Velocities and Forces.	Apply
C216.5	Measure the quantities of Fluid Flowing In Pipes, Tanks And Channels.	Evaluate
C216.6	Illustrate the Concept of Boundary Layer To Practical Situations.	Apply

Blooms Taxonomy: Analyse, Apply, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Survey Field Work - I	Taxonomy Level
C217.1	Apply standard Practices to perform chain survey in the field and to plot from field data	Apply
C217.2	Apply Principles to Perform compass survey and plot from field data	Apply
C217.3	Apply basics of plane table survey for making plans and calculating areas	Apply
C217.4	Apply basic techniques and engineering tools for leveling.	Apply
C217.5	Apply knowledge of levelling in Longitudinal and cross sectioning for the given alignment	Apply
C217.6	Explain the methods of levelling and chaining.	Understand

Blooms Taxonomy: Understand, Apply

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Upon completion of the course, students will be able to:

Subject Code	Subject: Strength of Materials Lab	Taxonomy Level
C218.1	Evaluate the values of Tensile and compressive stresses of the given specimen.	Evaluate
C218.2	Analyse stress of various beams subjected to bending loads.	Analyse
C218.3	Examine the stiffness of the open coil and closed coil spring.	Apply
C218.4	Evaluate the capacity of a material to withstand torsional and shearing stresses.	Evaluate
C218.5	Determine the hardness, impact strength to analyze the application of a specific material.	Apply
C218.6	Determine the of stress, strain, deformation of material under different types of loading.	Apply

Blooms Taxonomy: Analyse, Apply, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Building Planning & Drawing	Taxonomy Level
C221.1	Understand Bye Laws & Regulations for Constructing a Building.	Understand
C221.2	Illustrate the relation between the plan, elevation and cross section.	Apply
C221.3	Paraphrase the form and functions among the buildings.	Understand
C221.4	Compare between English & Flemish Bonds.	Evaluate
C221.5	Sketch types of doors, windows, Ventelators & Roofs on Drawing Sheet.	Apply
C221.6	Create a plan for various buildings as per the building by-laws	Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Strength of Materials - II	Taxonomy Level
C222.1	Calculate principal stresses, strains, and Theories of failures in the materials.	Apply
C222.2	Apply the torsion equation to springs, solid and hollow circular shafts for computing torsional stiffness of springs and power transmitted by shafts.	Apply
C222.3	Derive buckling of columns and struts under axial loading for understanding the behavior of column	Create
C222.4	Determine the Direct and Bending Stresses in the case of chimneys, retaining walls and dams	Apply
C222.5	Calculate the Deflection of beams under unsymmetrical bending and determine shear center for various cross sections.	Apply
C222.6	Assess forces in different types of trusses used in construction.	Evaluate

Blooms Taxonomy: Apply, Evaluate, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Hydraulics & Hydraulic Machinery	Taxonomy Level
C223.1	Solve uniform and non uniform open channel flow problems.	Apply
C223.2	Outline the Ideas and Importance of Critical Flow Parameters	Analyse
C223.3	Examine the Principles of Dimensional Analysis For building The Relationship Between Model And Prototypes.	Apply
C223.4	Illustrate the Similitude Concept for Testing of Engineering Models	Apply
C223.5	Examine the Principles of Dimensional Analysis and Similitude In Hydraulic Model Testing.	Apply
C223.6	Assess the Working Principles of Various Hydraulic Machinery and Pumps.	Evaluate

Blooms Taxonomy: Apply, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Concrete Technology	Taxonomy Level
C224.1	Illustrate the basic physical and chemical properties of construction materials for determining quality of concrete.	Analyse
C224.2	Evaluate the most economical and eco-friendly concrete mix based on standard methods for producing quality of concrete	Evaluate
C224.3	Determine the workability and manufacturing process of concrete for obtaining economical and durable concrete.	Apply
C224.4	Analyse the impact of water/cement ratio on strength and durability of concrete by measuring its hardened strength by compressive, tensile and flexural strengths	Analyse
C224.5	Apply the knowledge of mechanical properties of concrete like Elasticity, Creep & Shrinkage in the designing of the concrete structures.	Apply
C224.6	Examine special concretes and new generation concrete for satisfying the future needs of industry in real time	Apply

Blooms Taxonomy: Apply, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Structural Analysis - I	Taxonomy Level
C225.1	Differentiate between the determinate and indeterminate structures.	Understand
C225.2	Analyse the behaviour of structures due to the expected loads, including the moving loads, acting on the structure.	Analyse
C225.3	Evaluate the bending moment and shear forces in beams for different fixity conditions.	Evaluate
C225.4	Analyse the continuous beams using various methods -, three moment method, slope deflection method, energy theorems.	Analyse
C225.5	Construct the influence line diagrams for various types of moving loads on beams/bridges.	Create
C225.6	Analyse the loads in Pratt and Warren trusses when loads of different types and spans are passing over the truss.	Analyse

Blooms Taxonomy: Understand, Analyse, Evaluate, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Transportation Engineering - I	Taxonomy Level
C226.1	Infer highway network Plan for a given area.	Analyse
C226.2	Determine Highway alignment and design highway geometrics	Apply
C226.3	Design Intersections and prepare traffic management plans	Create
C226.4	Judge suitability of pavement materials.	Evaluate
C226.5	Design the flexible pavement and rigid pavement of Highway.	Create
C226.6	Illustrate Construction and maintainance of highways	Analyse

Blooms Taxonomy: Apply, Analyse, Evaluate, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: FM & HM Lab	Taxonomy Level
C227.1	Analyze the flow discharge through venturi meter an orifice meter	Analyse
C227.2	Determine the rate of flow through notches	Apply
C227.3	Determine minor losses in the pipes	Apply
C227.4	Apply the principles of Bernoulli's equation in measurement of discharge in pipes, and in other pipe flow problems	Apply
C227.5	Evaluate the impact of jets on different vanes	Evaluate
C227.6	Evaluate the performance characteristics of hydraulic turbines and pumps	Evaluate

Blooms Taxonomy: Apply, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Survey Field Work - II	Taxonomy Level
C228.1	Apply the knowledge of Theodolite in different operations in civil engineering projects.	Apply
C228.2	Apply the knowledge of principles and purpose of Tacheometry in finding out the constants.	Apply
C228.3	Construct the Simple Curve by using different methods and to plot from field data.	Create
C228.4	Calculate areas, drawing planes and contour maps using different measuring equipment at field level.	Apply
C228.5	Calculate the area and heights using total station in the field	Apply
C228.6	Apply the knowledge of Total station in different operations of Traversing & Contouring.	Apply

Blooms Taxonomy: Apply, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Managerial Economics & Financial Analysis	Taxonomy Level
C229.1	Compare the Demand and Demand Elasticities for a product	Analyse
C229.2	Evaluate the Input-Output-Cost relationships and estimation of the least cost combination of inputs	Evaluate
C229.3	Understand the nature of different markets and determine price output determination under various market conditions	Understand
C229.4	Describe different Business Units, market structures, pricing strategies	Understand
C229.5	Formulate Financial Statements and the Usage of various accounting tools for Analysis	Analyse
C229.6	Evaluate various investment project proposals with the help of capital Budgeting techniques for decision making	Evaluate

Blooms Taxonomy: Understand, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Management Science	Taxonomy Level
C311.1	Demonstrate Skill about Management Functions, Global Leadership & Organizational behaviour.	Apply
C311.2	Classify & Analyse functional management project management and strategic management.	Analyse
C311.3	Demonstrate Marketing Strategies, Job Evaluation & Merit Rating.	Apply
C311.4	Differentiate between CPM & Pert Methods & Identify Critical Path.	Analyse
C311.5	Evaluate SWOT analysis, Elements of Corporate planning.	Evaluate
C311.6	Assess Contemporary Management Practice.	Evaluate

Blooms Taxonomy: Apply, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Engineering Geology	Taxonomy Level
C312.1	Explain basic concepts, common rocks, minerals, their significance and application in civil engineering.	Understand
C312.2	Testing of geological material to check the suitability.	Analyse
C312.3	Recognize tectonic effects, Geological structures and their significance in Civil Engineering.	Understand
C312.4	Classify , monitor and measure the Landslides and subsidence	Analyse
C312.5	Analyses the ground conditions through geophysical surveys	Analyse
C312.6	Investigate the project site for mega/mini civil engineering projects.Site selection for mega engineering projects like Dams, Tunnels	Analyse

Blooms Taxonomy: Understand, Analyse

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Upon completion of the course, students will be able to:

Subject Code	Subject: Structural Analysis – II	Taxonomy Level
C313.1	Analyse two and three hinged arches and its application.	Analyse
C313.2	Analyse lateral Loads of structures & drawing SFD & BMD.	Analyse
C313.3	Analyse Cable and Suspension Bridge structures	Analyse
C313.4	Illustrate concept of static and kinematic indeterminacy, slope and deflection of determinate and indeterminate beams for analysis of structures.	Apply
C313.5	Evaluate structures using Moment Distribution, Kani's Method and Matrix methods	Evaluate
C313.6	Analyse indeterminate beams structures and frames.	Analyse

Blooms Taxonomy: Apply, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Design and Drawing of Reinforced Concrete Structures	Taxonomy Level
C314.1	Apply Fundamental Concepts Of Limit State Method And Working Stress Methods	Apply
C314.2	Analyse The Structural Behavior Of Reinforced Concrete Elements In Bending, Shear, Compression And Torsion	Analyse
C314.3	Design a structures Subjected To Shear, Bond And Torsion	Create
C314.4	Design Different type Of Compression Members subjected to different Loading	Create
C314.5	Design Different type Of Footings subjected to different Loading Conditions	Create
C314.6	Analyse & Design different types of Slabs	Create

Blooms Taxonomy: Apply, Analyse, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Transportation Engineering – II	Taxonomy Level
C315.1	Design geometrics of a railway track.	Create
C315.2	Provide good transportation network	Understand
C315.3	Contrast Turnouts & interlockings in Railway Track	Analyse
C315.4	Design Airport Geometrics and understand Airport Masterplan	Create
C315.5	Design Airport Runway and also evaluate its strength.	Create
C315.6	Illustrate Planning, construction and maintainance of Docks and Harbors.	Apply

Blooms Taxonomy: Understand, Analyse, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Concrete Technology Lab	Taxonomy Level
C316.1	Outline the importance of testing of cement and its properties	Analyse
C316.2	Assess the different properties of aggregate	Evaluate
C316.3	Determine the concept of workability and testing of concrete	Apply
C316.4	Prepare fresh concrete apparatus after finalising Mix Proportion.	Create
C316.5	Evaluate the properties of hardened concrete	Evaluate
C316.6	Explain the non-destructive testing procedures on concrete.	Understand

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate, Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Engineering Geology Lab	Taxonomy Level
C317.1	Test different Minerals to Identify their Mega-scopic properties.	Evaluate
C317.2	Test different Rocks to Identify their Mega-scopic properties.	Evaluate
C317.3	Identify the site parameters such as contour, slope & aspect for topography.	Understand
C317.4	Analyse the Occurance of strike & dip on the ground	Analyse
C317.5	Assess geological maps showing tilted beds, faults, unconformities.	Evaluate
C317.6	Deterimine the Strength of Rock using Laboratory Tests.	Apply

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Upon completion of the course, students will be able to:

Subject Code	Subject: Transportation Engineering Lab	Taxonomy Level
C318.1	Determine engineering properties of Road aggregates.	Apply
C318.2	Determine index properties of Road aggregates.	Apply
C318.3	Examine the grade & properties of bitumen.	Apply
C318.4	Outline the various properties of bitumen material and mixes by performing various tests on it	Analyse
C318.5	Calculate the design speed, maximum speed and minimum speed limits of a location through spot speed.	Apply
C318.6	Evaluate the strength of subgrade soil by CBR test.	Evaluate

Blooms Taxonomy: Apply, Analyse, Evaluate

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Upon completion of the course, students will be able to:

Subject Code	Subject: Design and Drawing of Steel Structures	Taxonomy Level
C321.1	Analyse various Indian Standard codes and its application in design steel structure.	Analyse
C321.2	Analysis and Design of flexural members and detailing them.	Create
C321.3	Design compression & Tension members of different types with connection detailing	Create
C321.4	Design eccentrically loaded column and column bases	Create
C321.5	Design Plate Girder and Gantry Girder with connection detailing	Create
C321.6	Sketch the drawings pertaining to different components of steel structures	Apply

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Upon completion of the course, students will be able to:

Subject Code	Subject: Geotechnical Engineering – I	Taxonomy Level
C322.1	Assess Soil Structure & Clay Mineralogy & Understand Compaction & its Mechanism.	Evaluate
C322.2	Classify various types of Soil using different Concepts & Understand different Consistency Limits & Indices.	Analyse
C322.3	Impart the Concept of Seepage of The Water through Soils and Determine the Permeability of Water Through Soils.	Apply
C322.4	Analyse Boussinesq & Westergaad's theories for Stress Distribution in Soils.	Analyse
C322.5	Impart concept of Consolidation of Soils and Determine the Rate & degre of Consolidation.	Apply
C322.6	Determination of Shear Strength of Soils using Mohr's Coulomb failure Theories & Stress- Strain behaviour of Sand & Clay.	Apply

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Upon completion of the course, students will be able to:

Subject Code	Subject: Environmental Engineering – I	Taxonomy Level
C323.1	Estimate Water demand and Population Forecasting using different Methods.	Apply
C323.2	Illustrate the Water conveyance & design aspects of Pipe lines.	Apply
C323.3	Analyse the Characteristics of water and compare them with IS standards.	Analyse
C323.4	Describe and design of Coagulation, Flocculation processes and Filtration.	Create
C323.5	Evaluate disinfection processes, water softening methods, demineralization, fluoridation and defluoridation.	Evaluate
C323.6	Describe and Design parts of water distribution systems	Create

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Upon completion of the course, students will be able to:

Subject Code	Subject: Water Resources Engineering–I	Taxonomy Level
C324.1	Interpret the components of Water Cycle & its measurement for Evolving the effects of Hydrology.	Understand
C324.2	Illustrate the factors effecting the rate of Evaporation & Infiltration for reducing the water loss in the Environment.	Apply
C324.3	Develop hydrographs for the Rainfall-Runoff data to design Storage Capacity & Life of Reservoirs.	Create
C324.4	Estimate the Floof Magnitude & carry out Floof Routing.	Apply
C324.5	Examine different Aquifer properties & their uses for Construction of Well.	Apply
C324.6	Examine the Rainfall- Runnoff Models for the advance Computation of Hydrograph.	Apply

Blooms Taxonomy: Understand, Apply, Create

Faculty Signature



D.N.R COLLEGE OF ENGINEERING & TECHNOLOGY::BHIMAVARAM

DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	III/II
Faculty Name:		Regulation	R16

Upon completion of the course, students will be able to:

Subject Code	Subject: Waste Water Management	Taxonomy Level
C325.1	Analyse the Quality & Quantity requirements of Water in different stages of production in different industries.	Analyse
C325.2	Assess different Treatment methods used for removal of Impurities in Industries.	Evaluate
C325.3	Differentiate between Unit Operations & Unit Processes employed for Industrial Waste water Management.	Analyse
C325.4	Decide the need of common effluent treatment plant for the industrial area in their vicinity	Evaluate
C325.5	Outline the manufacturing process & treatment methods employed at different Industrials.	Analyse
C325.6	Apply their Knowledge to Suggest Suitable treatment methods for any industrial wastewater.	Apply

Blooms Taxonomy: Apply, Analyse, Evaluate

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	III/II
Faculty Name:		Regulation	R16

Upon completion of the course, students will be able to:

Subject Code	Subject: Geotechnical Engineering Lab	Taxonomy Level
C326.1	Evaluate the different types of soil and their engineering properties and classify them.	Evaluate
C326.2	Evaluate the different types of soil and their Index properties and classify them.	Evaluate
C326.3	Determine the soil properties in laboratory and develop a proficiency in handling experimental data.	Apply
C326.4	Analyse engineering properties like compaction, permeability, soil shear strength.	Analyse
C326.5	Analyse the Compression test results from Triaxial and Unconfined Compression test.	Analyse
C326.6	Perform CBR test and Analyse the test results for different test conditions.	Analyse

Blooms Taxonomy: Apply, Analyse, Evaluate

Faculty Signature



D.N.R COLLEGE OF ENGINEERING & TECHNOLOGY::BHIMAVARAM

DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	III/II
Faculty Name:		Regulation	R16

Upon completion of the course, students will be able to:

Subject Code	Subject: Environmental Engineering Lab	Taxonomy Level
C327.1	Estimate the characteristics of water, waste water and soil in the laboratory.	Evaluate
C327.2	Decide whether the water is Potable or not.	Evaluate
C327.3	Estimate Chloride, EC and Salinity of Soil and suggest their suitability for Construction/Agriculture.	Evaluate
C327.4	Estimate the pollution characteristics of waste water by analyzing DO, BOD and COD.	Evaluate
C327.5	Calculate the amount of coagulant required for optimum sedimentation for a given Turbid sample.	Apply
C327.6	Assess physical parameters of water as turbidity and colour.	Evaluate

Blooms Taxonomy: Apply, Evaluate

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	III/II
Faculty Name:		Regulation	R16

Upon completion of the course, students will be able to:

Subject Code	Subject: Computer Aided Engineering Drawing	Taxonomy Level
C328.1	Draw Projections of solids inclined to both planes on Paper	Create
C328.2	Develop Surfaces of Right Regular Solids & Interpenetrate them.	Create
C328.3	Develop Isometric & Perspective projections and Transform them.	Create
C328.4	Develop the components using 2D and 3D wire frame models through various editing commands.	Create
C328.5	Understand & use various modelling techniques such as edit, zoom, cross hatching, pattern filling, rotation, etc.	Understand
C328.6	Generate assembly of various components of compound solids.	Create

Blooms Taxonomy: Understand, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Environmental Engineering – II	Taxonomy Level
C411.1	Determine the sewage characteristics and comprehend the quality and quantity of sewage.	Apply
C411.2	Choose The Appropriate Appurtenances In The Sewerage Systems	Evaluate
C411.3	Analyse Sewage And Suggest And Design Suitable Treatment System For Sewage Treatment	Analyse
C411.4	Design secondary treatment units along with activated sludge process and trickling filters.	Create
C411.5	Design a Septic tank and understand the working & disposal mechanism of its effluents.	Create
C411.6	Understand the Sludge Characteristics & Effective Handling of it.	Understand

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Prestressed Concrete	Taxonomy Level
C412.1	Understand the Basic concept of Prestressing along with its Types & Characteristics.	Understand
C412.2	Analyse a Prestressed Member and can draw its Stress diagram	Analyse
C412.3	Calculate the Total Losses of Pre-stressing in the member due to various Causes.	Apply
C412.4	Design for Flexural resistance along with knowledge about Deflection Control.	Create
C412.5	Design for Shear & Torsion as per Codal Provisions.	Create
C412.6	Analyse End Zone & Anchorage Zone Reinforcement in Prestressed Member.	Analyse

Blooms Taxonomy: Understand, Apply, Analyse, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Construction Technology and Management	Taxonomy Level
C413.1	Understand the basic Qualities of a Project Manager along with the study of different Charts.	Understand
C413.2	Illustrate Resource Allocation & review Project Evaluation.	Apply
C413.3	Outline the functioning of various earthwork equipment and their handling.	Analyse
C413.4	Outline the functioning of various Concrete equipment and their handling.	Analyse
C413.5	Evaluate Various Construction Methods at different stages of Construction.	Evaluate
C413.6	Infer Quality Control and Safety noms while performing Construction activity.	Analyse

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Water Resources Engineering–II	Taxonomy Level
C414.1	Estimate Irrigation Water Requirements & Irrigation Efficiencies.	Evaluate
C414.2	Design Irrigation Canals And Canal Network while Considering different Theories.	Create
C414.3	Design of Canal Structures like Falls, Regulators, Cross Drainage Works etc.	Create
C414.4	Evaluate various Theories used to design Diversion Head Works.	Evaluate
C414.5	Analyse stability of gravity and earth dams	Analyse
C414.6	Design ogee spillways and energy dissipation works.	Create

Blooms Taxonomy: Analyse, Evaluate, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Remote Sensing and GIS Applications	Taxonomy Level
C415.1	Understand and be familiar With Ground, Air And Satellite Based Sensor Platforms	Understand
C415.2	Analyse and Interpret The Aerial Photographs And Satellite Imageries	Analyse
C415.3	Create and Input Spatial Data For GIS Application	Create
C415.4	Apply RS And GIS Applications In General	Apply
C415.5	Apply RS And GIS Concepts In Water Resources Engineering	Apply
C415.6	Understand the principles of spatial analysis	Understand

Blooms Taxonomy: Understand, Apply, Analyse, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: GROUND IMPROVEMENT TECHNIQUES	Taxonomy Level
C416.1	Outline purpose of ground improvement techniques to obtain the suitable construction site for long-lasting structures	Analyse
C416.2	Illustrate the various methods of ground improvement techniques to increase load bearing capacity of beneath and surface soils.	Apply
C416.3	Determine importance of admixtures and its composition for injecting the material into the soils	Apply
C416.4	Analyse the practical applications of reinforced soil and grid reinforced soils for better strength and durability of soils	Analyse
C416.5	Outline various functions of Geosynthetics and their applications in Civil Engineering practice.	Analyse
C416.6	Illustrate various grouting techniques and its applications for improving load bearing of beneath soils	Apply

Blooms Taxonomy: Apply, Analyse

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Environmental Engineering Lab	Taxonomy Level
C417.1	Estimate the characteristics of water, waste water and soil in the laboratory.	Evaluate
C417.2	Decide whether the water is Potable or not.	Evaluate
C417.3	Estimate Chloride, EC and Salinity of Soil and suggest their suitability for Construction/Agriculture.	Evaluate
C417.4	Estimate the pollution characteristics of waste water by analyzing DO, BOD and COD.	Evaluate
C417.5	Calculate the amount of coagulant required for optimum sedimentation for a given Turbid sample.	Apply
C417.6	Assess physical parameters of water as turbidity and colour.	Evaluate

Blooms Taxonomy: Apply, Evaluate

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/I
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: GIS & CAD Lab	Taxonomy Level
C418.1	Create and digitize the thematic map and extract important features	Create
C418.2	Develop digital elevation model	Create
C418.3	Analyse and design 2D & 3D trusses using structural analysis software	Analyse
C418.4	Analyse and design 2D & 3D frames using structural analysis software	Analyse
C418.5	Design and Analyse retaining wall using CADD software	Create
C418.6	Design and Analyse simple towers using CADD software	Create

Blooms Taxonomy: Analyse, Create

Faculty Signature



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Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/II
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Estimating, Specifications & Contracts	Taxonomy Level
C421.1	Explain terms related to estimation along with preparation of approximate estimate.	Understand
C421.2	Outline Rate Analysis with Working out data for various Items.	Analyse
C421.3	Create Bar Bending Schedule for the given structure.	Create
C421.4	Examine contracts, types of contract and conditions of contract	Apply
C421.5	Conclude the quantities to prepare the detailed estimate	Evaluate
C421.6	Develop Detailed Estimation of a Building using different methods.	Create

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/II
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: ENVIRONMENTAL IMPACT ASSESSMENT & MANAGEMENT	Taxonomy Level
C422.1	Understand the role of stakeholder and public hearing in the preparation of EIA	Understand
C422.2	Choose appropriate EIA methodology for Impact assessment.	Evaluate
C422.3	Apply RS & GIS for the Assessment of Soil & Ground water	Apply
C422.4	Assess the Impact Significance & Identification of Mitigation Measures.	Evaluate
C422.5	Analyse the Risk Assessment and management.	Analyse
C422.6	Prepare EMP, EIS & EIA Reports & evaluation the EIA report	Create

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/II
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Solid Waste Management	Taxonomy Level
C423.1	Determine various collection methods and routes of solid wastes	Apply
C423.2	Design storage ,collection, transport, processing, and disposal of solid wastes	Create
C423.3	Choose various storage and processing methods and ability to select appropriate method for a specific scenario	Evaluate
C423.4	Categorise various Unit Operations for transformation of Solid Waste.	Analyse
C423.5	Choose various Energy & Material Recovery methods.	Evaluate
C423.6	Apply various disposal methods and post disposal effects of municipal solid wastes	Apply

Blooms Taxonomy: Apply, Analyse, Evaluate, Create

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/II
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject: Repair and Rehabilitation of Structures	Taxonomy Level
C424.1	Explain about types of deterioration of concrete in structures	Understand
C424.2	Carryout & analysis various NDT tests and evaluate structures	Analyse
C424.3	Assess types of failures and causes of failures in structures	Evaluate
C424.4	Carryout Physical evaluation and submit report on condition of the structure	Evaluate
C424.5	Determine various Repairing Techniques both on Ground and Under water.	Apply
C424.6	Investigate distress in various types of structures.	Analyse

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate

Faculty Signature



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DEPARTMENT OF CIVIL ENGINEERING

Course Outcomes

Program Name:	B.TECH	AY	2018-19
Course Name:	CIVIL ENGINEERING	Class / Sem	IV/II
Faculty Name:		Regulation	R13

Upon completion of the course, students will be able to:

Subject Code	Subject:	Taxonomy Level
C425.1	Identify thrust area in civil engineering and finalize problem statement.	Remember
C425.2	Review the literature to search for technical information from various resources on selected problem.	Understand
C425.3	Formulate the appropriate solution methodology.	Analyse
C425.4	Apply all levels of Engineering knowledge for solving the problems.	Apply
C425.5	Apply the principles, tools and techniques to solve the problem.	Apply
C425.6	Work in a group as a part of multidisciplinary team with professional responsibility	Apply
C425.7	Analysis and design of structure to meet desired needs within realistic constraints.	Analyse
C425.8	Plan activity schedule and implementation in a given time span.	Evaluate
C425.9	Prepare a report and presentation of project.	Create

Blooms Taxonomy: Understand, Apply, Analyse, Evaluate, Create

Faculty Signature