



NIIST BHOPAL

NRI INSTITUTE OF INFORMATION SCIENCE & TECHNOLOGY

DEPARTMENT NAME: CIVIL ENGG

BRANCH

CIVIL

SESSION

JULY-DEC
2016

Course Objective & Course Outcome

SEMESTER -VII

SUBJECT/CODE : DESIGN OF HYDRAULIC STRUCTURE (CE-701)

Course Objective: This course is designed to study the fundamental concept, design and maintenance of hydraulic structures.

Course Outcome: Students will be able to-

Outcome1 To provide basic understanding of heavy structures like dam have to study.

Outcome2 To give the basic idea of canal regulation, canal headwork and cross-drainage.

SUBJECT/CODE : ADVANCED STRUCTURAL DESIGN-II (R.C.C.) (CE-702)

Course Objective: To become familiar with professional and contemporary issues in the design and fabrication of reinforced concrete members.

Course Outcome: Students will be able to-

Outcome1 To understand the general mechanical behaviour of reinforced concrete in accordance with IS 456:2000.

Outcome2 To identify and apply the applicable industry design codes relevant to the design of RC Retaining walls.

Outcome3 To analyze and design of RC water Tanks.

Outcome4 To design and analysis of RC Bunker & Silo.

Outcome5 To design and analysis of RC bridges.

SUBJECT/CODE : ENVIRONMENTAL ENGG.-II (CE-703)

Course Objective: The ability to apply the fundamental knowledge of science and engineering to assess environmental and health risk

Course Outcome: Students will be able to-

Outcome1 To understand the Plan and design water supply systems for a rural/urban area, Use population forecasting methods.

Outcome2 To Design various water treatment units and plan their operations on the basis of raw water quality and water demand.

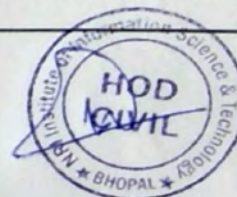
Outcome3 Apply knowledge of advanced water treatment processes for individual water purification

Outcome4 Students understood Sewage quantity and quality for better treatment so as to reduce scarcity by recycling waste water

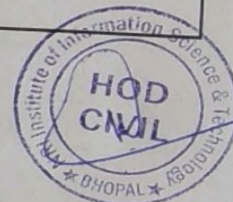
Outcome5 Students understood industrial waste water quantity and quality for achieving better sanitation in society

SUBJECT/CODE : QUANTITY SURVEYING & COSTING (CE-704)

Course Objective: To provide the student with the ability to estimate the quantities of item of works involved in buildings, water supply and sanitary works, road works and irrigation works, and also to equip the student with the ability to do rate analysis, valuation of properties and preparation of reports for estimation of various items.



Course Outcome:	The student shall be able to estimate the material quantities, prepare a bill of quantities, make specifications and prepare tender documents. Student shall be able to prepare value estimates.
Outcome1	The students can get the ability to estimate the quantities to various items to the building
Outcome2	Then student can prepare the rate of every items of building and the materials and labour rate.
Outcome3	The student will be getting knowledge an contracts and tenders
Outcome4	The student will make a specification and valuation of the building will be done by the student
Outcome5	The knowledge an report preparation for various projects takes will be given to the students
SUBJECT/CODE : TRAFFIC ENGINEERING (CE-705/7102)	
Course Objective:	Course Objectives To introduce fundamental knowledge of traffic engineering so that students can understand and be able to deal with traffic issues including safety, planning, design, operation and control. Students will learn and be able to use software such as Highway Capacity Software and Synchro in traffic engineering projects.
Course Outcome:	Students will be able to-
Outcome1	Use statistical concepts and applications in traffic engineering.
Outcome2	Identify traffic stream characteristics.
Outcome3	Understand elements of highway safety and approaches to accident Studies.
Outcome4	Design a pre-timed signalized intersection, and determine the signal splits.
Outcome5	Design an actuated signalized intersection and Identify level of services for arterials.





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SEMESTER -V

SUBJECT/CODE : TRANSPORTATION ENGINEERING (CE-501)

Course Objective: Understand the principles and practices of transportation engineering and urban transportation planning

Course Outcome: Students will be able to-

Outcome1 On successful completion of the course, the students shall be able to understand the basic concept about Highway Engineering

Outcome2 To understand the principles of Highway geometrics design as per IRC standards

Outcome3 Students are able to understand the Traffic engineering & different types of traffic control device.

Outcome4 Understanding of Types of pavements & Materials required for highway construction

Outcome5 In Airport Engineering students will get knowledge of Airport planning, layout and runway and taxiway components

SUBJECT/CODE : ADVANCED SURVEYING (CE-502)

Course Objective: Have the ability to apply knowledge of mathematics, science and engineering to understand the measurement techniques and equipments used in land surveying.

Course Outcome: Students will be able to-

Outcome1 The students are able to understand the use of different advanced surveying instruments and their uses

Outcome2 Students are able to calculate compute the area and earthwork for different works by using advanced surveying instruments.

Outcome3 Students are able to do the surveying of different civil engineering projects

Outcome4 Students are able to do trigonometric and Geodetic Survey

Outcome5 Students are able to understand the hydrographic survey

SUBJECT/CODE : FLUID MECHANICS -II (CE-503)

Course Objective: To give fundamental knowledge of fluid, its properties and behavior under various conditions of internal and external flows.

Course Outcome: Students will be able to-

Outcome1 Student are able to understand the fluid characteristics and their application in different material manufacturing industry

Outcome2 Student are able to measure the pressures at various conditions with different types of pressure measuring devices

Outcome3 Students are able to calculate the discharges of fluid

Outcome4 Student are able to calculate the force acting on submerged bodies



Outcome5	Pipe flow problems can be understood
SUBJECT/CODE : STRUCTURAL ANALYSIS - I (CE 505)	
Course Objective:	To understand the concept of determinate and indeterminate structures, analyses of determinate and indeterminate structures. To understand the principle of virtual work and the application of influence line diagrams in structural analysis problems.
Course Outcome:	Students will be able to-
Outcome1	After completion of this subject student will be able to analyze Fixed and continuous beams.
Outcome2	Student will be able to analyze moving loads and will be able to draw influence line diagrams for simply supported beams.
Outcome3	Student will also be able to analyze columns.
Outcome4	Student will also be able to analyze three hinge arches and three hinge suspension bridges.
Outcome5	Influence Line diagrams & Train load analysis can be understood
SUBJECT/CODE : STRUCTURAL DESIGN AND DRAWING (RCC I) (CE-504)	
Course Objective:	Be able to perform analysis and design of reinforced concrete members and
Course Outcome:	Students will be able to-
Outcome1	To understand the general mechanical behaviour of reinforced concrete in accordance with IS 456:2000.
Outcome2	To identify and apply the applicable industry design codes relevant to the design of reinforced concrete members.
Outcome3	To analyze and design for shear, torsion and bond for structural members.
Outcome4	To design and analysis of singly doubly reinforced beam, one way two way slab.
Outcome5	To design and analysis of column, footing and staircases.





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SEMESTER -III

SUBJECT/CODE : Material science / ES-220

Course Objective: The aim of the course is to give knowledge and proficiency in construction as regards to material technology.

Course Outcome: The student will be able to identify the use of different materials used in civil engineering.

SUBJECT/CODE : Fluid Mechanics / CE-221

Course Objective: Civil Engineering. The course will begin with the fundamental concepts of fluid flow and proceed to cover various flow phenomena and approaches to analyse the flow phenomena.

Course Outcome: Students will be able to-

Outcome1 Knowledge of the basic concepts and principles of fluid mechanics

Outcome2 Ability to analyze fluid flow problems with the application of momentum and energy equations

Outcome3 Ability to distinguish between various types of fluid flow.

Outcome4 Ability to find solutions to typical pipe flow problems

SUBJECT/CODE : Strength of Materials / CE-222

Course Objective: To familiarize the student with the various stresses that may act on a material such as compressive stress, tensile stress, tangential stress, etc and the response of a material to each of these types. The course will define basic concepts and calculations that will come handy in long-term to civil engineering students.

Course Outcome: Students will be able to-

Outcome1 An ability to identify and compute various mechanical stresses in material and the material's response to each

Outcome2 An ability to apply this knowledge in science and engineering models.

SUBJECT/CODE : Advance Surveying & Remote Sensing / CE-223

Course Objective: To introduce the student to the importance and objectives of surveying. The course would begin with the basic concepts of surveying and move on to discuss advancements such as GID and Remote Sensing.

Course Outcome: Students will be able to-



Outcome1	The student will be able to understand the basic principles of surveying and how they are implemented in practice.
Outcome2	The student will be able to adjust for errors that occur in practising of various surveying methods.
Outcome3	The student will be able to plan a survey for applications such as road alignment and height of the building.
SUBJECT/CODE : Geology / CE-224	
Course Objective:	To study geological science and apply the same in the field of civil engineering. The course begins with history of earth's formation. It moves on to the different types of soil found on earth and finally describes the various applications of geological science in civil engineering
Course Outcome:	Students will be able to-
Outcome1	Understanding of the role of geology in design and construction processes
Outcome2	Ability to apply geological concepts and approaches to rock engineering projects.
Outcome3	Ability to identify and classify rocks using basic geological classifications and understand the formation and properties of each category.
Outcome4	Ability to use the geological literature to establish the Geo-technical framework needed to properly design and construct heavy civil engineering projects.
Outcome5	Understanding the application of remote sensing and geographical information system in civil engineering projects.

