2021-22	
Course Outcome (COs) of CIVIL Department	
Department of Civil Engineering	
3CE2-01	**ADVANCE ENGINEERING MATHEMATICS-I**
3CE2-01.1	Memorize a range of mathematical theorems and methods to solve routine and complex analytic and applied problems.
3CE2-01.2	Analyse data necessary for the solution of engineering problems.
3CE2-01.3	Test the effectiveness of proposed solutions to identified engineering problems.
3CE2-01.4	Recognize functions of several variables and mean value theorems.
3CE2-01.5	Recogonize special functions to evaluate some proper and improper integrals using beta and gamma functions.
3CE1-02	**TECHNICAL COMMUNICATION**
3CE1-02.1	Learner can execute and test his/her technical skills required at the industry levels.
3CE1-02.2	Learner can implement techncial writing, grammer and speaking in the industrial world.
3CE1-02.3	Student can discuss the ways to write technical writings, its format and various uses.
3CE1-02.4	Learning the technical phrases and writing styles like descriptive, argumentative etc for developing good technical documents for presentations or disseminating technical documents.
3CE1-02.5	Getting adapted with the technical generic formats/templates of technical writing of memos, technical report writing, technical presentations, technical proposal writing, minutes of meeting and the notes taking techniques.
3CE3-04	**Engineering Mechanics**
3CE3-04.1	Describe free body diagrams and Solve the resultant of forces and/or moments.
3CE3-04.2	Apply laws of mechanics to determine efficiency of simple machines with consideration of friction.
3CE3-04.3	Execute solutions for planar frames and analyse the motion.
3CE3-04.4	Apply Newton's laws and conservation laws to elastic collisions and motion of rigid bodies.
3CE3-04.5	Solve the centroid and second moment of area of sections.
3CE4-05	**SURVEYING**
3CE4-05.1	Students will be able to memorize the concepts related to linear surveying used in field.
3CE4-05.2	Students will learn to analyze levelling problems through various methods of check.
3CE4-05.3	Students be able to analzse the problems related to curve syrveying in transportation planning.
3CE4-05.4	Students will be able to experiment horizontal & vertical distances through tacheometric method of surveying.
3CE4-05.5	Students be able to define electronic distance method techniques and the concept of Total Station.
3CE4-06	**FLUID MECHANICS**
3CE5A.1	Students will be able to remember the basic properties of fluid flow.
3CE5A.2	Students will learn to analyze the pressure, buyouncy and types of flow and its characterstics.
3CE5A.3	Students be able to solve problems related to Fluid Kineamtics.
3CE5A.4	Students will be able to apply concepts on flow parameters such as discharge, velocity, acceleration etc on the basis of flow problems (Dynamics).
3CE5A.5	Students be able to analyz the flow through pipes.
3CE4-07	**BUILDING MATERIALS AND CONSTRUCTION**
3CE4-07.1	Define different materials especially eco-friendly materials and safety measures to be adopted at any construction site.
3CE4-07.2	Describe the various types of building materials and its engineering application.
3CE4-07.3	Memorize the knowledge of modern equipments and the recent techniques to be used.

3CE4-07.4	Understanding the use of non-conventional Civil Engineering materials
3CE4-07.5	Understand use of arches, lintels and partition wall. And learn about stairs and damp proof course and joints in construction.
3CE4-08	**ENGINEERING GEOLOGY**
3CE4-08.1	Define different types of rocks & minerals found on earth.
3CE4-08.2	List types of faults and folds in earth crust.
3CE4-08.3	State the difference between several minerals by examining their physical & chemical properties.
3CE4-08.4	Understand the remote sensing process and application in various fields of civil engineering.
3CE4-08.5	Analyze Engineering consideration of faults, fold, joints and unconformities, Dip and strike.
3CE4-21	**Surveying Lab**
3CE4-21.1	Understand working of different type of surveying equipment's.
3CE4-21.2	Analyze the procedures involved in field work.
3CE4-21.3	Understand accurate measurements, field book, plotting and adjustment of errors.
3CE4-21.4	Solve distance, direction and elevation via measurement, angle measurement, differential levelling and contouring.
3CE4-21.5	Understand profile levelling, plot longitudinal and cross sections for road.
3CE4-22	**Fluid Mechanics Lab**
3CE4-22.1	Students will analyze and perform Bernoulli's theorem in practical sense.
3CE4-22.2	Students will understand the concepts of Venturimeter and Orificemeter.
3CE4-22.3	Students will evaluate the use of types of notch in fluid flow problems.
3CE4-22.4	Students will analyze the orificemeter and mouthpiece.
3CE4-22.5	Students will evaluate the problems related to fluid flow.
3CE4-23	**Computer Aided Civil Engineering Drawing**
3CE4-23.1	To understand the basic command, principles and features behind autocad.
3CE4-23.2	Execute skills to draft the plan, elevation and sectional views of buildings.
3CE4-23.3	Students can Sketch or draft 2D and 3D veiws of buildings
3CE4-23.4	Understand development of front elevation and sectional elevation from a given plan
3CE4-23.5	Understand development of plan, front elevation and sectional elevation from line diagram.
3CE4-24	**Civil Engineering Maretials Lab**
3CE4-24.1	Explain about fly ash, different stones, different glasses, aluminum and steel sections.
3CE4-24.2	To memorize the various properties of cement.
3CE4-24.3	Student can distinguish the various building mateials by visual inspection.
3CE4-24.4	Identify the properties and utilization of fly ash, glass, timber, kota stone, aluminium and steel sections.
3CE4-24.5	Understand the manufacturing and use of concrete hollow block
3CE4-25	**Geolgy Lab**
3CE4-25.1	Students can distinguish between types of minerals, rocks and woods by visual inspection and study.
3CE4-25.2	Student can examine the features of geological map.
3CE4-25.3	Student can understand the internal structure of earth for civil engineering aspect.
3CE4-25.4	Analyze how to interpretation geological map.

3CE4-25.5	Understand importance of geological aspects in civil engineering related infrastructure project.
3CE7-30	**Industrial Training**
3CE7-30.1	To understand the industrial work culture
3CE7-30.2	To understand the problems faced in real projects
3CE7-30.3	To apply communication skills and personality development
3CE7-30.4	To relate the knowledge gained from books to the current practices followed on sites.
3CE7-30.5	To state types of safety measures usually taken on construction sites.
4CE2-01	**ADVANCE ENGINEERING MATHEMATICS-II**
4CE2-01.1	Apply a range of mathematical theorems and methods to solve routine and complex analytic and applied problems.
4CE2-01.2	Analyze data necessary for the solution of engineering problems.
4CE2-01.3	Examine the effectiveness of proposed solutions to identified engineering problems.
4CE2-01.4	Test the level of significance applying large sample test for single proportion and difference of proportion.
4CE2-01.5	Apply large sample test for mean, difference of means and difference of standard deviations.
4CS1-03	**MANAGERIAL ECONOMICS AND FINANCIAL ACCOUNTING**
4CS1-03.1	Describe the core economic terms, concepts, and theories. Apply the concept of equilibrium to both microeconomics and macroeconomics.
4CS1-03.2	Explain the function of market and prices as allocative mechanisms.
4CS1-03.3	Identify key macroeconomic indicators and measures of economics change, growth, and development
4CS1-03.4	Discuss in detail different market situations such as monopoly, oligopoly, monopolistic and perfect markets and explanation through graphical representation.
4CS1-03.5	Discuss the process & principles of financial accounting and prepare Profit & Loss A/c. and Balance Sheet of an enterprise. transforms.
4CE3-04	**BASIC ELECTRONICS FOR CIVIL ENGINEERING APPLICATIONS**
4CE3-04.1	Learner can define introduction to Semiconductors, Diodes, V-I characteristics, Bipolar junction transistors uses.
4CE3-04.2	Learner can state data acquisition system and data processing.
4CE3-04.3	Students get to understand the basic of Sensors & Transducers used in various instruments.
4CE3-04.4	Understand the working of various instruments and measure the error.
4CE3-04.5	Understand the concept and processing of digital images.
4CE4-05	**STRENGTH OF MATERIALS**
4CE4-05.1	Analyze and design structural members subjected to tension, compression, torsion, bending and combined stresses using the fundamental concepts of stress, strain and elastic behavior of materials.
4CE4-05.2	Execute the use of appropriate materials in design considering engineering properties, sustainability, cost and weight.
4CE4-05.3	Implement the skills for engineering work in accordance with ethical and economic constraints related to the design of structures.
4CE4-05.4	Understand the concept of torsion and columns.
4CE4-05.5	Determine deflection of beam by using various method
4CE4-06	**HYDRAULICS ENGINEERING**
4CE4-06.1	Students will be able to analyze the process of deriving equation by using dimensional methods.
4CE4-06.2	Students will analyze the problems related to flow of fluids in channel.
4CE4-06.3	Students will be able to explain and remember the different types of turbines & pumps used.
4CE4-06.4	Studentd will be able to create economic sections for fluid channels.

4CE4-06.5	Students will be able to remember the concepts of Hydrology.
4CE4-07	**BUILDING PLANNING**
4CE4-07.1	Identify the factors to be considered in planning and construction of building.
4CE4-07.2	Impart the ability to work with an architect and contractor.
4CE4-07.3	Plan a building following the bye-laws.
4CE4-07.4	Plan the buildings according the modern requirements such as sustainability, environment friendly etc.
4CE4-07.5	Prepare drawings, foundation plans and others executable drawings with proper details for different building
4CE4-08	**CONCRETE TECHNOLOGY**
4CE4-08.1	Understand chemistry, properties, and classification of cement, fly ash, aggregates and admixtures, and hydration of cement in concrete.
4CE4-08.2	Execute the test for fresh concrete.
4CE4-08.3	Execute the test for hardened concrete with destructive and non-destructive testing instruments.
4CE4-08.4	Implement India standard codes procedure for design concrete mix of desired grade.
4CE4-08.5	Learner can state the concrete handling equipments and different special concrete types.
4CE4-21	**Material Testing Lab**
4CE4-21.1	Determine the compressive and tensile strength of steeland HYSD bar.
4CE4-21.2	Determine the strength of cement and concrete cubes.
4CE4-21.3	Determine the hardness and impact of distinct materials.
4CE4-21.4	Explain basic material's properties like fatigue, torsion, modulus of rupture etc.
4CE4-21.5	Explain the characterstics involved in finalizing the selection of material for a specific work.
4CE4-22	**Hydraulics Engineering Lab**
4CE4-22.1	Students will be able to analyze the process of deriving equation by using dimensional methods.
4CE4-22.2	Students will analyze the problems related to flow of fluids in channel.
4CE4-22.3	Students will be able to explain and remember the different types of turbines & pumps used.
4CE4-22.4	Studentd will be able to create economic sections for fluid channels.
4CE4-22.5	Students will be able to remember the concepts of Hydrology.
4CE4-23	**Building Drawing**
4CE4-23.1	Learner can sketch, plan and do drawing of residential building with details of site plan, foundation plan, furniture plan, water supply and sanitary plan
4CE4-23.2	Learner can sketch, plan and do drawing of institutional building with details of site plan, foundation plan, furniture plan
4CE4-23.3	Learner can sketch and do the drawing of commertial building with details of site plan, foundation plan, furniture plan
4CE4-23.4	Draw the details of parts of buildings.
4CE4-23.5	State the scope and provisions for building components and services.
4CE4-24	**Advanced Surveying Lab**
4CE4-24.1	Test the relative altitudes and distance of different points on ground.
4CE4-24.2	Perform the tests for setting of horizontal curves in field.
4CE4-24.3	Test the Survey work using Total-station.
4CE4-24.4	Prepare the map of area by Plane Table.
4CE4-24.5	Measurement of area of horizontal and vertical angle by Total Station.

4CE4-25	**Concrete Lab**
4CE4-25 .1	To determine the different properties of building materials like cement, concrete, aggregates through practicals.
4CE4-25 .2	To design concrete mix (M-20 and M-40) in lab.
4CE4-25 .3	Learner can state what a Non Destructive testing is.
4CE4-25 .4	Test the properties of fresh concrete mix.
4CE4-25 .5	Design concrete mix for various grades of concrete according to IS recommendations with and without admixture.
5CE3-01	**CONSTRUCTION TECHNOLOGY AND EQUIPMENT**
5CE3-01.1	Understand the construction practices and techniques.
5CE3-01.2	Learner execute the rules used in using construction equipment and its Management.
5CE3-01.3	Test the factors to be considered in planning and construction of buildings.
5CE3-01.4	Learn objectives and functions of material management.
5CE3-01.5	Understand about construction equipment and their management.
5CE4-02	**STRUCTURE ANALYSIS-I**
5CE4-02.1	To understand and analyze Fixed and continuous beams.
5CE4-02.2	Able to analyze moving loads and will be able to draw influence line diagrams for simply supported beams.
5CE4-02.3	Able to analyze three hinged arches and three hinge suspension bridges.
5CE4-02.4	The student will have the knowledge on advanced methods of analysis of structures like flexibility and stiffness method, kanis method, Moment distribution method, Slope and deflection method.
5CE4-02.5	Students are able to do the analysis of beams by using an advanced method of analysis.
5CE4-03	**DESIGN OF CONCRETE STRUCTURES**
5CE4-03.1	To solve and design various components of the structures.
5CE4-03.2	State the development length and shear reinforcement used in RCC Structures.
5CE4-03.3	To design the axially loaded column, isolated column footing
5CE4-03.4	Learner will be able to solve the designing of Domes.
5CE4-03.5	Learner will be able to solve the design and analysis of beams subjected to Torsion.
5CE4-04	**GEOTECHNICAL ENGINEERING**
5CE4-04.1	Students will be able to analyze different soil parameters.
5CE4-04.2	Students will be able to remember the soil classification and minrology.
5CE4-04.3	Analyze engineering properties of soil like compaction, permeability, and shear strength etc.
5CE4-04.4	Analyze engineering properties of soil like compaction, permeability, shear strength.
5CE4-04.5	Evaluate the lateral thrust due to backfill on the retaining walls.
5CE4-05	**WATER RESOURCE ENGINEERING**
5CE4-05.1	Students will be able to remember the basics of Hydrograph, rainfall analysis and its distribution.
5CE4-05.2	Student will learn to analyse the rainfall patterns and can evaluate the same with probabilistic methods.
5CE4-05.3	Students be able to create design for the channels on the basis of Kennedy's theory and Lacey's theory.
5CE4-05.4	Students will be able to create designs and layout of canal according to the use.
5CE4-05.5	Students be able to remember the difference between types of canals and canal headworks.

5CE5-13	**Town Planning**
5CE5-13.1	State different types of buildings depending upon their uses and occupancy level.
5CE5-13.2	State basic criteria for planning a industrial and residential buildings.
5CE5-13.3	State the building by laws.
5CE5-13.4	Discuss about public buildings: location, classification and principle of design.
5CE5-13.5	Discuss the Re-planning of existing towns.
5CE5-14	**Repair and Rehabilitation of Structures**
5CE5-14.1	Learner can define the treatment method for cracks development in structure.
5CE5-14.2	Learner can identify the method to restore the structure integrity and shape of concrete elements.
5CE5-14.3	Learner can state the factors used to maintain the good health of building .
5CE5-14.4	Learner can state the safety and security measures used at site at the time of rehabilitation.
5CE5-14.5	Learner will be able to understand methods of uderpinning of foundation.
5CE4-21	**Concrete Structures Design**
5CE4-21.1	To solve and design various components of the structures.
5CE4-21.2	State the development length and shear reinforcement used in RCC Structures.
5CE4-21.3	To design the axially loaded column, isolated column footing
5CE4-21.4	Learner will be able to solve the designing of Domes.
5CE4-21.5	Learner will be able to solve the design and analysis of beams subjected to Torsion.
5CE4-22	**Geotechnical Engineering Lab**
5CE4-22.1	Students will be able to analyze different soil parameters.
5CE4-22.2	Students will be able to remembe the soil classification and minrology.
5CE4-22.3	Analyze engineering properties of soil like compaction, permeability, and shear strength etc.
5CE4-22.4	Analyze engineering properties of soil like compaction, permeability, shear strength.
5CE4-22.5	Evaluatethe lateral thrust due to backfill on the retaining walls.
5CE4-23	**Water Resource Engineering Design**
5CE4-23.1	Students will be able to rememberthe basics of Hydrograph, rainfall analysis and its distribution.
5CE4-23.2	Student will learn to analyse the rainfall patterns and can evaluate the same with probabilistic methods.
5CE4-23.3	Students be able to create design for the channels on the basis of Kennedy's theory and Lacey's theory.
5CE4-23.4	Students will be able to create designs and layout of canal according to the use.
5CE4-23.5	Students be able to remember the difference between types of canals and canal headworks.
5CE7-30	**Industrial Training**
5CE7-30.1	To understand the industrial work culture
5CE7-30.2	To understand the problems faced in real projects
5CE7-30.3	To apply communication skills and personality development
5CE7-30.4	To relate the knowledge gained from books to the current practices followed on sites.
5CE7-30.5	To state types of safety measures usually taken on construction sites.

6CE3-01	**WIND AND SEISMIC ANALYSIS**
6CE3-01.1	Understand the types of structures, symmetry and asymmetry in building forms, shear walls and multi-storey configurations.
6CE3-01.2	Analyze design loads for different types of buildings.
6CE3-01.3	Calculate wind load on flat roof, pitched roof and single sloped roof buildings.
6CE3-01.4	Calculate earthquake loads on framed structures and design of Earthquake Resistant Construction.
6CE3-01.5	Apply wind & seismic load for analyzing the structure to evaluate the response of lateral load.
6CE4-02	**STRUCTURAL ANALYSIS-II**
6CE4-02.1	The student will be able to state the advanced methods of analysis of structures like flexibility and stiffness method, kanis method, Moment distribution method, Slope and deflection method.
6CE4-02.2	Learner will be able to test and analysis of beams by using an advanced method of analysis.
6CE4-02.3	Students will be able to define the procedure for doing analysis of portal frame.
6CE4-02.4	Learner can explain the procedure to calculate stresses, shear center and deflection of unsymmetrical section.
6CE4-02.5	Learner can explain the procedure for analysis of multistory frames by portal, cantilever and factor methods
6CE4-03	**ENVIRONMENTAL ENGINEERING**
6CE4-03.1	Understand demand for water supply to households, industry and public services.
6CE4-03.2	Understand source of water and their quality parameter.
6CE4-03.3	Analyze the process of preliminary treatment of water and their transmission.
6CE4-03.4	Analyze the process of advanced treatment of water.
6CE4-03.5	Understand the basic knowledge of water distribution and plumbing system in building.
6CE-04	**DESIGN OF STEEL STRUCTURES**
6CE-04.1	Learner will be able to solve the designing of tension and compression members.
6CE-04.2	Learner will be able to solve the designing of beams and beam columns.
6CE-04.3	Learner will be able to solve the designing of bolt and weld connections.
6CE-04.4	Learner will be able to solve the designing of the gantry girder.
6CE-04.5	Classify and design the structural steel components of industrial building.
6CE4-05	**Estimating & Costing**
6CE4-05.1	Students will evaluate the estimate of quantities for a Residential Building & Abstract cost Estimate.
6CE4-05.2	Students will be able analyze the rates of work quantities and labour.
6CE4-05.3	Students will be able to evaluate the calculation regarding earth work quantity for roads and canals, Analyse different types of contracts, tender document for building & valuation
6CE4-05.4	Stduents will remember the concepts of Valuation.
6CE4-05.5	Student will create Bill of Quantities.
6CE5-12	**SOLID AND HAZARDOUS WASTE MANAGEMENT**
6CE5-12.1	To list the solid waste management and disposal techniques.
6CE5-12.2	To define the waste management rules to generators of solid waste and its generation rate.
6CE5-12.3	To state what biomedical waste management and hazardous solid waste management are.
6CE5-12.4	To understand the environment and health impacts of solid waste mismanagement .
6CE5-12.5	Understand the engineering, financial and technical options for waste management.

6CE4-21	**Environmental Engineering Design and Lab**
6CE4-21.1	Understand about the water quality parameters and their permissible limits as per the standards.
6CE4-21.2	Analyze the physical tests to be conducted for the water before supply.
6CE4-21.3	Analyze chemical tests to be conducted for the water before supply.
6CE4-21.4	Accumulate the information about water supply fittings.
6CE4-21.5	Calculate physical chemical properties by lab experiments for sewage sample.
6CE5-16	**Geographic Information System & Remote Sensing**
6CE5-16.1	Understand the concepts of Photogrametry and compute the heights of objects .
6CE5-16.2	Understand the principles of aerial and satellite remote sensing, Able to comprehend the energy interactions with earth surface features, spectral properties of water bodies.
6CE5-16.3	Understand the basic concept of GIS and its applications, know different types of data representation in GIS.
6CE5-16.4	Understand and Develop models for GIS spatial Analysis and will be able to know what the questions that GIS can answer are.
6CE5-16.5	Apply knowledge of GIS software and able to work with GIS software in various application fields.
6CE4-22	**Steel Structure Design**
6CE4-22.1	Learner will be able to solve the designing of tension and compression members.
6CE4-22.2	Learner will be able to solve the designing of beams and beam columns.
6CE4-22.3	Learner will be able to solve the designing of bolt and weld connections.
6CE4-22.4	Learner will be able to solve the designing of the gantry girder.
6CE4-22.5	Classify and design the structural steel components of industrial building.
6CE4-23	**Quantity Surveying and Valuation**
6CE4-23.1	Students will evaluate the estimate of quantities for a Residential Building & Abstract cost Estimate.
6CE4-23.2	Students will be able analyze the rates of work quantities and labour.
6CE4-23.3	Students will be able to evaluate the calculation regarding earth work quantity for roads and canals, Analyse different types of contracts, tender document for building & valuation
6CE4-23.4	Stduents will remember the concepts of Valuation.
6CE4-23.5	Student will create Bill of Quantities.
6CE4-24	**Water and Earth Retaining Structures Design**
6CE4-24.1	Analyze the concepts of pre stressing in the design of beams.
6CE4-24.2	Design the torsion, continuous and curve beam
6CE4-24.3	Design of circular domes and water tanks
6CE4-24.4	Analyze Yield line theory and design retaining wall
6CE4-24.5	Design the culvert and bridge.
6CE4-25	**Foundation Design**
6CE4-25.1	Students will be able to create designs of isolated shallow footings, combined footings, raft footings.
6CE4-25.2	Students will be able to create designs of retaining structures.
6CE4-25.3	Students will be able to create designs Pile Foundations.
6CE4-25.4	Students will be able to create designs of well foundations.
6CE4-25.5	Students will be able to create designs of Cassions.
7CE4-01	**Transportation Engineering**

7CE4-01.1	To understand the principles of Highway geometrics design as per IRC standards. Perform geometric design for the Highway & Basic concept of Pavement design.
7CE4-01.2	To understand Types of pavements & Materials required for highway construction. Construction procedures for different types of pavements. Maintenance procedures for different types of pavements.
7CE4-01.3	To understand the Traffic engineering & different types of traffic control device.
7CE4-01.4	Analyzing the strength required for pavement and designing flexible and rigid pavement by different methods.
7CE4-01.5	Describe and understand the various components of railway track
7AG6-60.2	**Environmental Engineering and Disaster Management**
7AG6-60.2.1	Analyze characteristics of water and wastewater.
7AG6-60.2.2	Estimate the quantity of drinking water and domestic wastewater generated.
7AG6-60.2.3	Design components of water supply systems.
7AG6-60.2.4	Accumulate the information about water supply fittings.
7AG6-60.2.5	Calculate physical chemical properties by lab experiments for sewage sample.
7CE4-21	**Road Material Testing Lab**
7CE4-21 .1	Understand the importance and determination of physical properties of aggregates.
7CE4-21 .2	Understand the importance and determination of physical properties of bitumen.
7CE4-21 .3	Evaluate and analyze the suitability of materials from data collected by physical tests done on aggregates and bitumen.
7CE4-21 .4	Design of different bituminous layers of flexible pavement and compare their results with IRC/MoRTH recommendations.
7CE4-21 .5	Prepare a formal report describing complex design procedures and results.
7CE4-22	**Professional Practices & Field Engineering Lab**
7CE4-22.1	Understand the Different types of Knots Site plan, index plan, layout plan, plinth area, floor area ofbuildings
7CE4-22.2	Understand the Foundation plan layout infield
7CE4-22.3	Analysis of Bar bending schedule
7CE4-22.4	Understand the Specifications- For different classes of building and Civil Engineering works
7CE4-22.5	Understand the Valuation of buildings andproperties
7CE4-23	**Soft Skills Lab**
7CE4-23.1	To encourage the all round development of students by focusing on soft skills.
7CE4-23.2	To make the engineering students aware of the importance, the role and the content of soft skills through instruction, knowledge acquisition, demonstration and practice
7CE4-23.3	To test the practices about Time management
7CE4-23.4	To develop and nurture the soft skills of the students through individual and group activities.
7CE4-23.5	To expose students to right attitudinal and behavioral aspects and to build the same through activities
7CE4-24	**Environmental Monitoring and Design Lab**
7CE4-24.1	Analyze characteristics of water and wastewater.
7CE4-24.2	Estimate the quantity of drinking water and domestic wastewater generated.
7CE4-24.3	Design components of water supply systems.
7CE4-24.4	Accumulate the information about water supply fittings.
7CE4-24.5	Calculate physical chemical properties by lab experiments for sewage sample.

7CE7-30	Practical Training
7CE7-30.1	Identify important concepts from the readings and provide depth in coverage of the topic.
7CE7-30.2	Understand organizational issues including teams, attitudes and define work-life balance and its impact on organizations and employees.
7CE7-30.3	Aware of current technologies in field of civil engineering.
7CE7-30.4	Explain problems and suggest possible solutions.
7CE7-30.5	Sharpen their personality and intelligence.
7CE7-40	**Seminar**
7CE7-40.1	Identify important concepts from the readings and provide depth in coverage of the topic.
7CE7-40.2	Understand organizational issues including teams, attitudes and define work-life balance and its impact on organizations and employees.
7CE7-40.3	Aware of current technologies in the field of civil engineering.
7CE7-40.4	Explain industrial problems and suggest possible solutions.
7CE7-40.5	Sharpen their personality and intelligence.
8CE4-01	**Project Planning and Construction Management**
8CE4-01 .1	Explain the basic procedure involved in managing a project.
8CE4-01 .2	Explain the basic concepts of tasks, event, crashing an activity.
8CE4-01 .3	Explain risk factors involved and resource allocation for a good project scheduling.
8CE4-01 .4	Identify the project cost and time control.
8CE4-01 .5	Analyze about the contract management.
8TT6-60.2	**Disaster Management**
8TT6-60.2.1	Describe the basic concepts of disaster and hazards.
8TT6-60.2.2	Discuss various types of natural and man-made disasters.
8TT6-60.2.3	Explainthe types of disasters, causes, impact and preventive measure.
8TT6-60.2.4	Evaluate the risk and vulnerability associated with disasters.
8TT6-60.2.5	Assess the role of production people in disaster management of Indian textile industries.
8CE4-21	**Project Planning & Construction Management Lab**
8CE4-21.1	Explain the basic procedure involved in managing a project.
8CE4-21.2	Explain the basic concepts of tasks, event, crashing an activity.
8CE4-21.3	Explain risk factors involved and resource allocation for a good project scheduling.
8CE4-21.4	Identify the project cost and time control.
8CE4-21.5	Analyze about the contract management.
8CE4-22	**Pavement Design**
8CE4-22.1	To remember the process of collecting data required for design, factors affecting pavement design, and maintenance of pavement.
8CE4-22.2	To analyze the stress, strain and deflection in pavement.
8CE4-22.3	To create functional solutions and structural evaluation of pavement by suitable methods.
8CE4-22.4	To analyze the concrete pavements by westergaards approach.
8CE4-22.5	To remeber the concepts of Indian standard code.
8CE7-50	**Project**

8CE7-50.1	Acquire basic knowledge and practical knowledge to implement towards industries.
8CE7-50.2	Design and test concrete and pavement.
8CE7-50.3	Apply project management skills (scheduling work, procuring parts, and documenting expenditures and working within the confines of a deadline).
8CE7-50.4	Develop and demonstrate troubleshooting ability in civil technology.
8CE7-50.5	Communicate technical information by means of written and oral reports.