SUBJECT NAME- BASIC CIVIL ENGINEERING (BCE)

SUBJECT CODE: RBC2B002

SEMESTER: 2nd

Students will be able to:

CO1	Identify different branches of Civil Engineering and the materials used for construction
CO2	Understand the importance of surveying and different methods used in surveying
CO3	Identify the soil and its classification
CO4	Understand the importance of irrigation and different structures associated with it
CO5	Discuss the different modes of transportation
CO6	Understand the importance of airport and urban engineering

SUBJECT NAME- MECHANICS OF SOLID (MOS)

SUBJECT CODE: RME3COO1

SEMESTER: 3rd

Students will be able to:

CO1	Evaluate the strength of various structural element's internal forces such as compression, tension, shear, bending and torsion
CO2	Suggest suitable material from among those available in the field of construction and manufacturing
CO3	Evaluate the behavior and strength of structural elements under the action of compound stresses
CO4	Find out the deflection of members under various loading conditions
CO5	Understand the basic concept of analysis and design of structural elements such as columns and struts
CO6	Understand the basic concept of analysis and design of members subjected to torsion

SUBJECT NAME- FLUID MECHANICS AND HYDRAULIC MACHINES (FMHM)

SUBJECT CODE: RME3C002

SEMESTER: 3rd

Students will be able to:

CO1	Understand the various properties of fluids and their influence on fluid motion
CO2	Calculate the forces that act on submerged planes and curve
CO3	Analyze various types of fluid flows
CO4	Apply the integral forms of the three fundamental laws of fluid mechanics
CO5	Able to measure the quantities of fluid flowing through pipes, tanks and channels
CO6	Solve kinematic problems by finding particle paths and streamlines

SUBJECT NAME- SURVEYING

SUBJECT CODE: RCI4C001

SEMESTER: 4th

Students will be able to:

CO1	Demonstrate the basics of surveying instruments and principles behind them
CO2	Make use of the different techniques of measurements of distances, directions and elevations
CO3	Identify any noticeable difference in elevation of the surface
CO4	Analyze various aspects of Theodolite surveying
CO5	Measure multiple distance, level, angle, and elevation in a given site
CO6	Utilize modern surveying tools like EDM, Total Station, Remote Sensing and GIS

SUBJECT NAME- TRANSPORTATION ENGINEERING

SUBJECT CODE: RCI4C002

SEMESTER: 4th

Students will be able to:

CO1	Define different modes and importance of transportation
CO2	Illustrate typical cross section of Road and design its geometry accordingly
CO3	analyze strength of various highway material
CO4	Design highway pavement according to IRC
CO5	Understand different highway Construction and its various layers
CO6	Build safety into every aspect of Construction

SUBJECT NAME- STRUCTURAL ANALYSIS-I

SUBJECT CODE: RCI4C003

SEMESTER: 4th

Students will be able to:

CO1	Find the difference between statically determinate and indeterminate structure
CO2	Make use of various methods to analyze statically indeterminate structures
CO3	Utilize different methods to find out the slope and deflection of beams and trusses
CO4	Apply the concept of ILD and moving loads on determinate structure
CO5	Analyze the performance of structural systems under static load and dynamic load
CO6	Analyze the basic structural elements

SUBJECT NAME- CONCRETE TECHNOLOGY

SUBJECT CODE: RCI4D002

SEMESTER: 4th

Students will be able to:

CO1	Define various ingredients of concrete as per IS code
CO2	Compare the properties of fresh concrete
CO3	Apply various methods to find strength of concrete
CO4	Design the different grades of concrete using IS code
CO5	Determine various methods for manufacturing of concrete
CO6	Estimate various strength aspects of special concrete

SUBJECT NAME- DESIGN OF CONCRETE STRUCTURES

SUBJECT CODE: RCI5C001

SEMESTER: 5th

Students will be able to:

CO1	List the properties of concrete and remember the design philosophies
CO2	Understand the basic concept of beam
CO3	Analyze various types of column
CO4	Design various aspects of slab
CO5	Design a retaining wall
CO6	Analyze earthquake resistance building

SUBJECT NAME- WATER AND WASTE WATER ENGINEERING (WWWE)

SUBJECT CODE: RCI5C002

SEMESTER: 5th

Students will be able to:

CO1	Analyze the variation of water demand
CO2	Determine the quality of water
CO3	Design various treatment units of water treatment plant
CO4	Design various components of wastewater treatment unit
CO5	Apply the knowledge to understand the concept of waste water disposal
CO6	Design various methods of sludge disposal units

SUBJECT NAME- GEOTECHNICAL ENGINEERING

SUBJECT CODE: RCI5C003

SEMESTER: 5th

Students will be able to:

CO1	Examine the index properties of soil
CO2	Analyze flow of water through soil solids
CO3	Determine engineering properties of soil
CO4	Obtain the compressibility, permeability parameters and CBR value of soil
CO5	Analyze Therzaghi theory of 1 dimensional consolidation
CO6	Determine safe bearing capacity of soil

SUBJECT NAME- STRUCTURAL ANALYSIS-II

SUBJECT CODE: RCI5D001

SEMESTER: 5th

Students will be able to:

CO1	Analysis of indeterminate structures using various methods
CO2	Analysis of indeterminate structures due to settlement of support
CO3	Apply the concept of ILD for indeterminate structures
CO4	Apply basic concepts of finite element method
CO5	Apply basic concepts of Matrix analysis
CO6	Analysis of plastic behavior of continuous beam and simple rectangular portals

SUBJECT NAME- RAILWAY AND AIRPORT ENGINEERING

SUBJECT CODE: RCI5D004

SEMESTER: 5th

Students will be able to:

CO1	Understand permanent way components and technicalities of rails
CO2	Design the geometry of railway track
CO3	Identify different components and laws governing the site selection of airport
CO4	Design various components of airport
CO5	Analyze and understand components of ports and harbors
CO6	Discuss the inland water ways and its economic importance

SUBJECT NAME- DESIGN STEEL STRUCTURE (DSS)

SUBJECT CODE: RCI6C001

SEMESTER: 6th

Students will be able to:

CO1	Understand the fundamental of steel structures
CO2	Understand the Limit State Design philosophy and study various types of connection
CO3	Analyze and design the various types of Tension members
CO4	Analyze and design the various types of Compression members
CO5	Design steel beams, with serviceability and strength considerations
CO6	Design and analyze Plate girders with focus Eccentric and moment connections

SUBJECT NAME- HYDROLOGY &IRRIGATION ENGINEERING

SUBJECT CODE: RCI6C002

SEMESTER: 6th

Students will be able to:

CO1	Define the importance of hydrology calculation of various precipitation methods
CO2	Compare various methods to calculate evapotranspiration and infiltration
CO3	Compare different methods of calculating runoff
CO4	Categories various irrigation techniques
CO5	Determine different aspects of canal design
CO6	Estimate several forces on gravity dam

SUBJECT NAME- FOUNDATION ENGINEERING

SUBJECT CODE: RCI6D001

SEMESTER: 6th

Students will be able to:

CO1	Understand various concepts relating to the retaining wall and earth pressure before putting foundation
CO2	Apply the concept of Bearing capacity through various analysis
CO3	Analyze shallow and deep foundation
CO4	Understand various types of foundation failure
CO5	Study the nature of soil at different level of foundation
CO6	Understand different techniques of sub soil exploration

SUBJECT NAME- DESIGN OF CONCRETE STRUCTURES-II

SUBJECT CODE: RCI7D002

SEMESTER: 7th

Students will be able to:

CO1	Define the principles involved in analyzing various types of foundations
CO2	Design of Earthquake resistance building
CO3	Analyze the various forces that act on water tanks
CO4	Design Water Tank structures
CO5	Analyze prestressed beams and slab
CO6	Analyze the principles involved in design of bridges

SUBJECT NAME- WATER RESOURCE ENGINEERING

SUBJECT CODE: RCI7D006

SEMESTER: 7th

Students will be able to:

CO1	Understand the importance of hydrology and its components
CO2	Apply various methods to calculate evapotranspiration and infiltration
CO3	Compute the amount of runoff through hydrographs
CO4	Quantify irrigation water requirements for various crops
CO5	Design canal and understand ill effects of waterlogged area
CO6	Design open channel

SUBJECT NAME- DISASTER MANAGEMENT

SUBJECT CODE: REV5D004

SEMESTER: 7th

Students will be able to:

CO1	Explain disaster management theory
CO2	Analyze vulnerability assessment to flood and earthquake hazards
CO3	Analyze disaster management mechanism with focus on planning for relief
CO4	Develop Capacity Building concept of structural and Non-structural problems and realize capacity assessment concept
CO5	Learn Coping Strategies, Industrial Safety, Mass media in disaster management
CO6	Learn Planning and Steps for formulating a disaster risk reduction plan and Understand Disaster management Act and Policy in India