RISE KRISHNA SAI PRKASAM GROUP OF INSTITUTIONS
DEPARTMENT OF CIVIL ENGINEERING

COURSE OUTCOMES SUMMARY

ACADEMIC YEAR: 2020-2021 CIVIL YEAR/ SEM: I / I

CO.NO	SUBJECT : MATHEMATICS-I	BT Level
After successful completion of this course students will be able to:		
C111.1	Test the convergence of an infinite series , utilize mean value theorems to real life problems and express a function in terms of power series.	Applying
C111.2	Solve first order and first degree differential equations arising in various Engineering fields.	Applying
C111.3	Solve linear differential equations of higher order and use the knowledge to study LCR Circuits and SHM.	Applying
C111.4	Apply the techniques of multivariable differential calculus to determine extrema and series Expansions of a function of several variables.	Applying
C111.5	Using multiple integrals to find areas, surface areas and volumes.	Applying

CO.NO	SUBJECT : Communicative English	BT Level
After successful completion of this course students will be able to:		
C112.1	Understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information.	Understanding
C112.2	Recall the familiar topics and general questions to the students	Remembering
C112.3	Rephrase suitable strategies for note-making to locate specific information.	Understanding
C112.4	Identify the paragraph structure and able to match beginning/sending/heading with paragraph.	Applying
C112.5	Make use of grammatical structure and correct word forms.	Applying

CO.NO	COURSE: ENGINEERING PHYSICS	BT Level
After successful completion of this course students will be able to:		
C113.1	Explain the properties interference, diffraction, polarization of light in wave form.	Understanding
C113.2	Identify the applications of laser in optical fiber communication.	Applying
C113.3	Explain the cause of dielectric and magnetic nature to the mate	Understanding

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C113.4	Identify the applications of ultrasonic's and acoustics in different fields.	Applying
C113.5	Explain the X-Ray diffraction techniques to determine the various crystal structures.	Understanding

CO.NO	COURSE: ENGINEERING DRAWING	BT Level
After successful completion of this course students will be able to:		
C114.1	Explain the properties of light supporting the wave nature and working of optical instruments. optical instruments.(Understanding)	Understanding
C114.2	Apply Lasers in scientific research and engineering by developing knowledge on basic principle in the working of Lasers & optical fibers.	Applying
C114.3	Describe the concept of Electrical or Electronic gadgets and their performance under E- or H- fields.	Understanding
C114.4	Explain the concept of Acoustics of Buildings, and the behavior of materials in the external magnetic and electric fields and physical significance of Maxwell's equations (Understanding)	Understanding
C114.5	Explain the concept of matter waves, free electron theory and origin of energy band formation in solids.	Understanding

CO.NO	COURSE: ENGINEERING GEOLOGY	BT Level
After successful completion of this course students will be able to:		
C115.1	Identify Mega-scopic minerals & their properties.	Remembering
C115.2	Identify Mega-scopic rocks & their properties.	Remembering
C115.3	Identify the site parameters such as contour, slope & aspect for topography	Remembering
C115.4	Know the occurrence of materials using the strike & dip problems.	Remembering

CO.NO	COURSE: ENGLISH COMMUNICATION SKILLS LAB	BT Level
After successful completion of this course students will be able to:		
C116 .1	Develop phonetic sounds and uses.	Applying
€116 .2	Utilize the knowledge of contrastive word stress, recall word stress and syllabic words.	Applying
C116 .3	Classify Rhythm and intonation.	Understanding

C116 .4	Identify the context and specific pieces of information to answer a series of questions in speaking.	Applying
C116 .5	Identify the structure of reports for professional writing and expertise in it.	Applying

CO.NO	COURSE : ENGINEERING PHYSICS LAB	BT Level
After successful completion of this course students will be able to:		
C117.1	Apply the basic concepts of light to determine wavelength of light by Newton's Rings.	Applying
C117.2	Apply the basic concepts of laser and techniques for diffraction grating.	Applying
C117.3	Apply the basic concepts of magnetism to study the variation of B versus H.	Applying
C117.4	Apply the basic concepts of dielectrics to determine dielectric constant by charging and discharging method.	Applying
C117.5	Apply the basic concepts of semiconductor to determine energy gap of semiconductor.	Applying

CO.NO	COURSE : BASICS OF CIVIL ENGINEERING WORKSHOP LAB	BT Level
After successful completion of this course students will be able to:		
C118.1	Demonstration on usage of chain	apply
C118.2	Explain Ranging – offsets – chain-age	Understanding
C118.3	Determination of the area of an irregular polygon using chain by using horizontal measurements	Understanding
C118.4	Determination of bearings and included angles with prismatic compass.	Understanding
C118.5	Demonstration on various Building materials used in construction	apply
C118.6	Determination of of quantity of bricks, concrete, wood, paint for the given single room building	Understanding
C118.7	calculate the discharge velocity in a water pipe line also find density of water	apply
C118.8	Explain the Welding (arc welding and gas welding)	Understanding
C118.9	Demonstration on making of cement mortar/concrete for the given nominal mix	apply
C118.10	Carpentry (Demonstration)	apply

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DEPARTMENT OF CIVIL ENGINEERING

COURSE OUTCOMES SUMMARY

ACADEMIC YEAR 2020-2021 CIVIL YEAR/ SEM: I / II

MATHEMATICS-II

CO.NO	COURSE : MATHEMATICS-II	BT Level
After successful completion of this course students will be able to:		
C121.1	Solve system of linear algebraic equations using matrix techniques and find Eigen values and Eigen vectors.	Applying
C121.2	Use Cayley-Hamilton theorem to find inverse and higher powers of matrices and study the nature of Quadratic forms.	Applying
C121.3	Evaluate a root of algebraic and transcendental equations and a solution for system of equations using numerical methods.	Evaluating
C121.4	Apply Newton's interpolation and Lagrange's interpolation formula to find interpolating polynomial.	Applying
C121.5	Evaluate the solutions of ordinary differential equations to its analytical computations using different methods.	Evaluating

CO.NO	SUBJECT : ENGINEERING CHEMISTRY	BT Level
After successful completion of this course students will be able to:		
C122.1	Discuss preparation, properties and applications of the plastics, rubber, composite materials.	understanding
C122.2	Explain the batteries, fuel cells, reason for corrosion and its control methods.	understanding
C122.3	Describe the importance of materials like nanomaterials, super conductors, cement and semi conductors.	understanding
C122.4	Explain the origin of fuel and their economic advantages and limitations	understanding
C122.5	Explain the hardness of water and its softening techniques	understanding

CO.NO	SUBJECT : ENGINEERING MECHANICS	BT Level
After successful completion of this course students will be able to:		
C123.1	The student should be able to draw free body diagrams for FBDs for particles and rigid bodies in plane and space and problems to solve the unknown forces, orientations and geometric parameters.	Applying

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C123.2	The student should be able to determine Centroid for lines, areas and center of gravity for volumes and their composites.	Applying
C123.3	He should be able to determine area and mass movement of inertia for composite sections	Applying
C123.4	He should be able to analyze motion of particles and rigid bodies and apply the principles of motion, work energy and impulse – momentum.	Applying

CO.NO	SUBJECT : PROGRAMMING FOR PROBLEM SOLVING USING C	BT Level
After successful completion of this course students will be able to:		
C124.1	To use different operators, data types and write programs that use two-way/ multi-way selection	Applying
C124.2	To select the best loop construct for a given problem	Applying
C124.3	To design and implement programs to analyze the different pointer applications	Analyzing
C124.4	To decompose a problem into functions and to develop modular reusable code	Analyzing
C124.5	To apply File, I/O operations	Applying

CO.NO	SUBJECT : BUILDING MATERIALS AND CONCRETE TECHNOLOGY	BT Level
After successful completion of this course students will be able to:		
C125.1	Identify different building materials and their importance in building construction.	Remembering
C125.2	Identify the basics of all ingredients of concrete and admixtures.	Remembering
C125.3	Differentiate the different properties of fresh concrete by using different methods.	Understand
C125.4	Identify various properties of Elasticity,creep & shrinkage of hardened concrete.	Remembering
C125.5	Differentiate the different properties of hard concrete by using different methods.	Understand

CO.NO	SUBJECT : ENGINEERING CHEMISTRY LAB	BT Level
After successful completion of this course students will be able to:		
C126.1	Describe the experimental skills to design new experiments in engineering.	Understanding
C126.2	Explain the different types of titrations and acquire skills in instrumentation.	Understanding
C126.3	Determine hardness of various water samples.	Evaluating

C126.4	Determine the no of free ions and charges in a mixture of acids using conductivity meter.	Evaluating
C126.5	Calculate the potential between reference electrode and un known solution by using potentio meter.	Evaluating

CO.NO	SUBJECT : PPSC LAB	BT Level
After successful completion of this course students will be able to:		
C127.1	Gains knowledge on various concepts of a C Language.	Understanding
C127.2	Able to draw flow charts and write algorithms.	Applying
C127.3	Able to design and development to C problem solving skills.	Applying
C127.4	Able to design and develop modular programming skills.	Applying
C127.5	Able to trace and debug a program.	Applying

CO.NO	BUILDING PLANNING AND COMPUTER AIDED BUILDING DRAWING	BT Level
C128.1	preparation of engineering drawings and Architectural building drawings as per principles of planning and using a suitable CAD software	Understanding
C128.2	Perform basic commands of any suitable CAD software to draw 2D drawings.	Applying
C128.3	Interpret the conventions, signs and symbols from a given drawing.	Applying
C128.4	Prepare line plans of residential and public buildings using principles of planning.	Applying
C128.5	Prepare submission and working drawing from the given requirement for Load Bearing and Framed structures.	Applying

CO.NO	SUBJECT : **ENVIRONMENTAL SCIENCE**	BT Level
After successful completion of this course students will be able to:		
C129.1	Explain the concepts of the ecosystem and its functions in the environment.	Understand
C129.2	Summarize the natural resources and their importance for the sustenance of life & need to conserve the natural resources.	Understand
C129.3	Demonstrate the values, threats, conservation practices to protect the biodiversity.	Apply
C129.4	Describe various attributes of the pollution and their impacts and measures to reduce pollution along with waste management practices.	Remember
C129.5	Evaluate social issues both rural and urban environment and the possible means to combat the challenges, with help of environmental legislations of India	Evaluate

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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

II Year I Semester

CO No	Subject: Complex Variables and Statistical Methods	Taxonomy level
Student should be able to		
C21 1.1	Compare various discrete probability distributions	Evaluating
C21 1.2	Compare various continuous probability distributions	Evaluating
C21 1.3	Find the confidence interval for mean of a population	Creating
C21 1.4	Make use of tests of hypothesis for the null hypothesis concerning mean and proportions and perform ANOVA for one way and two-way classification	Understanding
C21 1.5	Apply correlation and regression lines of two variables for real life problems	Applying
C21 1.6	Construct control charts for variables and attributes	Analyzing
CO No	**Subject: Strength of Materials-I**	**Taxonomy level**
Student should be able to		
C212.1	Understand the basic materials behavior under the influence of different external loading conditions	Understanding
C212.2	Analyze the shear force and bending moment diagrams for different types of beams subjected to different loads	Analyzing
C212.3	Acquire of bending concepts and calculation of section modulus and for determination of stresses developed in beams due to various loading conditions..	Evaluating
C212.4	Determine the shear stresses for the various beams subjected to different types of loads.	Applying
C212.5	Analyze and calculate the deflection for different types of beams subjected to different types of loads.	Analyzing
C212.6	Calculation of stresses for cylinders subjected to internal fluid pressure	Applying
CO No	**Subject: Fluid Mechanics**	**Taxonomy level**
Student should be able to		
C213.1	Discuss the properties of fluids &pressure measurement.	Remembering
C213.2	Calculate buoyancy force sub merged in water and the fluid flows	Applying
C213.3	Derive Euler's and Bernoulli's equation of motion in bending of pipes	Creating
C213.4	Calculate energy losses in pipe by various theories	Applying
C213.5	Analyze flow measurement in notches and weirs	Analyzing
C213.6	Illustrate theory of boundary layer theory and their forces using Vonkaram integral method, Prandtl's analysis	Applying
CO No	**Subject: Surveying and Geometrics**	**Taxonomy level**
Student should be able to		
C214.1	Demonstrate the basic surveying.	Applying
C214.2	To Use Various Surveying Instruments Like EDM And Compass.	Applying
C214.3	Use levelling instruments and discuss the various methods of contouring.	Applying

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C214.4	Demonstrate the Theodolite instrument and Tachometric surveying.	Analyzing
C214.5	To Integrate the Knowledge And Produce Topographical Map.	Applying
C214.6	Compute areas and volumes of earth work.	Applying
CO No	**Subject: Building Materials & Construction**	**Taxonomy level**
Student should be able to		
C215.1	Identify different building materials and their importance in building construction.	Remembering
C215.2	List the different types of masonry used in construction	Understanding
C215.3	Discuss the different bonding materials used in construction	Understanding
C215.4	Explain the Significance of building components used in construction	Remembering
C215.5	Explain the Significance of finishing's used in construction	Remembering
C215.6	Know the different types of aggregates and their properties	Understanding
CO No	**Subject: Transportation Engineering – I**	**Taxonomy level**
Student should be able to		
C216.1	Understand the theory of highway development, planning & alignment.	Understanding
C216.2	Determine the geometric design of highway and different terminology used in highway.	Analyzing
C216.3	Design intersections and prepare traffic management plans	Applying
C216.4	Acquire the knowledge of highway materials used and testing.	Analyzing
C216.5	Analyse the design considerations for different types of pavements.	Analyzing
C216.6	Ensure the knowledge of highway construction & management.	Analyzing
CO No	**Subject: Constitution of India**	**Taxonomy level**
Student should be able to		
C217.1	Understant the souces of constitution of india	Understanding
C217.2	Acquire the knowledge of preamable of india	Analyzing
C217.3	Ensure the knowledge of LokSabha and Rajya Sabha	Analyzing
C217.4	Discuss the different types of bill in Parliament	Remembering
C217.5	Identify the different of schedule in indian constitution.	Remembering
C217.6	Explain the Significance of citizenship of india	Remembering

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II Year II Semester

CO No	Subject: Strength Of Materials - II	Taxonomy level
Student should be able to		
C22 1.1	Understand the basic concepts of principal stresses developed when subjected to stresses along different axis and design the sections.	Understanding
C22 1.2	Asses the stresses in shafts and springs subjected to different loading conditions.	Evaluating
C22 1.3	Calculate the crushing load for columns and struts for different end conditions.	Applying
C22 1.4	Calculate the stresses in columns and check stability of dams, retaining walls and chimneys	Applying
C22 1.5	Analyze the stresses in unsymmetrical sections	Analyzing
C22 1.6	Asses member forces in trusses by using method of joints and sections	Analyzing
CO No	**Subject: Hydraulics & Hydraulic Machinery**	**Taxonomy level**
Student should be able to		
C222.1	Solve Uniform open channel flow problems	Applying
C222.2	Solve Non-uniform open channel flow problems	Applying
C222.3	Apply the principle of dimensional analysis and similitude in hydraulic model testing	Applying
C222.4	Understand the working principle of impact of jets	Understanding
C222.5	Understand the working principle of turbines and its applications	Understanding
C222.6	Understand the working principle of Pumps and its applications	Understanding
CO No	**Subject: Engineering Geology**	**Taxonomy level**
Student should be able to		
C223.1	Know the importance of geology in civil engineering field with case studies and weathering process of rocks	Understanding
C223.2	Get the knowledge of different rocks, minerals and its properties	Understanding
C223.3	Know the different terminology of rock minerals, types, mechanism and importance in civil engineering	Understanding
C223.4	Explore the knowledge of ground water terms, movement & its techniques and classify, measure the landslides	Understanding
C223.5	Analyse the ground conditions, potential of ground water through geophysical survey	Analyzing
C223.6	Investigate the site selection for mini/mega and engineering projects like dams, tunnels etc.	Understanding
CO No	**Subject: Transportation Engineering – II**	**Taxonomy level**
Student should be able to		
C224.1	Understand the components of railway track.	Understanding
C224.2	Design geometrics in a railway track.	Analyzing
C224.3	Provide a good transportation network.	Understanding
C224.4	Design the runway and its components.	Analyzing
C224.5	Design airport geometrics and airfield pavements.	Analyzing
C224.6	Plan, construct and maintain Docks and harbours.	Analyzing

CO No	Subject: Environmental Engineering -I	Taxonomy level
Student should be able to		
C225.1	Classify the types of water demands and estimate population forecasting using different methods.	Analyzing
C225.2	Identify the sources of water, collection & conveyance of water.	Remembering
C225.3	Examine the characterization of water.	Remembering
C225.4	Selection of suitable treatment flow for raw water treatment.	Evaluating
C225.5	Discuss the theory of chlorination and other disinfection methods.	Remembering
C225.6	Select the appropriate appurtenances in the water supply.	Evaluating
CO No	**Subject: Professional Ethics and Human Values**	**Taxonomy level**
Student should be able to		
C229.1	Relate Economic Principles with Business Practices for getting successful outcomes.	Understanding
C229.2	Determine Cost analysis to find Break Even Point (BEP) of an enterprise in order to avoid losses.	Understanding
C229.3	Estimate the Price – out determinations under different competitions in the Markets and Pricing strategies	Understanding
C229.4	Interpret different forms of business organizations and the new economic environment in the real business.	Understanding
C229.5	Make use of the financial statements and relevant ratios for evaluating company's financial performance to make optimal decisions	Understanding
C229.6	Illustrate different Capital Budgeting Methods to estimate the best investment decision in business practices	Analyzing

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III Year I Semester

CO No.	Subject: Management Science	Taxonomy level
student will be able to		
C31 1.1	To explain the concept and nature of Management, Evolution of Management theories, Motivation and leadership Styles	Understanding
C31 1.2	Illustrate the concepts of Operations, project management and inventory control.	Analyzing
C31 1.3	Outline the main functional areas of organization i.e., Financial Management, Production Management, Marketing Management, Human Resource Management, and Product Life Cycles and Channels of Distribution.	Analyzing
C31 1.4	Summarize the concept and practical issues relating to Strategic Management	Understanding
C31 1.5	Develop the Programme evaluation an Review Techniques along with critical path evaluation	Understanding
C31 1.6	Define the contemporary management practices.	Understanding
CO No	**Subject: Engineering Geology**	**Taxonomy level**
Student should be able to		
C31 2.1	Know the importance of geology in civil engineering field with case studies and weathering process of rocks	Understanding
C31 2.2	Get the knowledge of different rocks, minerals and its properties	Understanding
C31 2.3	Know the different terminology of rock minerals, types, mechanism and importance in civil engineering	Understanding
C31 2.4	Explore the knowledge of ground water terms, movement & its techniques and classify, measure the landslides	Understanding
C31 2.5	Analyse the ground conditions, potential of ground water through geophysical survey	Analyse
C31 2.6	Investigate the site selection for mini/mega and engineering projects like dams, tunnels etc.	Understand
CO No	**Subject: Structural Analysis -II**	**Taxonomy level**
Student should be able to		
C313.1	Analyse the different types arches and to calculate the bending moment ,normal thrust and radial shear	Analyzing
C313.2	Analyse the lateral loads are acting in the framed structures.	Analyzing
C313.3	Determine the stresses in anchors , cables and suspension bridges and also calculate shear and bending in stiffening girders	Understand
C313.4	Analyze the structures using moment distribution method	Analyzing
C313.5	Analyze the structures using kani's method	Analyzing
C313.6	Analyze the structures using advanced matrix methods	Analyzing
CO No	**Subject: Design & Drawing of Reinforced Concrete Structures**	**Taxonomy level**
Student should be able to		
C314.1	Classify the different types of design philosophies (working stress and limit state methods)	Analyzing
C314.2	Analyse & Design flexural members in limit state method.	Analyzing

C31 4.3	Design flexural members for collapse and serviceability conditions.	Creating
C31 4.4	Analysis & Design various types of slabs.	Analyzing
C31 4.5	Design different types of compression members.	Creating
C31 4.6	Design different types of footings.	Creating
CO No	**Subject: Transportation Engineering – II**	**Taxonomy level**
Student should be able to		
C31 5.1	Understand the components of railway track.	Understanding
C31 5.2	Design geometrics in a railway track.	Creating
C31 5.3	Provide a good transportation network.	Creating
C31 5.4	Design the runway and its components.	Analyzing
C31 5.5	Design airport geometrics and airfield pavements.	Creating
C31 5.6	Plan, construct and maintain Docks and harbours.	Creating

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III Year II Semester

CO No	Subject: Design & Drawing of Steel Structures	Taxonomy level
Student should be able to		
C32 1.1	Draw and design various types of beam-column connections and work with relevant IS codes.	Analyzing
C32 1.2	Carryout Analysis and design of flexural members by applying checks for deflection, shear, buckling and bearing.	Analyzing
C32 1.3	Design Tension members, compression members and various components of trusses.	Creating
C32 1.4	Demonstrate and draw stiffening of columns by the use of splicing, lacings and battens.	Applying
C32 1.5	Design and draw column foundations.	Creating
C32 1.6	Design and draw plate girder and gantry girder with connection detailing.	Creating
CO No	**Subject: Geotechnical Engineering – I**	**Taxonomy level**
Student should be able to		
C322.1	Know the definitions and identify the various quantities related to soil mechanics and its relationship	Creating
C322.2	Classify the soils and know the methods of determination of various index properties of soil	Analyzing
C322.3	Discuss the importance of engineering properties of soils and their determination by laboratory methods	Understanding
C322.4	Analyse the stresses induced by different loads and its distribution by different theories	Analyzing
C322.5	Discuss the consolidation characteristics of soil and its determination through laboratory methods	Evaluating
C322.6	Extend the significance of shear strength of soils and its determination through various methods	Evaluating
CO No	**Subject: Environmental Engineering -I**	**Taxonomy level**
Student should be able to		
C323.1	Classify the types of water demands and estimate population forecasting using different methods.	Analyzing
C323.2	Identify the sources of water, collection & conveyance of water.	Remembering
C323.3	Examine the characterization of water.	Remembering
C323.4	Selection of suitable treatment flow for raw water treatment.	Evaluating
C323.5	Discuss the theory of chlorination and other disinfection methods.	Remembering
C323.6	Select the appropriate appurtenances in the water supply.	Evaluating
CO No	**Subject: Water Resource Engineering -I**	**Taxonomy level**
Student should be able to		
C324.1	Understand the theory of hydrologic cycle and analyse the precipitation data by using different methods.	Understanding
C324.2	Estimate the hydrologic components such as evaporation ,transpiration and infiltration.	Applying
C324.3	Determine the storage capacity using direct runoff and develop corresponding	Applying

	hydrographs.	
C32.4.4	Estimate flood magnitude and carry out flood routing.	Applying
C32.4.5	Determine aquifer parameters and yield of wells.	Understanding
C32.4.6	Simulate the hydrologic process using different techniques.	Applying
CO No	**Subject: Waste water Management**	**Taxonomy level**
Student should be able to		
C32.5.1	Identify various industrial wastewater treatment process	Remembering
C32.5.2	Classify treatment methods for industrial wastewater	Analyzing
C32.5.3	Predict wastewater characterization and recycling techniques	Analyzing
C32.5.4	Categorize wastewater disposal management by considering the advantages, limitations and its suitability	Analyzing
C32.5.5	Classify the process and treatment methods for specific industries	Analyzing
C32.5.6	Discuss manufacturing process and wastewater treatment methods for specific industries	Understanding

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IV Year I Semester

CO No	Subject: Environmental Engineering-II	Taxonomy level
Student should be able to		
C411.1	Design the suitable sewerage systems and select the appropriate appurtenances in the sewerage system	Creating
C411.2	Acquire the knowledge of pumping station and Select suitable plumbing systems in buildings	Remembering
C411.3	Examine the characteristics of sewage and design the suitable treatment methods of sewage	Remembering
C411.4	Classify aerobic & anaerobic treatment process through attached growth process & suspended growth process	Analyzing
C411.5	Design miscellaneous treatment methods for disposal of effluents through septic tank, imhoff tank etc.	Creating
C411.6	Know the significance of sludge management and disposal of sewage for sustainable environment	Remembering
CO No	**Subject: Water Resources Engineering-II**	**Taxonomy level**
Student should be able to		
C412.1	Estimate irrigation and its importance with different systems	Creating
C412.2	Discuss about classification of canals and methods to find canal lining	Remembering
C412.3	Design Irrigation canal structures	Remembering
C412.4	Plan and design diversion head works layout and Discuss failures of weirs on permeable foundation	Analyzing
C412.5	Know about reservoir planning and study of various forces acting on dams	Creating
C412.6	Know the concepts for analysis of earth dams	Remembering
CO No	**Subject: Geotechnical Engineering-II**	**Taxonomy level**
Student should be able to		
C413.1	Discuss stability analysis by various methods.	Applying
C413.2	Understand the concept of earth retaining structures by suitable theories.	Applying
C413.3	Analyze the settlement criteria in shallow foundations by plate load test and bearing capacity of soil by various methods.	Analyzing
C413.4	Discuss the types of pile foundations and their groups	Understanding
C413.5	Analyse the different forces acting on well foundation and its shapes	Analyzing
C413.6	Discuss the methods of soil exploration and need for soil exploration	Understanding
CO No	**Subject: Remote Sensing & GIS**	**Taxonomy level**
Student should be able to		
C414.1	Understand the basic components of remote sensing and Explain the electromagnetic radiation and its interaction.	Understanding
C414.2	Discuss the different elements of visual interpretations and digital image processing.	Understanding
C414.3	Summaries the basic components of GIS, types of data & its applications.	Applying
C414.4	Analyse the operations of vector & raster overlays functions.	Analyzing
C414.5	Explore the knowledge of GIS applications in general such as land use, forest,	Applying

	geology etc.	
C41 4.6	Acquire the knowledge of GIS applications in hydrology & water resources, Disaster management.	Applying
CO No	**Subject: Ground Improvement Techniques**	**Taxonomy level**
Student should be able to		
C4 15.1	Possess the knowledge of various methods of ground improvement techniques.	Applying
C4 15.2	Discuss the theory and process of dewatering from various point of sources.	Applying
C4 15.3	Discuss the theory and methods of soil stabilization.	Analyzing
C4 15.4	Design reinforced earth embankment and check its stability.	Understanding
C4 15.5	State the various functions of geo-synthetics and their applications in civil engineering practice.	Analyzing
C4 15.6	Understand the concepts and applications of grouting.	understanding
CO No	**Subject: Ground Water Development**	**Taxonomy level**
Student should be able to		
C41 6.1	Understand aquifer properties and its dynamics	Applying
C41 6.2	Analyze the concept of Well design and its applications	Applying
C41 6.3	Acquire information of well construction and its maintenance	Analyzing
C41 6.4	Recognize the importance of artificial recharge of groundwater and the concept of seawater intrusion.	Understanding
C41 6.5	Interpret the Geophysical data for the determination of Groundwater potential in the aquifers	Analyzing
C41 6.6	Predict the groundwater flow and apply appropriate measures for groundwater management	understanding
CO No	**Subject: IPR&P**	**Taxonomy level**
Student should be able to		
C417.1	Outline different types of Intellectual Properties (IPs), the right of ownership, scope of protection as well as the ways to create and to extract value from IP.	Understanding
C417.2	Recognize the crucial role of IP in organizations of different industrial sectors for the Purposes of product and technology development.	Analyzing
C417.3	Identify activities and constitute IP infringements and the remedies available to the IP owner.	Evaluating
C417.4	Describe the precautious steps to be taken to prevent infringement of proprietary rights.	Evaluating
C417.5	Understand importance of IP in products and technology development.	Evaluating
C417.6	Discuss with the processes of Intellectual Property Management (IPM) and various approaches for IPM	Analyzing

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IV Year II Semester

CO No	Subject: Estimation Specifications & Costing	Taxonomy level
Student should be able to		
C42 1.1	Determine the quantities of different components of buildings.	Understanding
C42 1.2	Find the cost of various building components.	Understanding
C42 1.3	Determine the quantities of earthwork in road & Canal and reinforcement details	Applying
C42 1.4	Capable of finalizing the value of structures.	Understanding
C42 1.5	Estimate the quantities of Buildings using individual wall method	Understanding
C42 1.6	Estimate the quantities of Buildings using Centre line method	Analyze
CO No	**Subject: Construction Technology Management**	**Taxonomy level**
Student should be able to		
C422.1	Appraise the importance of project planning and its management such as scheduling and controlling.	Understand
C422.2	Understand the project evaluation and review techniques.	Understand
C422.3	Understand the functioning of various construction equipments and their functioning system.	Application
C422.4	Identify various earthwork equipments and hoist equipments in respective fieldwork.	Understand
C422.5	Demonstrate various concreting equipments and implementation mythologies.	Understand
C422.6	Describe construction methods in earthwork and piling to the respective fieldwork.	Analyzing
CO No	**Subject: Prestressed Concrete**	**Taxonomy level**
Student should be able to		
C423.1	Understand the different methods of prestressing	Understanding
C423.2	Acquire the Knowledge of Prestressing Systems & Classification, Tensioning devices and Analysis of prestress and design Concepts of load balancing Stresses in Tendons, Cracking moment	Understanding
C423.3	Estimate effective prestress including the short and long term losses	Applying
C423.4	Analyze and design prestressed concrete beams under flexure	Understanding
C423.5	Analyze and design prestressed concrete beams under shear and torsion	Understanding
C423.6	Understand the relevant IS Codal provisions for prestressed concrete	Analyzing
CO No	**Subject: Solid and Hazardous Waste Management**	**Taxonomy level**
Student should be able to		
C424.1	Discuss the Classification of Solid Waste, Factors affecting, sampling and characterization and Measurement of NPK and Calorific value.	Understanding
C424.2	Design the collection systems of solid waste of a town	Understanding
C424.3	Design treatment of municipal solid waste and landfill	Understanding
C424.4	Know the criteria for selection of landfill	Understanding
C424.5	Characterize the solid waste and design a composting facility	Applying
C424.6	Know the Method of treatment and disposal of Hazardous wastes.	Understanding

Project & Seminar		Taxonomy level
Student should be able to		
C425.1	Work in a team to select a topic for project work.	Creating
C425.2	Review and evaluate the available literature.	Creating
C425.3	Identify the study area to which solution be employed to the problem.	Creating
C425.4	Formulate the Methodology for the project topic	Creating
C425.5	Apply the principles, tools and techniques.	Creating
C425.6	Summarize the conclusions and recommendations of project topic.	Creating

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