Department of Civil Engineering

B.E. 5th Sem

Course: Reinforced Cement Concrete -II **Course Code: (5CE01)**

At the end of Reinforced Cement Concrete- II course the student will be able:

CO 1: To explain properties of cement, aggregate, concrete, admixtures.

CO 2: To explain the basic design philosophy behind the Working Stress method.

CO 3: To explain the basic design philosophy behind the Limit state method.

CO 4: To explain the preliminary requisites of designing an earthquake resistant structure.

CO 5: To design basic structural elements like slabs, beams, columns, staircases & isolated footings.

CO 6: To design liquid retaining structures resting over firm strata. and design.

Course: Fluid Mechanics -II **Course Code: (5CE02)**

At the end of Fluid Mechanics -II course the student will be able:

CO 1: To explain flow through open channels and hydraulic jump.

CO 2: To solve problems of rectangular and trapezoidal channel section.

CO 3: To solve problems of coefficient of contraction, discharge, velocity

CO 4: To explain various elements of hydraulic plants and turbines.

CO 5: To determine different types of flow profiles.

CO 6: To differentiate between gradually varied flow and rapidly varied flow

Course: Building Planning & CAD **Course Code: (5CE03)**

At the end of Building Planning & CAD course the student will be able:

CO 1: To draw free hand sketches of various building elements.

CO 2: To explain principles of planning, building bye laws.

CO 3: To apply these principles of planning.

CO 4: To provide aesthetically pleasing, functional as well as economical solution to the problem at hand.

CO 5: Manually prepare a submission drawing satisfying the building by-laws.

CO 6: Layout the building on field and explain Computer Aided Drawing concepts.

Course: Surveying -II **Course Code: (5CE04)**

At the end of Surveying -II course the student will be able:

CO 1: To explain classification of surveying, different types of bearings, concept of leveling, theodolite traversing, contouring, tacheometric surveying, curves, triangulation, hydrographic surveying and photogrammetric surveying.

CO 2: To solve problems related with above topics

CO 3: To carry out various surveys in the field.

CO 4: To prepare drawings and reports based on the field surveys.

CO 5: To Explain Elements of photogrammetry.

CO 6: To Explain field Astronomy & GIS & GPS Method.

Course: Communication Skills **Course Code: (5CE06)**

At the end of Communication Skills course the student will be able:

CO 1: To demonstrate different forms of communication.

CO 2: To write technical reports.

CO 3: To participate in interviews and group discussion.

B.E. 6th Sem

Course: Numerical Methods and Computer Programming Course Code: (6CE01)

At the end of Numerical Methods and Computer Programming course the student will be able:

CO 1: To define computer programming related terms.

CO 2: To explain computer programming related concepts.

CO 3: To write demonstration programs to show working of I/O statements, control structures, arrays, library functions and subprograms.

CO 4: To analyze programs related to numerical methods, civil and structural engineering problems.

CO 5: To write programs to demonstrate the application of programming to numerical methods, civil and structural engineering problems.

CO 6: To develop own program for automating/ solving Civil Engineering problems.

Course: Design of RCC and Prestressed Concrete Structures Course Code: (6CE02)

At the end of Design of RCC and Prestressed concrete structures course the student will be able:

CO 1: To explain analysis and design procedure for various steel structural elements.

CO 2: To analyze roof trusses.

CO 3: To apply codal provisions for steel structures.

CO 4: To design tension member, compression member, roof trusses, riveted and welded connections, beams, plate girders, connections, simple and compound column, solid slab & gusseted base for various load conditions.

CO 5: To explain design procedure for RCC structural elements like flat slab, cantilever & counterfort retaining wall, combined footing, grid slab.

CO 6: To apply codal provisions for RCC structures.

Course: Water Resources Engineering-I Course Code: (6CE03)

At the end of Water Resources Engineering-I course the student will be able:

CO 1: To explain basics of hydrology for estimation of flood

CO 2: To apply knowledge of crop water requirements for finding consumptive use of water & its estimation.

CO 3: To use ground water hydraulic to find yield of open wells & tube wells.

CO 4: To apply the knowledge of water harvesting to obtain its cost.

CO 5: To fix Control levels from given data.

CO 6: To Explain Groundwater & Aquifer

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Course: Transportation Engineering-II **Course Code: (6CE04)**

At the end of Transportation Engineering-II course the student will be able:

CO 1: To explain standard terminologies of railway track

CO 2: To explain the component parts of permanent way and to evaluate geometric features of track

CO 3: To describe railway turnout and their detailed component part, also facilities regarding maintenance of railway route.

CO 4: To introduce development of air transportation, agencies controlling national and international aviation, component parts and zoning laws etc.

CO 5: To demonstrate airport layout and traffic control strategies.

CO 6: To explain Tunnel Engineering and to evaluate methods in soft soil as well as hard soil.

Course: Estimating & Costing **Course Code: (6CE06)**

At the end of Estimating & Costing course the student will be able:

CO 1: To explain concepts related to reading drawing, measurements, preparing cost and quantity estimate for all types of building, earthwork calculations of road & canals, rate analysis, valuation, rent fixation, organization & role of government departments as construction agency, contracts and tender documents.

CO 2: To calculate/ estimate the quantities of items, perform rate analysis of items of work, prepare all contract documents.

CO 3: To prepare estimates, contract and tender documents of a project.

CO 4: To estimate earthwork for roads and hill roads.

CO 5: To perform valuation of existing buildings

CO 6: To explain construction of Government Industry.

Course: Minor Project **Course Code: (6CE10)**

At the end of Minor Project course the student will be able:

CO 1: To plan and execute a minor project.

CO 2: To write project report.