COURSE OUTCOMES

Mar Ephraem
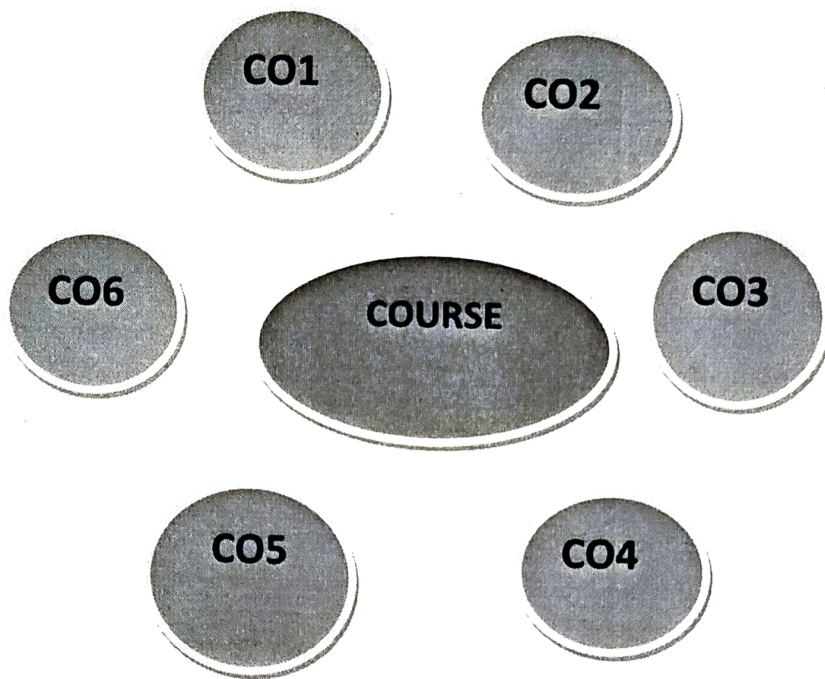### College of Engineering and Technology
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2.COURSE OUTCOMES

Course outcome statements that are clearly identify what (and how much or how well) the student will know and be able to do after successfully completing this course-the essential knowledge abilities and attitudes that constitute the basic learning needed by a graduate of this course Generally, the courses will have 6 course outcomes depending on its significance which are mapped to the Pos and PSOs.

CO1   CO2

CO6   COURSE   CO3

CO5   CO4

HOD

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List of Course Outcomes

Batch 2016-2020

Course	Course Code	Course Name		Course Outcome
C101	HS6151	Technical English – I	C101.1	Summarize various experiences and events
			C101.2	Interpret various visual materials (line graphs, pie charts etc.)
			C101.3	Use the electronic media (internet) for email.communication
			C101.4	Describe various processes using sequence words
			C101.5	Analyse different spoken discourses/excerpts
			C101.6	Write cohesively and coherently and flawlessly avoiding grammatical errors
C102	MA6151	Mathematics– I	C102.1	Calculate the limits of the given mathematical function.
			C102.2	Apply differentiation to solve maxima and minima problems
			C102.3	Solve integrals using substitution method, partial fraction method and integration by parts
			C102.4	Apply integration to compute area and volume
			C102.5	Apply the methods of Euler and Legendre in solving differential equations.
			C102.6	Solve any simultaneous differential equation
C103	PH6151	Engineering Physics – I	C103.1	Apply the concept of elasticity for the construction of bridges, beams, columns, lintels.
			C103.2	Derive Einstein's .A and B coefficients and describe the working principle of semiconductor laser
			C103.3	Explain the various methods to determine the thermal conductivity of different materials.
			C103.4	Solve schroedinger's wave equations for an electron trapped in a potential well.
			C103.5	Calculate the packing factor for different crystal systems.
			C103.6	Select the suitable fiber for efficient optical communication system with less signal degradation.
C104	CY6151	Engineering Chemistry – I	C104.1	Discuss different techniques for removing hardness producing ions
			C104.2	Explain the methods adopted in air and water purification by adsorption.
			C104.3	Recall the principles of catalysis in pollution control
			C104.4	Select appropriate alloys for castings
			C104.5	Recognizes the sustainability of energy resources.
			C104.6	Identify the efficiency of fuels
C105	GE6151	Computer Programming	C105.1	Describe the functions of a digital computer with its organization
			C105.2	Apply appropriate algorithm to solve the problem.

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Course	Course Code	Course Name		Course Outcome
			C105.3	Analyse the different conditional constructs to solve simple scientific and statistical problems
			C105.4	Analyse the usage of functions and pointers
			C105.5	Solve the program using arrays and strings
			C105.6	Apply the concept of structures and unions in writing C programs.
C106	GE6152	Engineering Graphics	C106.1	Construct engineering drawing using appropriate scales and standards
			C106.2	Perform freehand sketching of basic geometrical constructions and multiple views of objects
			C106.3	Draw orthographic projection of lines and plane surfaces
			C106.4	Draw projections of solids and development of surfaces
			C106.5	Perform isometric and perspective sections of simple solids
			C106.6	Perform projections of sectioned solids and development of sectioned surfaces
C107	GE6161	Computer Practices Laboratory	C107.1	Apply simple Python statements to solve computational problem.
			C107.2	Develop python programs applying the concepts of conditionals and looping
			C107.3	Develop python programs applying the concepts of function definition and function call
			C107.4	Apply the concepts of lists, tuples, dictionaries to store data values in python programs
			C107.5	Apply the concept of String operations to handle strings in python programs
C108	GE6162	Engineering Practices Laboratory	C108.1	Fabricate basic carpentry components & pipe connections.
			C108.2	Join the structures using arc welding.
			C108.3	Demonstrate basic machining operations in Lathe.
			C108.4	Fabricate the models using sheet metal works.
			C108.5	Demonstrate basic electrical engineering practices and appliances.
C110	HS6251	Technical English – II	C110.1	Create reports & curriculum vitae
			C110.2	Use active & passive sentences
			C110.3	Produce different types of writing such as narration, description, exposition and argument
			C110.4	Analyse and evaluate the implied meanings of various texts
			C110.5	Paraphrasing minutes of meeting
			C110.6	Prepare formal letters
C111	MA6251	Mathematics – II	C111.1	Compute the Eigen values and Eigen vectors using matrix operations vector
			C111.2	Calculate line, surface and volume integrals using Gauss, Stokes and Green's theorems .

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Course	Course Code	Course Name		Course Outcome
			C111.3	Apply conformal mapping to transform analytical function from one domain to another domain
			C111.4	Compute the integral value of any complex function over a simple closed curve
			C111.5	Solve the differential equations using laplace transform techniques
			C111.6	Use Laplace transform techniques to turn integral and differential equations to polynomial equations
C112	PH6251	Engineering Physics – II	C112.1	Choose proper conducting material used for heating elements, coils, electrical machines.
			C112.2	Calculate the carrier concentration for semi conducting materials.
			C112.3	select suitable magnetic material in the production of gyrator, motors, electric cars, MRI.
			C112.4	Apply super conducting phenomenon in the manufacturing of SQUID,MAG LEV train, switching devices.
			C112.5	Use proper dielectric material for manufacturing of high voltage transformer, circuit breakers, servo motors.
			C112.6	Analyse different synthesis technique in the preparation of nano materials.
C113	CY6251	Engineering Chemistry – II	C113.1	Analyse the importance of water technology in the purification of water and its domestic and industrial demands.
			C113.2	Explain the principles of electrochemistry and corrosion and their practical applicability.
			C113.3	Understand the fundamentals of different alternative sources of energy and their importance to the mankind.
			C113.4	Classify the types of battery
			C113.5	Analyse the different types of engineering materials and their applications in daily life.
			C113.6	Understand the industrial techniques of petroleum processing and determination of various parameters associated with combustion processes
C114	GE6252	Basic Electrical and Electronics Engineering	C114.1	Apply basic laws to solve simple circuits.
			C114.2	Apply network theorems to simplify a circuit.
			C114.3	Choose appropriate sensors to measure various parameters.
			C114.4	Sketch the speed characteristic of different electrical machines.
			C114.5	Utilize rectifiers to generate ac signals.
			C114.6	Experiment single phase transformer with loads.
C115	GE6253	Engineering Mechanics	C115.1	Illustrate the vectorial and scalar representation of forces and moments
			C115.2	Analyze the rigid body in equilibrium
			C115.3	Compute the centroid and moment of inertia of different cross sections

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Course	Course Code	Course Name		Course Outcome
			C115.4	Calculate the dynamic forces extended in rigid body
			C115.5	Determine the friction and the effects by the laws of friction
			C115.6	Evaluate the properties of solids and surfaces
C116	GE6261	Computer Aided Drafting and Modeling Laboratory	C116.1	Illustrate the capabilities of AutoCAD package for basic drafting and modeling
			C116.2	Draw 2D models of engineering drawing using AUTOCAD
			C116.3	Draw 3D models of engineering drawing using AUTOCAD
			C116.4	Draw sectional views of simple solids using AUTOCAD
			C116.5	Draw a title block with necessary text and projection symbols in AUTOCAD
C117	GE6262	Physics and Chemistry Laboratory -II	C117.1	Evaluate the quantitative chemical analysis of hardness, alkalinity and copper ion.
			C117.2	Evaluate the iron content of the given solution using potentiometer
			C117.3	Evaluate the determination of Bacl2 and sodium using conductivity meter
			C117.4	Describe optics, thermal physics,
			C117.5	Evaluate engineering properties of materials.
C201	MA6351	Transforms and Partial Differential Equations	C201.1	Develop partial differential equations for any provided equations
			C201.2	Solve various types of partial differential equations
			C201.3	Solve one dimensional wave equations and heat equations using Fourier series
			C201.4	Transform aperiodic function from one domain to another domain using Fourier transform method.
			C201.5	Transform periodic function into sum of sine and cosine series
			C201.6	Solve difference equations using Z-Transform.
C202	GE6351	Environmental Science And Engineering	C202.1	To identify the characteristics of water and waste water.
			C202.2	To identify the microorganisms growth in water.
			C202.3	To quantify the pollutant concentration in water and waste water.
			C202.4	To identify the BOD & COD for the given sample.
			C202.5	To identify the chloride present in water.
			C202.6	To identify the optimum quantity of coagulation.
C203	CE6301	Engineering Geology	C203.1	Describe action of geological agents and formation of geological structures.
			C203.2	Identify different rocks based on its physical properties.
			C203.3	Apply Rankine cycle for steam power plant and compare few cycle improvement methods.
			C203.4	Identify various geological structures by applying geophysical methods for subsurface investigations
			C203.5	Interpret GIS data's for identifying minerals and rock formation.

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Course	Course Code	Course Name		Course Outcome
			C203.6	Select the geological conditions necessary for design and construction of Dams, Reservoirs, Tunnels, and Road cuttings
C204	CE6302	Mechanics Of Solids	C204.1	Analyse stress, strain and deformation of simple and compound bars for varying load
			C204.2	Analyse shear force and bending moment in beams subjected to transverse loading.
			C204.3	Analyse shear stress due to torsion in shafts and helical springs.
			C204.4	Calculate the slope and deflection in beams using different methods.
			C204.5	Compute stress and deformation in thin, thick cylinders and spherical shells.
			C204.6	Calculate stress distribution due to shearing force and bending moment.
C205	CE6303	Mechanics Of Fluids	C205.1	Analyze properties of fluid in static state
			C205.2	Analyze properties of fluid in motion for designing hydraulic sections.
			C205.3	Analyze flow through pipes for any site conditions
			C205.4	Develop solutions for boundary layer problems with respect to any site conditions.
			C205.5	Design efficient hydraulic structures based on their dimensions and properties.
			C205.6	Design hydraulic structure based on model studies
C206	CE6304	Surveying 1	C206.1	Apply the principles of linear measurements and traversing for plotting maps and layouts
			C206.2	The students shall be able to identify the sources of errors due to local attraction and magnetic declination.
			C206.3	The students shall be able to identify the level difference between any given points.
			C206.4	The students shall be able to prepare contour maps by the method of interpolation.
			C206.5	The students shall be able to calculate earthwork for varied cross sections and volumes
			C206.6	The students shall be able to determine the horizontal and vertical distance using tacheometry surveying.
C207	CE6311	Survey Practical 1	C207.1	Able to survey the area using different methods of plane tabling and compass survey and to adjust the compass traverse graphically.
			C207.2	Able to Prepare the survey data sheet according to any method of surveying.
			C207.3	Able to apply theoretical considerations in field and other engineering projects.

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Course	Course Code	Course Name		Course Outcome
			C207.4	Able to record the reduced levels using various methods of levelling and measurement of horizontal & vertical angles by Theodolite.
			C207.5	Able to determine the location of any point horizontally and vertically using Tachometry
C208	CE6312	Computer Aided Building Drawing	C208.1	Illustrate the capabilities of AutoCAD package for basic drafting
			C208.2	3D modeling using AUTOCAD
			C208.3	Draw 2D models of engineering drawing using AUTOCAD
			C208.4	Draw 3D models of engineering drawing using AUTOCAD
			C208.5	Draw sectional views of simple solids using AUTOCAD
			C208.6	Draw plan & elevation using AUTOCAD
C210	MA6459	Numerical Methods	C209.1	Solve algebraic and transcendental equations by different method
			C209.2	Find the missing values by different methods
			C209.3	Apply the numerical techniques for solving first and second order ordinary differential equations.
			C209.4	Solve the ordinary differential equations with boundary value conditions
			C209.5	De Solve the ordinary differential equations with boundary value conditions monstrate the working of DC and AC starters
			C209.6	Solve the partial differential equations with initial boundary value conditions
C211	CE6401	Construction Materials	C211.1	Understand the basic knowledge of construction materials and its uses in the site
			C211.2	Understand the typical and potential applications of construction materials
			C211.3	Understand the importance of experimental verification of material properties.
			C211.4	Understand the importance of timber and its properties.
			C211.5	Compare the properties of most common and advanced building materials.
			C211.6	Understand the relationship between material properties and structural form
C212	CE6402	Strength Of Materials	C212.1	Discuss the basics of mechanism in machines
			C212.2	Perform analysis of structural elements subjected to unsymmetrical loading for the any design purpose.
			C212.3	Analyse unsymmetrical bending of beams with different cross section subjected to loading condition of the site
			C212.4	Analyse the load carrying capacity of a structural element by comparing Actual stress and Ultimate Stress subjected to loading condition of the site

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Course	Course Code	Course Name		Course Outcome
			C212.5	Analyse the load carrying capacity of columns subjected to loading condition of the site
			C212.6	Analyse Shear force and Bending moment of Indeterminate beams subjected to Loading conditions of the site.
C213	CE6403	Applied Hydraulic Engineering	C213.1	Design best hydraulic section for any uniform flow
			C213.2	Design suitable section for any Gradually Varied Flow.
			C213.3	Design best hydraulic section for any Rapidly Varied Flow
			C213.4	Evaluate the performance of any turbine for a given flow
			C213.5	Evaluate the performance of any pump for a given output
			C213.6	Apply the theory of fluid mechanics to design hydraulic structures and machineries.
C214	CE6404	Surveying II	C214.1	The students shall be able to apply the principles of control surveying to establish horizontal and vertical distance for any site conditions.
			C214.2	The students shall be able to identify and correct errors from any field data.
			C214.3	The students shall be able to operate and prepare topographic detailing using Total station survey
			C214.4	The students shall be able to prepare topographic detailing using GPS survey
			C214.5	Students shall be able to perform setting out effectively for any site conditions.
			C214.6	The students shall be able to apply the concepts of field astronomy for computing and locating celestial points.
C215	CE6405	Soil Mechanics	C215.1	Classify the soil and assess the engineering properties, based on index properties
			C215.2	Calculate the effective stress in soils based on site conditions
			C215.3	Identify the settlement in soils based on site conditions
			C215.4	Determine the shear strength of soil based on site conditions
			C215.5	Analyze both finite and infinite slopes at site
			C215.6	Describe experiments to determine the engineering properties of soil
C216	CE6411	Strength Of Materials Laboratory	C216.1	Compute the tensile and torsional strength of steel rod
			C216.2	Compute the compressive strength of modern sample
			C216.3	Compute shear strength of metal sample
			C216.4	Compute the hardness and impact resistance of metal specimen
			C216.5	Compute deflection of metal beam

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Course	Course Code	Course Name		Course Outcome
			C216.6	Compute the compressive strength and deflection of springs
C217	CE6412	Hydraulic Engineering Laboratory	C217.1	Determine major and minor losses in pipes
			C217.2	Determine using Orificemeter and venturimeter
			C217.3	Calibrate rotometer for various fluids
			C217.4	Analyse the characteristics performance of centrifugal,reciprocating,submersible and gear pump
			C217.5	Analyse the characteristics performance of Pelton wheel turbine,Kaplan turbine and Francis turbine
C218	CE6501	Survey Practical II	C218.1	Able to survey the area using different methods of plane tabling and compass survey and to adjust the compass traverse graphically.
			C218.2	Able to Prepare the survey data sheet according to any method of surveying.
			C218.3	Able to apply theoretical considerations in field and other engineering projects.
			C218.4	Able to record the reduced levels using various methods of levelling and measurement of horizontal & vertical angles by Theodolite.
			C218.5	Able to determine the location of any point horizontally and vertically using Tachometry
C301	CE6315	Structural Analysis I	C301.1	Analyze indeterminate frames for any loading condition
			C301.2	Analyze beams and frames subjected for any moving loads and site condition.
			C301.3	Evaluate indirect models and analyze its performance for any site conditions
			C301.4	Analyze structural arches considering all the effects of site condition
			C301.5	Analyze rigid frames by slope deflection method for any loading condition of the site
			C301.6	Analyze rigid frames by moment distribution method for any loading condition of site.
C302	CE6502	Foundation Engineering	C302.1	Select suitable soil investigation methods for exploration
			C302.2	Prepare a soil investigation report
			C302.3	Calculate soil properties for structural design of buildings
			C302.4	Design a shallow footing for a given load conditions
			C302.5	Design a pile group based on soil and load conditions
			C302.6	Design a retaining wall based on earth pressure and analyse its stability
C303	CE6503	Environmental Engineering I	C303.1	Plan public water supply system for any area.
			C303.2	Design water supply conveyance system for any area
			C303.3	Design and operate water treatment facility for any area

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Course	Course Code	Course Name		Course Outcome
			C303.4	Design water purification systems in accordance to the requirement.
			C303.5	Design networks of water distribution based on the demand.
			C303.6	Select appropriate fixtures and fittings for any water distribution system.
C304	CE 6504	Highway Engineering	C304.1	Plan and alignment of highway for any site condition
			C304.2	Design, highway and its cross sectional for any site condition.
			C304.3	Design flexible and Rigid pavement for any loading condition
			C304.4	Select Highway construction materials through scientific analysis for any site condition.
			C304.5	Evaluation and maintain any type of pavement.
			C304.6	Analysis the performance of any highway in accordance to standards and guide lines.
C305	CE6505	Design Of Reinforced Concrete Elements	C305.1	Design singly reinforced rectangular beams as per working stress method based on the loading condition of the site
			C305.2	Design beams, slabs and stair case based on limit state method for any loading condition of the site
			C305.3	Design beams for shear and torsion for any loading condition of the site
			C305.4	Design columns for any loading and support conditions.
			C305.5	Design footings for any type of site conditions.
			C305.6	Design combined footing for any type of site conditions.
C306	CE6506	Construction Techniques, Equipment And Practice	C306.1	Select the suitable construction techniques and structural system for any construction activity.
			C306.2	Coordinate any construction project in the correct sequence of activity.
			C306.3	Execute super/substructure construction for any site conditions
			C306.4	Select suitable construction equipment for any construction activity.
			C306.5	Select suitable materials and methods for green building construction.
			C306.6	Select suitable de-watering technique for underground open excavation.
C307	GE6674	Communication And Soft Skills- Laboratory Based	C306.1	Explain the importance of human values and ethics
			C306.2	Describe the theories in engineering ethics
			C306.3	Apply the ethical theories in Engineering projects
			C306.4	Differentiate the safety and risk factors in the society
			C306.5	Discuss the global ethical issues related to Engineering
			C306.6	Explain the responsibility and rights of Engineer in the society

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Course	Course Code	Course Name		Course Outcome
C308	CE6511	Soil Mechanics Laboratory	C307.1	Analyse the index properties of fine aggregate based on the site condition
			C307.2	Analyse the index properties of Coarse aggregate based on the site condition
			C307.3	Analyse insitu density by field density test based on the site condition
			C307.4	Analyse compaction characteristics based on the site condition
			C307.5	Analyse the shear stress and compressibility based on the site condition
C309	CE6512	Survey Camp	C308.1	Estimate the area of any plot using triangulation method
			C308.2	Estimate the area of any plot using trilateration method
			C308.3	Estimate the area of any plot using rectangulation method
			C308.4	Access the level difference between any terrain
			C308.5	Estimate the area of any plot using traversing
C310	CE6601	Design Of Reinforced Concrete & Brick Masonry Structures	C310.1	Design the retaining walls as per the loading conditions.
			C310.2	Design the water tank for any capacity.
			C310.3	Design special structures, flat slab, stair case, mat foundation, box culvert as per the loading conditions of site.
			C310.4	Design the slabs by yield line theory
			C310.5	Design brick masonry structures as per the site condition.
			C310.6	Design the structural elements and brick masonry structures considering IS codes based on the site condition
C311	CE6602	Structural Analysis II	C311.1	Analyze indeterminate beams and frames by Flexibility matrix method based on loading condition on site.
			C311.2	Analyze indeterminate beams and frames by Stiffness matrix method based on loading condition on site.
			C311.3	Analyze the structural element by Finite element method Based on site condition
			C311.4	Analyze the structures by plastic analysis based on site condition
			C311.5	Analyze space trusses based on site conditions
			C311.6	Analyze cable structures based on site conditions
C312	CE6603	Design Of Steel Structures	C312.1	Select and design appropriate connection for any type of structures
			C312.2	Design tension members for any loading conditions
			C312.3	Design compression members for the loading condition of the site
			C312.4	Design beams for the loading condition of the site
			C312.5	Design roof truss in according to the site conditions
			C312.6	Design plate girders for the loading condition of the site
			C313.1	Analysis and plan Railway track for any site conditions

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Course	Course Code	Course Name		Course Outcome
C313	CE6604	Railways, Airports And Harbour Engineering	C313.2	Construct and maintain railway track and its component for any site condition
			C313.3	Plan airports and its components for any location
			C313.4	Design, airport runways for any airport
			C313.5	Design Harbour and its components for any given site condition.
			C313.6	Implement coastal regulation zone 2011 for environmental protection of any Harbour sight.
C314	CE6605	Environmental Engineering II	C314.1	Summarize the basics of finite element formulation
			C314.2	Identify the characteristics and composition of sewage
			C314.3	Design sewerage systems for collection of sewage for any site
			C314.4	Design the primary treatment unit for any location
			C314.5	Design the secondary treatment unit for any location
			C314.6	Select suitable sewage disposal method depending upon the site condition
C315	CE6002	Concrete Technology	C315.1	Select quality materials required for making concrete
			C315.2	Analyse the effect of admixtures on properties of concrete
			C315.3	Estimate the concept and procedure of mix design as per IS method
			C315.4	Examine the properties of concrete at fresh and hardened state
			C315.5	Explain importance and application of special concretes
			C315.6	Analyse mechanical properties and test as per BIS Grading requirements
C316	CE6611	Environmental Engineering Laboratory	C316.1	To identify the characteristics of water and waste water.
			C316.2	To identify the microorganisms growth in water.
			C316.3	To quantify the pollutant concentration in water and waste water.
			C316.4	To identify the BOD & COD for the given sample.
			C316.5	To identify the chloride present in water.
C317	CE6612	Concrete And Highway Engineering Laboratory	C318.1	Analyse the workability of fresh concrete for any mix propotion
			C318.2	Analyse the compressive strength of concrete for any grade .
			C318.3	Analyse flexural strength for hardened concrete
			C318.4	Analyse the quality of fine and coarse aggregate
			C318.5	Analyse the Young's modulus for hardened concrete
C401	CE6701	Structural Dynamics And	C401.1	Design and detail earth quake resistant structures for the seismic loading conditions of the site.
			C401.2	Design and detail earth quake resistant structures for the seismic loading conditions of the site.

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Course	Course Code	Course Name		Course Outcome
		Earthquake Engineering	C401.3	Apply the architectural and structural philosophies for design and construction of earth quake resistant structures for any seismic loading.
			C401.4	Create and compare theoretical models with any dynamic loading conditions of the site
			C401.5	Analyse earth quake resistant structures for any dynamic loading condition of the site in accordance to standards and parameters
			C401.6	Design and detail earth quake resistant structures for the seismic loading conditions of the site.
C402	CE6702	Prestressed Concrete Structures	C402.1	Perform effective design of prestressed elements with minimum deflection and loss of prestress
			C402.2	Apply the concept of prestressing and design suitable sections for any loading conditions
			C402.3	Design anchorage zone for post tensioned beams in accordance to loading conditions of the site
			C402.4	Design composite beams based on the loading conditions of the site
			C402.5	Apply the concept of partial prestressing for the design of tanks, pipes and poles as per the requirements of site
			C402.6	Design prestressed concrete beams for flexure and shear for any loading conditions
C403	CE6703	Water Resources And Irrigation Engineering	C403.1	Identify various types of water resources and Design appropriate storage structures.
			C403.2	Manage the water resources for any area in accordance with national water policy
			C403.3	Estimate water requirements for irrigation and drinking depending upon any site condition
			C403.4	Design irrigation canal for irrigated area
			C403.5	Identify and select suitable types of impounding structures for irrigated area
			C403.6	Select appropriate irrigation methods for suitable areas.
C404	CE6704	Estimation And Quantity Surveying	C404.1	Describe the needs and basic concepts of TQM
			C404.2	Apply the TQM principles and concepts in business
			C404.3	Apply Benchmarking techniques in quality management processes
			C404.4	Explain the concepts of Six Sigma
			C404.5	Describe the quality systems and standards in the organisations.
			C404.6	Describe the concepts of total productive maintenance
C405	EN6501	Municipal Solid Waste Management	C405.1	The students shall be able to describe the physical and chemical properties of municipal solid waste.
			C405.2	The students shall be able to analyze collection routes and systems for transfer of municipal solid waste.

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Course	Course Code	Course Name		Course Outcome
			C405.3	The students shall be able to design transfer stations for management of municipal solid waste.
			C405.4	The students shall be able to locate the site for sanitary landfills using modern technology.
			C405.5	The students shall be able to implement the guidelines and procedures to rehabilitate dump site and improve environmental conditions.
			C405.6	The students shall be able to operate collection and transfer teams for optimum performance.
C406	CE6006	Traffic Engineering And Management	C406.1	Implement IRC standards for effective traffic management.
			C406.2	Describe factors influencing traffic safety.
			C406.3	Design highways and its components in accordance to geometric designs principles.
			C406.4	Analyse traffic survey data using statistical methods for forcasting feature traffic flow
			C406.5	Prepare traffic survey using various sources.
C407	CE 6711	Computer Aided Design And Drafting Laboratory	C409.1	Design RCC cantilever beams for any loading condition
			C409.2	Design counter fort type retaining walls for any site conditions
			C409.3	Design solid slab and RCC Tee beam bridges as per IRC code
			C409.4	Design and draft circular and rectangular RCC water tanks for any loading conditions
			C409.5	Design plate Girder Bridge - Truss Girder bridges for any loading conditions
C408	CE 6712	Design Project	C410.1	The students shall be able to identify Problem considering societal issues.
			C410.2	The students shall be able to Provide eco-friendly solution of the identified problem
			C410.3	The students shall be able to Design and develop systems and models using modern tools
			C410.4	The students shall be able to Conduct of experiments/Testing using proper codes and standards referred.
			C410.5	The students shall be able to summarize and efficientlyvalidate the proposedsolution
			C410.6	The students shall be able to do Systematic cost analysis and budget plan
C410	MG6851	Principles Of Management	C410.1	Evaluate any organisation by implementing policies and procedures based on management Tools
			C410.2	Organise control over resources to improve productivity
			C410.3	Evaluate leadership styles according to any management and direct resources to achieve development

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Course	Course Code	Course Name		Course Outcome
			C410.4	Organize resources for effective utilization and performance of any organisation
			C410.5	Organise processes, policies and activities using relevant tools
			C410.6	Select suitable management strategy for any organisation.
C411	CE6016	Prefabricated Structures	C411.1	Select the materials for the prefabricated elements based on the client requirement
			C411.2	Select the prefabricated components based on the site requirements
			C411.3	Design the prefabricated elements as per the codal provision
			C411.4	Design the joints in structural members depending upon the site requirements
			C411.5	Design the prefabricated elements for abnormal loads during abnormal situations like wind and cyclone time.
			C411.6	Design concepts of modular construction and industrialized construction based on the respective client requirements.
C412	CE6021	Repair And Rehabilitation Of Structures	C412.1	Apply suitable engineered demolition technique for any site condition.
			C412.2	Strengthen distressed structural elements in accordance to site conditions.
			C412.3	Adopt suitable repair and protection method for any structures.
			C412.4	Apply special concretes as per the site requirements.
			C412.5	Assess the strength and durability of concrete.
			C412.6	Identify the causes of deterioration of any structure by adopting suitable assessment procedures.
C413	CE6811	Project Work	C317.1	The students shall be able to identify Problem considering societal issues.
			C317.2	The students shall be able to Provide eco-friendly solution of the identified problem
			C317.3	The students shall be able to Design and develop systems and models using modern tools
			C317.4	The students shall be able to Conduct of experiments/Testing using proper codes and standards referred.
			C317.5	The students shall be able to summarize and efficientlyvalidate the proposedsolution.
			C317.6	The students shall be able to do Systematic cost analysis and budget plan

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