

**DEPARTMENT OF CIVIL ENGINEERING**
**Course Outcomes-2021 Scheme**

S.No.	Subject Code	Course Code	Course Outcomes
1	21MAT11 Calculus & Differential Equations	C101.1	Apply the knowledge of calculus to solve problems related to polar curves and its applications in determining the bentness of a curve.
		C101.2	Learn the notion of partial differentiation to calculate rate of change of multivariate functions and solve problems related to composite functions and Jacobian.
		C101.3	Solve first-order linear/nonlinear ordinary differential equations analytically using standard methods.
		C101.4	Demonstrate various models through higher order differential equations and solve such linear ordinary differential equations.
		C101.5	Test the consistency of a system of linear equations and to solve them by direct and iterative methods.

S.No.	Subject Code	Course Code	Course Outcomes
2	21PHY12 Engineering Physics	C102.1	Interpret the types of mechanical vibrations and their applications, the role of Shock waves in various fields.
		C102.2	Demonstrate the quantisation of energy for microscopic system.
		C102.3	Apply LASER and Optical fibers in opto electronic system.
		C102.4	Illustrate merits of quantum free electron theory and applications of Hall effect
		C102.5	Analyse the importance of XRD and Electron Microscopy in Nano material characterization.

S.No.	Subject Code	Course Code	Course Outcomes
3	21ELE13 Basic Electrical Engineering	C103.1	Analyse basic DC and AC electric circuits.
		C103.2	Explain the working principles of transformers and electrical machines.
		C103.3	Explain the concepts of electric power transmission and distribution of power

		C103.4	Understand the wiring methods, electricity billing, and working principles of circuit protective devices and personal safety measures.
--	--	--------	--

S.No.	Subject Code	Course Code	Course Outcomes
4	21CIV14 Elements of Civil Engineering and Mechanics	C104.1	Understand the various fields of civil engineering
		C104.2	Compute the resultant of a force system and resolution of a force
		C104.3	Comprehend the action for forces, moments, and other types of loads on rigid bodies and compute the reactive forces
		C104.4	Locate the centroid and compute the moment of inertia of regular and built-up sections.
		C104.5	Analyze the bodies in motion.

S.No.	Subject Code	Course Code	Course Outcomes
5	21EVN15 Engineering Visualization	C105.1	Understand and visualize the objects with definite shape and dimensions
		C105.2	Analyze the shape and size of objects through different views
		C105.3	Develop the lateral surfaces of the object
		C105.4	Create a 3D view using CAD software.
		C105.5	Identify the interdisciplinary engineering components or systems through its graphical representation.

S.No.	Subject Code	Course Code	Course Outcomes
6	21PHYL16 Engineering Physics Laboratory	C106.1	Understand the measuring techniques
		C106.2	Operate different instruments and be capable to analyse the experimental results.
		C106.3	Construct the circuits and their analysis.

S.No.	Subject Code	Course Code	Course Outcomes
7	21ELEL17 Basic Electrical Engineering Laboratory	C107.1	Verify KCL and KVL and maximum power transfer theorem for DC circuits.
		C107.2	Compare power factors of different types of lamps.
		C107.3	Demonstrate the measurement of the impedance of an electrical circuit and power consumed by a 3-phase load.
		C107.4	Analyze two-way and three-way control of lamps.
		C107.5	Explain the effects of open and short circuits in simple circuits.

		C107.6	Interpret the suitability of earth resistance measured.
--	--	--------	---

S.No.	Subject Code	Course Code	Course Outcomes
8	21EGH18 Communicative English	C108.1	Understand and apply the Fundamentals of Communication Skills in their communication skills.
		C108.2	Identify the nuances of phonetics, in to nation and enhance pronunciation skills.
		C108.3	To impart basic English grammar and essentials of language skills as per present requirement.
		C108.4	Understand and use all types of English vocabulary and language proficiency.
		C108.5	Adopt the Techniques of Information Transfer through the presentation.

S.No.	Subject Code	Course Code	Course Outcomes
9	21IDT19 Innovation and Design Thinking	C109.1	Appreciate various design process procedure
		C109.2	Generate and develop design ideas through different technique
		C109.3	Identify the significance of reverse Engineering to Understand products
		C109.4	Draw technical drawing for design ideas

S.No.	Subject Code	Course Code	Course Outcomes
10	21MAT21 Advanced Calculus and Numerical Methods	C110.1	Apply the concept of change of order of integration and change of variables to evaluate multiple integrals and their usage in computing the area and volume.
		C110.2	Illustrate the applications of multivariate calculus to understand the solenoidal and irrotational vectors and also exhibit the inter dependence of line, surface and volume integrals.
		C110.3	Formulate physical problems to partial differential equations and to obtain solution for standard practical PDE's.
		C110.4	Apply the knowledge of numerical methods in modelling of various physical and engineering phenomena.
		C110.5	Solve first order ordinary differential equations arising in engineering problems.

S.No.	Subject Code	Course Code	Course Outcomes
11	21CHE22 Engineering Chemistry	C111.1	Discuss the electrochemical energy systems such as electrodes and batteries.
		C111.2	Explain the fundamental concepts of corrosion, its control and surface modification methods namely electroplating and electroless plating
		C111.3	Enumerate the importance, synthesis and applications of polymers. Understand properties and application of nanomaterials.
		C111.4	Describe the principles of green chemistry, understand properties and application alternative fuels.
		C111.5	Illustrate the fundamental principles of water chemistry, applications of volumetric and analytical instrumentation.

S.No.	Subject Code	Course Code	Course Outcomes
12	21PSP23 Problem- Solving through Programming	C112.1	Elucidate the basic architecture and functionalities of a computer and also recognize the hardware parts.
		C112.2	Apply programming constructs of C language to solve the real world problem
		C112.3	Explore user-defined data structures like arrays in implementing solutions to problems like searching and sorting
		C112.4	Explore user-defined data structures like structures, unions and pointers in implementing solutions
		C112.5	Design and Develop Solutions to problems using modular programming constructs using functions

S.No.	Subject Code	Course Code	Course Outcomes
13	21ELN24 Basic Electronics & Communication Engineering	C113.1	Describe the concepts of electronic circuits encompassing power supplies, amplifiers and oscillators.
		C113.2	Present the basics of digital logic engineering including data representation, circuits and the microcontroller system with associated sensors and actuators.
		C113.3	Discuss the characteristics and technological advances of embedded systems.
		C113.4	Relate to the fundamentals of communication engineering spanning from the frequency spectrum to the various circuits involved including antennas.

		C113.5	Explain the different modes of communications from wired to wireless and the computing involved.
--	--	--------	--

S.No.	Subject Code	Course Code	Course Outcomes
14	21EME25 Elements of Mechanical Engineering	C114.1	Understand basic concepts of mechanical engineering in the fields of energy and its utilization, materials technology, manufacturing techniques, and transmission systems through demonstrations.
		C114.2	Understand the application of energy sources in Power generation and utilization, Engineering materials, manufacturing, and machining techniques leading to the latest advancements and transmission systems in day to day activities
		C114.3	Apply the skills in developing simple mechanical elements and processes

S.No.	Subject Code	Course Code	Course Outcomes
15	21CHEL26 Engineering Chemistry Laboratory	C115.1	Determine the pKa and coefficient of Viscosity of a given organic liquid.
		C115.2	Estimate the amount of substance present in the given solution using Potentiometer Conductometric and Colorimetric.
		C115.3	Determine the total hardness and chemical oxygen demand in the given solution by volumetric analysis method
		C115.4	Estimate the percentage of Nickel, copper and Iron in the given analyte solution by titration method.
		C115.5	Demonstrate flame photometric estimation of sodium & potassium and the synthesis of nanomaterials by Precipitation method.

S.No.	Subject Code	Course Code	Course Outcomes
16	21CPL27 Computer Programming Laboratory	C116.1	Define the problem statement and identify the need for computer programming
		C116.2	Make use of C compiler, IDE for programming, identify and correct the syntax and syntactic errors in programming
		C116.3	Develop algorithm, flowchart and write programs to solve the given problem
		C116.4	Demonstrate use of functions, recursive functions, arrays, strings, structures and pointers in problem solving.

		C116.5	Document the inference and observations made from the implementation
--	--	--------	--

S.No.	Subject Code	Course Code	Course Outcomes
17	21EGH28 Professional Writing Skills in English	C117.1	To understand and identify the Common Errors in Writing and Speaking.
		C117.2	To Achieve better Technical writing and Presentation skills.
		C117.3	To read Technical proposals properly and make them to Write good technical reports.
		C117.4	Acquire Employment and Workplace communication skills.
		C117.5	To learn about Techniques of Information Transfer through presentation in different level.

S.No.	Subject Code	Course Code	Course Outcomes
18	21SFH29 Scientific Foundations of Health	C118.1	To understand Health and wellness (and its Beliefs)
		C118.2	To acquire Good Health & It's balance for positive mindset
		C118.3	To inculcate and develop the healthy lifestyle habits for good health.
		C118.4	To Create of Healthy and caring relationships to meet the requirements of MNC and LPG world
		C118.5	To adopt the innovative & positive methods to avoid risks from harmful habits in their campus & outside the campus.
		C118.6	To positively fight against harmful diseases for good health through positive mindset.

Sl. No.	Subject Code	Course Code	Course Outcomes
19	21MAT 31 TRANSFORM CALCULUS, FOURIER SERIES AND NUMERICAL TECHNIQUES	C201.1	To solve ordinary differential equations using Laplace transform.
		C201.2	Demonstrate the Fourier series to study the behaviour of periodic functions and their applications in system communications, digital signal processing and field theory
		C201.3	To use Fourier transforms to analyze problems involving continuous-time signals and to apply Z-Transform techniques to solve difference equations
		C201.4	To solve mathematical models represented by initial or boundary value problems involving partial differential equations
		C201.5	Determine the extremals of functionals using calculus of variations and solve

			problems arising in dynamics of rigid bodies and vibrational analysis
--	--	--	---

Sl. No.	Subject Code	Course Code	Course Outcomes
20	21CV32 Geodetic Engineering	C202.1	Execute survey using compass and plane table
		C202.2	Find the level of ground surface and Calculation of area and volumes
		C202.3	Operate theodolite for field execution
		C202.4	Estimate the capacity of reservoir
		C202.5	Interpret satellite imageries

Sl. No.	Subject Code	Course Code	Course Outcomes
21	21CV33 STRENGTH OF MATERIALS	C203.1	Evaluate the behaviour when a solid material is subjected to various types of forces (namely Compressive, Tensile, Thermal, Shear, flexure, Torque, internal fluid pressure) and estimate stresses and corresponding strain developed.
		C203.2	Estimate the forces developed and draw schematic diagram for stresses, forces, moments for simple beams with different types of support and are subjected to various types of loads
		C203.3	Evaluate the behaviour when a solid material is subjected to Torque and internal fluid pressure and estimate stresses and corresponding strain developed.
		C203.4	Distinguish the behaviour of short and long column and calculate load at failure & explain the behaviour of spring to estimate deflection and stiffness
		C203.5	Examine and Evaluate the mechanical properties of various materials under different loading conditions

Sl. No.	Subject Code	Course Code	Course Outcomes
22	21CV34  Earth Resources and Engineering	C204.1	Apply geological knowledge in different civil engineering practice.
		C204.2	Students will acquire knowledge on durability and competence of foundation rocks, and confidence enough to use the best building materials.
		C204.3	competent enough to provide services for the safety, stability, economy and life of the structures that they construct
		C204.4	Able to solve various issues related to ground water exploration, build up dams, bridges, tunnels which are often confronted with ground water problems
		C204.5	Intelligent enough to apply GIS, GPS and remote sensing as a latest tool in different civil engineering for safe and solid construction.

Sl. No.	Subject Code	Course Code	Course Outcomes
23	21CVL35 COMPUTER AIDED BUILDING PLANNING AND DRAWING	C205.1	Prepare, read and interpret the drawings in a professional set up.
		C205.2	Know the procedures of submission of drawings and Develop working and submission drawings for building.
		C205.3	Plan and design of residential or public building as per the given requirements.

Sl. No.	Subject Code	Course Code	Course Outcomes
24	21SCR36  SOCIAL CONNECT & RESPONSIBILITIES	C206.1	Understand social responsibility
		C206.2	Practice sustainability and creativity
		C206.3	Showcase planning and organizational skills

Sl. No.	Subject Code	Course Code	Course Outcomes
25	21CIP37 Constitution of India and Professional Ethics (CIP)	C207.1	Have constitutional knowledge and legal literacy.
		C207.2	Understand Engineering and Professional ethics and responsibilities of Engineers



Sl. No.	Subject Code	Course Code	Course Outcomes
26	21CV385 Fire Safety in Buildings	C208.1	Understand types of fire, combustion process and fire resistance
		C208.2	Plan for fire safety and design of lifts
		C208.3	Design flow network in buildings
		C208.4	Design of electrical systems and maintenance
		C208.5	Perform health evaluation of buildings and suggest remedies

Sl. No.	Subject Code	Course Code	Course Outcomes
27	21DIPMAT31 Additional Mathematics-I	C209.1	Use derivatives and partial derivatives to calculate the rate of change of multivariate functions.
		C209.2	Apply concepts of complex numbers and vector algebra to analyse the problems arising in a related area.
		C209.3	Analyse position, velocity and acceleration in two and three dimensions of vector-valued functions.
		C209.4	Learn techniques of integration including the evaluation of double and triple integrals.
		C209.5	Identify and solve first-order ordinary differential equations.

Sl. No.	Subject Code	Course Code	Course Outcomes
28	21MATDIP41 Additional Mathematics-II	C210.1	Test for consistency and solve the system of linear equations
		C210.2	Solve higher order differential equations
		C210.3	Apply elementary probability theory and solve related problems
		C210.4	To interpolate/extrapolate from the given data
		C210.5	Apply the knowledge of numerical methods in modelling and solving engineering problems

Sl. No.	Subject Code	Course Code	Course Outcomes
29	21MAT41 COMPLEX ANALYSIS, PROBABILIT Y AND STATISTICAL METHODS	C211.1	Use the concepts of an analytic function and complex potentials to solve the problems arising in electromagnetic field theory. Utilize conformal transformation and complex integral arising in aerofoil theory, fluid flow visualization and image processing.
		C211.2	Obtain Series Solutions of Ordinary Differential Equation.
			Make use of the correlation and regression analysis to fit a suitable mathematical model for the statistical data.
		C211.3	Apply discrete and continuous probability distributions in analysing the probability models arising in the engineering field.
			Construct joint probability distributions and demonstrate the validity of testing the hypothesis.

Sl. No.	Subject Code	Course Code	Course Outcomes
30	21CV42  Fluid Mechanics and Hydraulics	C212.1	Understand fundamental properties of fluids and solve problems on Hydrostatics
		C212.2	Apply Principles of Mathematics to represent Kinematics and Bernoulli's principles
		C212.3	Compute discharge through pipes, notches and weirs
		C212.4	Design of open channels of various cross sections
		C212.5	Design of turbines for the given data and understand

Sl. No.	Subject Code	Course Code	Course Outcomes
31	21CV43 PUBLIC HEALTH ENGINEERIN G	C213.1	Estimate average and peak water demand for a community. □
		C213.2	Evaluate water quality and environmental significance of various parameters and plan suitable treatment system. □
		C213.3	Design the different units of water treatment plant □
		C213.4	Understand and design the various units of wastewater treatment plant □
		C213.5	Acquire capability to conduct experiments and estimate the concentration of different parameters and compare the obtained results with the concerned

		guidelines and regulations
--	--	----------------------------

Sl. No.	Subject Code	Course Code	Course Outcomes
32	21CV44 ANALYSIS OF STRUCTURES	C214.1	. Evaluate slope and deflections in beams using geometrical methods.
		C214.2	Determine deflections in trusses and frames using energy principles
		C214.3	Analyse arches and cables for stress resultants.
		C214.4	Apply slope deflection method in analysing indeterminate structures and construct bending moment diagram.
		C214.5	Analyse continuous beams, frames and trusses using stiffness matrix method of analysis.

Sl. No.	Subject Code	Course Code	Course Outcomes
33	21CVL46 Earth Resources and Engineering Laboratory	C215.1	Comprehend the relations between minerals and rocks based on their physical properties
		C215.2	Assess the suitability of materials used in building construction
		C215.3	Differentiate geological investigations necessary for the construction of dams, bridges, and tunnels
		C215.4	Describe the groundwater investigation using resistivity methods
		C215.5	Understand the applications of Geospatial technology in Civil Engineering

S.No.	Subject Code	Course Code	Course Outcomes
34	21KSK47 Samskrutika Kannada	C216.1	ಕನ್ನಡ ಭಾಷೆ, ಸಾಹಿತ್ಯ ಮತ್ತು ಕನ್ನಡದ ಸಂಸ್ಕೃತಿಯ ಪರಿಚಯವಾಗುತ್ತದೆ.
		C216.2	ಕನ್ನಡ ಸಾಹಿತ್ಯದ ಆಧುನಿಕ ಪೂರ್ವ ಮತ್ತು ಆಧುನಿಕ ಕಾವ್ಯಗಳು ಮತ್ತು ಸಂಸ್ಕೃತಿಯ ಬಗ್ಗೆ ಅಸಕ್ತಿಯು ಮೂಡುತ್ತದೆ.
		C216.3	ತಾಂತ್ರಿಕ ವ್ಯಕ್ತಿಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.
		C216.4	ಕನ್ನಡ ಭಾಷಾಭ್ಯಾಸ, ಸಾಮಾನ್ಯ ಕನ್ನಡ ಹಾಗೂ ಆಡಳಿತ ಕನ್ನಡದ ಪದಗಳ ಪರಿಚಯವಾಗುತ್ತದೆ.
OR			

	21KSK47 Balake Kannada	C216.1	To understand the necessity of learning of local language for comfortable life
		C216.2	To Listen and understand the Kannada language properly.
		C216.3	To speak, read and write Kannada language as per requirement.
		C216.4	To communicate (converse) in Kannada language in their daily life with kannada speakers.
		C216.5	To speak in polite conversation.

Sl. No.	Subject Code	Course Code	Course Outcomes
35	21CV485 GREEN BUILDINGS	C217.1	Select different building materials for construction
		C217.2	Apply effective environmental friendly building technology
		C217.3	Analyze global warming due to different materials in construction
		C217.4	Analyse buildings for green rating
		C217.5	Use alternate source of energy and effective use water

Sl. No.	Subject Code	Course Code	Course Outcomes
36	21UHV49 UNIVERSAL HUMAN VALUES-II: UNDERSTAN DING HARMONY and ETHICAL HUMAN CONDUCT	C218.1	Holistic vision of life
		C218.2	Socially responsible behaviour
		C218.3	Environmentally responsible work
		C218.4	Ethical human conduct
		C218.5	Having Competence and Capabilities for Maintaining Health and Hygiene

Sl. No.	Subject Code	Course Code	Course Outcomes
37	21CV51 Hydrology and Water Resource Engineering	C301.1	Provide a background in the theory of hydrological processes and their measurement
		C301.2	Estimate runoff and develop unit hydrographs
		C301.3	Find the water requirement and frequency of irrigation for various crops.
		C301.4	Find the canal capacity and compute the reservoir capacity.
		C301.5	Analyse floods and droughts. Emphasise on the importance of conservation of water and water bodies

<b>.No.</b>	<b>Subject Code</b>	<b>Course Code</b>	<b>Course Outcomes</b>
38	21INT49 Inter/Intra Institutional Internship	C220.1	Construct the company profile by compiling the brief history, management structure, products / services offered, key achievements and market performance for his / her organization of internship.
		C220.2	Determine the challenges and future potential for his / her internship organization in particular and the sector in general.
		C220.3	Test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period.
		C220.4	Apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship organization
		C220.5	Analyze the functioning of internship organization and recommend changes for improvement in processes.

<b>Sl. No.</b>	<b>Subject Code</b>	<b>Course Code</b>	<b>Course Outcomes</b>
39	21CV51 Hydrology and Water Resource Engineering	C301.1	Provide a background in the theory of hydrological processes and their measurement
		C301.2	Estimate runoff and develop unit hydrographs
		C301.3	Find the water requirement and frequency of irrigation for various crops.
		C301.4	Find the canal capacity and compute the reservoir capacity.
		C301.5	Analyse floods and droughts. Emphasise on the importance of conservation of water and water bodies

<b>Sl. No.</b>	<b>Subject Code</b>	<b>Course Code</b>	<b>Course Outcomes</b>
40	21CV52 TRANSPORTA TION ENGINEERING	C302.1	Acquire the capability of proposing a new alignment or re-alignment of existing roads, conduct necessary field investigation for generation of required data.
		C302.2	Evaluate the engineering properties of the materials and suggest the suitability of the same for pavement construction.
		C302.3	Design road geometrics, structural components of pavement and drainage.
		C302.4	Evaluate the highway economics by few select methods and also will have a basic knowledge of various highway financing concepts.

<b>Sl. No.</b>	<b>Subject Code</b>	<b>Course Code</b>	<b>Course Outcomes</b>
	21CV53	C303.1	Understand the design philosophy and principles.

41	DESIGN OF RC STRUCTURAL ELEMENTS	C303.2	Solve engineering problems of RC elements subjected to flexure, shear and torsion
		C303.3	Demonstrate the procedural knowledge in designs of RC structural elements such as slabs, columns and footings.
		C303.4	Owens professional and ethical responsibility

Sl. No.	Subject Code	Course Code	Course Outcomes
42	21CV54 GEOTECHNICAL ENGINEERING	C304.1	Determine the index properties of soil and hence classify the soil
		C304.2	Assess the compaction and consolidation characteristics of soil
		C304.3	Determine the permeability of soils and assess the seepage in hydraulic structures
		C304.4	Evaluate shear parameters of the soil using shear tests
		C304.5	Ability to determine bearing capacity of soil and achieve proficiency in proportioning shallow isolated and combined footings for uniform bearing pressure

Sl. No.	Subject Code	Course Code	Course Outcomes
43	21CVL55 GEOTECHNICAL ENGINEERING LABORATORY	C305.1	Physical and index properties of the soil
		C305.2	Classify based on index properties and field identification
		C305.3	To determine OMC and MDD, plan and assess field compaction program
		C305.4	Shear strength and consolidation parameters to assess strength and deformation characteristics
		C305.5	In-situ shear strength characteristics(SPT-Demonstration)

Sl. No.	Subject Code	Course Code	Course Outcomes
44	21CV56 RESEARCH METHODOLOGY & INTELLECTUAL PROPERTY RIGHTS	C306.1	To know the meaning of engineering research.
		C306.2	To know the procedure of Literature Review and Technical Reading
		C306.3	To know the fundamentals of patent laws and drafting procedure
		C306.4	Understanding the copyright laws and subject matters of copyrights and designs
		C306.5	Understanding the basic principals of design rights

Sl. No.	Subject Code	Course Code	Course Outcomes
	21CIV57	C307.1	Understand the principles of ecology and environmental issues that apply to air, land, and water issues on a global

45	Environmental Studies		scale
		C307.2	Develop critical thinking and/or observation skills, and apply them to the analysis of a problem or question related to the environment. □
		C307.3	Demonstrate ecology knowledge of a complex relationship between biotic and abiotic components.
		C307.4	Apply their ecological knowledge to illustrate and graph a problem and describe the realities that managers face when dealing with complex issues.

Sl. No.	Subject Code	Course Code	Course Outcomes
46	21CV584 Quality Control and Quality Assurance	C308.1	Realize the importance of quality in construction
		C308.2	Apply SQC techniques in different aspects of construction
		C308.3	Implement QMS programs at different levels of construction

Sl. No.	Subject Code	Course Code	Course Outcomes
47	21CV61 CONSTRUCTION AND ENTREPRENERS	C309.1	Understand various management principles of construction industry
		C309.2	Use planning, organizing, scheduling, monitoring and controlling techniques for managing construction activity
		C309.3	Understand importance of quality control and safety in construction.
		C309.4	Understand managing data pertaining to construction project.
		C309.5	Evaluate alternatives and develop capital budget for different scenarios.

Sl. No.	Subject Code	Course Code	Course Outcomes
48	21CV62 CONCRETE TECHNOLOGY	C310.1	Assess and infer various properties of cement, cementitious materials, Fine and coarse aggregate as per codal provision and specifications
		C310.2	Design the concrete mix for the given materials as per IS:10262-2019 provisions
		C310.3	Understand the manufacturing process and asses the quality of green
		C310.4	Describe the properties of fresh and hardened concrete – Strength and Durability aspects

		C310.5	.Examine and Evaluate properties of Cement and Concrete
--	--	--------	---

Sl. No.	Subject Code	Course Code	Course Outcomes
49	21CV63 DESIGN OF STEEL STRUCTURAL ELEMENTS	C311.1	Possess knowledge of Steel Structures Advantages and Disadvantages of Steel structures, steel code provisions and plastic behaviour of structural steel.
		C311.2	Understand the Concept of Bolted and Welded connections
		C311.3	Understand the Concept of Design of compression members, built-up columns and columns splices
		C311.4	Understand the Concept of Design of tension members, simple slab base and gusseted base.
		C311.5	Understand the Concept of Design of laterally supported and un-supported steel beams.

Sl. No.	Subject Code	Course Code	Course Outcomes
50	21CV645 Groundwater Hydraulics	C312.1	Explain the importance of Groundwater
		C312.2	Paraphrasing the Characteristics of aquifers
		C312.3	Estimate the quantity of groundwater by various methods
		C312.4	Analyse the zones of groundwater resource
		C312.5	Analyse the quality of groundwater and understand Techniques of modeling

Sl. No.	Subject Code	Course Code	Course Outcomes
51	21ME652 RENEWABLE ENERGY POWER PLANTS	C313.1	Describe the various forms of non-conventional energy resources.
		C313.2	Apply the fundamental knowledge of mechanical engineering to design various renewable energy systems
		C313.3	Analyze the implications of renewable energy forms for selecting an appropriate system for a specific application
		C313.4	Discuss on the environmental aspects and impact of non-conventional energy resources, in comparison with various conventional energy systems, their prospects and limitations.



Sl. No.	Subject Code	Course Code	Course Outcomes
52	21CVL66 Computer Aided Detailing of Structures 21CVL66 Computer Aided Detailing of Structures	C314.1	Prepare the detailed working drawings of RC structural elements
		C314.2	Prepare the detailed working drawings of steel structural elements

Sl. No.	Subject Code	Course Code	Course Outcomes
53	21CVMP67 Mini Project	C315.1	Perform a literature search to review current knowledge and developments in the chosen technical area.
		C315.2	Undertake detailed technical work in the chosen area
		C315.3	Prepare reports to establish work completed, and to schedule any additional changes to be done within the specified time frame for the project.
		C315.4	Deliver presentation on the area of work being done and any specific contributions done related to the field of work

S.No.	Subject Code	Course Code	Course Outcomes
54	21INT68 Innovation/ Entrepreneurship/ Societal Internship	C316.1	Construct the company profile by compiling the brief history, management structure, products / services offered, key achievements and market performance for his / her organization of internship.
		C316.2	Determine the challenges and future potential for his / her internship organization in particular and the sector in general.
		C316.3	Test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period.
		C316.4	Apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship organization

		C316.5	Analyze the functioning of internship organization and recommend changes for improvement in processes.
--	--	--------	--