

# **Course Outcomes (COs)**

# **2010 Scheme**

### **COURSE DETAILS**

<b>Course Name</b>	ENGINEERING MATHEMATICS-III
<b>Course Code/Course Index</b>	10MAT31 / C-201
<b>Academic Year</b>	2015 -16
<b>Semester</b>	III

#### **Course outcomes (COs)**

C201.1	Know the use of periodic signals and Fourier series to analyze circuits and explain the general linear system theory for continuous-time signals and systems using the Fourier transform. Use the analytical method to find the solution of partial differential equations.
C201.2	Apply numerical methods to solve algebraic and transcendental equations
C201.3	Construct linear programming model to get optimum results in industries. Analyze discrete-time systems using convolution and z-transform.
C201.4	Apply numerical methods to compute a definite integral and find the solution of partial differential equations in the models involving oscillation, waves fluid mechanics, electromagnetism and heat transfer.

### **COURSE DETAILS**

<b>Course Name</b>	<b>BUILDING MATERIALS AND CONSTRUCTION TECHNOLOGY</b>
<b>Course Code/Course Index</b>	<b>10CV32 / C202</b>
<b>Academic Year</b>	<b>2015-16</b>
<b>Semester</b>	III

#### **Course outcomes (COs)**

<b>C202.1</b>	Construct suitable foundation depends on type of soil and chooses masonry according to nature of work.
<b>C202.2</b>	Categorize the components of building according to their function and distinguish between floor and roof.
<b>C202.3</b>	Classify door, windows, ventilators, staircases, and formwork according to their use, location, materials, and functions.
<b>C202.4</b>	Compare plastering, pointing, painting and damp proofing which influence on internal and external appearance of structure.

### **COURSE DETAILS**

<b>Course Name</b>	STRENGTH OF MATERIALS
<b>Course Code/Course Index</b>	10CV33 / C-203
<b>Academic Year</b>	2015-16
<b>Semester</b>	III

**Course outcomes (COs)**

<b>C203.1</b>	Utilize the basic concepts of the stresses and strains for different Materials and strength of structural elements.
<b>C203.2</b>	Know the development of internal forces and resistance mechanism for one dimensional and two dimensional structural elements.
<b>C203.3</b>	Analyze and understand different internal forces and stresses induced due to representative loads on structural elements.
<b>C203.4</b>	Evaluate the behavior of torsional members, columns and struts.

**COURSE DETAILS**

<b>Course Name</b>	SURVEYING 1
<b>Course Code/Course Index</b>	10CV34 / C-204
<b>Academic Year</b>	2015-16
<b>Semester</b>	III

**Course outcomes (COs)**

<b>C204.1</b>	Develop a sound knowledge of fundamental principles of Surveying.
<b>C204.2</b>	Measure of horizontal distance using chains and tapes and apply corrections to errors in measurement.
<b>C204.3</b>	Make use of magnetic bearings for traversing using compass.
<b>C204.4</b>	Determine the reduced levels of the points from staff readings using auto level and create contour maps.

**COURSE DETAILS**

<b>Course Name</b>	<b>FLUID MECHANICS</b>
<b>Course Code</b>	<b>10CV35/C205</b>
<b>Academic Year</b>	2015-16

**Course outcomes (COs)**

<b>C205.1</b>	Make use of the fundamental properties of fluids and fluid Continuum. Compute and solve problems on hydrostatics, including practical Applications
<b>C205.2</b>	Apply principles of mathematics to represent kinematic concepts related to fluid flow. Apply fundamental laws of fluid mechanics- conservation of mass, conservation of linear momentum, & the Bernoulli's principle for practical applications
<b>C205.3</b>	Analyze the flow through pipes inclusive of their head losses
<b>C205.4</b>	Evaluate the discharge through the weirs, notches, orifices and mouthpieces

### **COURSE DETAILS**

<b>Course Name</b>	APPLIED ENGINEERING GEOLOGY
<b>Course Code/Course Index</b>	10CV36 / C-206
<b>Academic Year</b>	2015-16
<b>Semester</b>	III

**Course outcomes:**

<b>C206.1</b>	Utilize the earth's materials such as mineral, rocks and water in civil engineering practices and role of geology in Civil Engineering effectively.
<b>C206.2</b>	Analyze the natural disasters and their mitigation.
<b>C206.3</b>	Assess various structural features and geological tools in ground water exploration, Natural resource estimation and solving civil engineering problems.
<b>C206.4</b>	Apply and assess the use of Topo sheets, contour map, Remote Sensing, GIS & GPS in civil engineering projects and natural resource management.

### **COURSE DETAILS**

<b>Course Name</b>	<b>BASIC MATERIAL TESTING LABORATORY</b>
<b>Course Code/Course Index</b>	10CVL37 / C-207
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C207.1</b>	Reproduce the basic knowledge of mathematics and engineering in finding the strength in tension, compression, shear and torsion.
<b>C207.2</b>	Identify, formulate and solve engineering problems of structural elements subjected to flexure.
<b>C207.3</b>	Evaluate the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to unsuitable materials.

### **COURSE DETAILS**

<b>Course Name</b>	<b>SURVEYING PRACTICE 1 LABORATORY</b>
<b>Course Code/Course Index</b>	10CVL38 / C-208
<b>Academic Year</b>	2015-16

**Course outcomes:** C208 Year of Study CAYm3 (2015-16)

<b>C208.1</b>	Apply basic principles of engineering surveying for linear and angular measurements.
<b>C208.2</b>	Determination of levels by performing fly leveling and profile leveling.
<b>C208.3</b>	Conduct plane table surveying and use of conventional surveying instruments necessary for engineering practice.

### COURSE DETAILS

<b>Course Name</b>	ENGINEERING MATHEMATICS-IV
<b>Course Code/Course Index</b>	15MAT41 / C-209
<b>Academic Year</b>	2015 -16
<b>Semester</b>	IV

#### Course outcomes (COs)

<b>C209.1</b>	Apply appropriate numerical methods to solve first and second order ordinary differential equations arising in flow problems using single and multistep numerical methods.
<b>C209.2</b>	Make use of Bessel's and Legendre's function which often arises when a problem possesses axial and spherical symmetry, such as in quantum mechanics, electromagnetic theory, hydrodynamics and heat conduction and apply different sampling theory in real situations and evaluate the quantity of the sample in the research
<b>C209.3</b>	State and prove Cauchy's theorem and its consequences including Cauchy's integral formula and solve two dimensional potential problems using analytic functions in the study of heat flow, fluid mechanics and electrostatics.
<b>C209.4</b>	Analyze and interpret the data that involves uncertainty arising in digital signal processing, optimization concepts of stability of design and structural engineering.

### COURSE DETAILS

<b>Course Name</b>	CONCRETE TECHNOLOGY
<b>Course Code</b>	10CV42/ C-210
<b>Academic Year</b>	2015-16
<b>Semester</b>	IV

#### Course outcomes (COs)

C210.1	Select suitable material which influence on quality of concrete by conducting various tests on the materials
C210.2	Understand the Influence of chemical and mineral admixtures on the properties of concrete, adopt suitable tests to find required workability.
C210.3	Evaluate the performance of concrete in compression, tension, bond, elasticity which are greatly influence on water-cement ratio and gel-space ratio.
C210.4	Understand the Effect of chemical, corrosion, acid attack on the durability of concrete, and able to design concrete mix using BIS standards to satisfy the durability requirements

### **COURSE DETAILS**

<b>Course Name</b>	STRUCTURAL ANALYSIS-I
<b>Course Code</b>	10CV43 / C-211
<b>Academic Year</b>	2015-16
<b>Semester</b>	IV

#### **Course outcomes (COs)**

<b>C211.1</b>	Evaluate the deflection of cantilever, simply supported and overhanging beams by different methods and to understand the strain energy concepts
<b>C211.2</b>	Analyze Pin jointed plane trusses using strain energy concepts
<b>C211.3</b>	Determine the thrust, shear and bending moment in Arches and cables
<b>C211.4</b>	Analyze the determinate and indeterminate beams using consistent deformation method and Clapeyron's theorem

### **COURSE DETAILS**

<b>Course Name</b>	SURVEYING 2
<b>Course Code/Course Index</b>	10CV44 / C-212
<b>Academic Year</b>	2015-16
<b>Semester</b>	IV

#### **Course outcomes (COs)**

<b>C212.1</b>	Develop knowledge of permanent adjustment of theodolite and dumpy level.
<b>C212.2</b>	Measure of vertical and horizontal angles by the use of theodolites and determine the elevation of objects for inaccessible base.
<b>C212.3</b>	Apply the principle of tacheometry to solve engineering problems.
<b>C212.4</b>	Design of various types of curves and determination of areas and volumes.

### **COURSE DETAILS**

<b>Course Name</b>	<b>HYDRAULICS AND HYDRAULIC MACHINES</b>
<b>Course Code</b>	<b>10CV45 / C213</b>
<b>Academic Year</b>	2015-16

#### **Course outcomes:**

<b>C213.1</b>	Apply dimensional analysis to develop mathematical modeling and compute the parametric values in prototype by analyzing the corresponding model parameters
<b>C213.2</b>	Identify the open channels of various cross sections including optimum design sections
<b>C213.3</b>	Apply Energy concepts of fluid in open channel, calculate Energy dissipation, and compute Water profiles at different conditions

<b>C213.4</b>	Analyze the performance of hydraulic machines for various design data and to know their corresponding operation characteristics
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### **COURSE DETAILS**

<b>Course Name</b>	<b>BUILDING PLANNING AND DRAWING</b>
<b>Course Code/Course Index</b>	<b>10 CV 46 / C214</b>
<b>Academic Year</b>	2015-16
<b>Semester</b>	IV

**Course outcomes:**

<b>C214.1</b>	<b>Develop</b> drawings of different components of a building.
<b>C214.2</b>	<b>Design</b> and prepare functional drawings for buildings as per norms
<b>C214.3</b>	<b>Develop</b> drawings showing the interconnectivity of functional components of buildings along with service layouts.

### **COURSE DETAILS**

<b>Course Name</b>	<b>SURVEYING PRACTICE LABORATORY II</b>
<b>Course Code/Course Index</b>	10CVL47 / C-215
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C216.1</b>	Measure of horizontal and vertical angles using theodolite and determination of elevation for base inaccessible objects.
<b>C216.2</b>	Determine the tracheometric constants using horizontal and inclined line of sights.
<b>C216.3</b>	Construct simple and compound curves with angular methods using theodolite.

### **COURSE DETAILS**

<b>Course Name</b>	<b>APPLIED ENGINEERING GEOLOGY LABORATORY</b>
<b>Course Code</b>	10CVL48 / C-216
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C216.1</b>	Utilize the minerals and rocks effectively in civil engineering practices.
<b>C216.2</b>	Interpreting and conclude the geological conditions of the area for the implementation of civil engineering projects.
<b>C216.3</b>	Interpreting subsurface information such as thickness of soil, weathered zone, depth of hard rock and saturated zone by using mathematical method

### **COURSE DETAILS**

<b>Course Name</b>	MANAGEMENT & ENTEPRENEURSHIP
<b>Course Code/Course Index</b>	10AL51/C301
<b>Academic Year</b>	2015-16
<b>Semester</b>	V

#### **Course outcomes (COs)**

<b>C301.1</b>	Summarize the meaning of management and the role, importance of planning process and steps involved in planning process
<b>C301.2</b>	Explain the importance of organizing, staffing, directing and controlling in management
<b>C301.3</b>	Discuss the meaning of entrepreneur and their importance, small scale industry and their role in the society
<b>C301.4</b>	Outline the different schemes in support of entrepreneurship and significance of project preparation

### **COURSE DETAILS**

<b>Course Name</b>	Design of RC Structural Elements
<b>Course Code/Course Index</b>	10CV52 / C302
<b>Academic Year</b>	2015-16
<b>Semester</b>	V

#### **Course outcomes (COs)**

C302.1	Explain the design philosophy and principles
C302.2	Solve the engineering problems of RC elements subjected to flexure, shear and torsion
C302.3	Adapt the procedural knowledge in designs of RC structural elements such as slabs, columns and footings
C302.4	Utilize professional and ethical responsibility in the direction of safe and economic structures

### **COURSE DETAILS**

<b>Course Name</b>	STRUCTURAL ANALYSIS-II
<b>Course Code/Course Index</b>	10CV53 / C-303
<b>Academic Year</b>	2015-16
<b>Semester</b>	V

#### **Course outcomes (COs)**

C303.1	Analyze beams carrying rolling loads for different support conditions and Influence line diagram and to Analyze the Beams and Rigid Jointed Plane frames using Slope-Deflection method
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C303.2	Evaluate Beams and Rigid Jointed Plane frames using Moment Distribution and Kani's Methods
C303.3	Analyze plane truss, continuous beams and plane frames using flexibility and stiffness matrix methods
C303.4	Utilize the basic concept of Structural Dynamics

### **COURSE DETAILS**

<b>Course Name</b>	GEOTECHNICAL ENGINEERING-I
<b>Course Code</b>	10CV54 / C-304
<b>Academic Year</b>	2015-16
<b>Semester</b>	V

#### **Course outcomes (COs):**

<b>C304.1</b>	Analyze three phase system of soil and determine index properties of any type of soil.
<b>C304.2</b>	Assess the soil based on index properties and determine permeability characteristics of soils.
<b>C304.3</b>	Apply the concepts of shear strength, compaction and consolidation in assessing the soil characteristics.
<b>C304.4</b>	Estimate the shear strength parameters of different types of soils and solve practical problems related to consolidation settlement.

### **COURSE DETAILS**

<b>Course Name</b>	HYDROLOGY AND IRRIGATION ENGINEERING
<b>Course Code/Course Index</b>	10CV55 / C-305
<b>Academic Year</b>	2015-16
<b>Semester</b>	V

#### **Course outcomes:**

<b>C305.1</b>	<b>Measure</b> the amount of rainfall and <b>determine</b> the losses due to evaporation using different methods
<b>C305.2</b>	<b>Analyze</b> the hydrographs and <b>determine</b> the amount of flooding and methods to overcome flooding
<b>C305.3</b>	<b>Select</b> different methods of irrigation for different season and crop
<b>C305.4</b>	<b>Determine</b> the quantity of water required for crops and <b>design</b> of canals by different methods

### **COURSE DETAILS**

<b>Course Name</b>	HYDRAULICS AND HYDRAULIC MACHINERY LAB
<b>Course Code</b>	10CVL57 / C-307
<b>Academic Year</b>	2016-17

**Course outcomes:**

<b>C307.1</b>	Apply the knowledge in finding friction factor for different pipes and also calibrate the measuring tank
<b>C307.2</b>	Determine the rate of flow by different setup
<b>C307.3</b>	Interpret the output results obtained from impact of jet, pumps, turbine to check the performance

### **COURSE DETAILS**

<b>Course Name</b>	COMPUTER AIDED DESIGN LABORATORY
<b>Course Code/Course Index</b>	10CVL58 / C-308
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C308.1</b>	To create plan and elevation of various Civil Engg. Entities using AUTOCAD and to Prepare structural drawings related to Civil Engineering projects.
<b>C308.2</b>	To Utilize Modern software for analysis of structures like continuous beams, Rigid jointed 2d and 3d Frames and trusses.
<b>C308.3</b>	To Develop programs on M.S. EXCEL for analysis and design of RC elements and to develop programs on M.S. EXCEL for Different Highway Components

### **COURSE DETAILS**

<b>Course Name</b>	ENVIRONMENTAL ENGINEERING - I
<b>Course Code/Course Index</b>	10CV61/ C-309
<b>Academic Year</b>	2015-16
<b>Semester</b>	VI

**Course outcomes (COs)**

<b>C309.1</b>	Understand the basic concepts conveyance of water. Water transport and its distribution and water demands and select suitable source of water.
<b>C309.2</b>	Analyze drinking water quality standards and to illustrate qualitative analysis of water
<b>C309.3</b>	Design physical, chemical and biological treatment methods to ensure safe and potable water Supply
<b>C309.4</b>	Understand the adsorption technique, Distribution system, and Layout of water supply connections

### **COURSE DETAILS**

<b>Course Name</b>	DESIGN AND DRAWING OF RC STRUCTURES
<b>Course Code/Course Index</b>	10CV62 / C-310
<b>Academic Year</b>	2015 -16
<b>Semester</b>	VI

**Course outcomes:**

<b>C310.1</b>	Apply the knowledge of detailing of RC structural elements
<b>C310.2</b>	Design and create the cantilever and counter fort retaining wall
<b>C310.3</b>	Design and develop the simple portal frame subjected to gravity load
<b>C310.4</b>	Design and develop the combined footing & water tank

### **COURSE DETAILS**

<b>Course Name</b>	TRANSPORTATION ENGINEERING - II
<b>Course Code/Course Index</b>	10CV63 / C-311
<b>Academic Year</b>	2015-16
<b>Semester</b>	VI

**Course outcomes (COs)**

<b>C311.1</b>	Design the different components of railway
<b>C311.2</b>	Apply the various concepts of airport in the design of runway and taxiway, wind rose.
<b>C311.3</b>	Apply the different concepts of tunnels in the design and constructions of tunnels
<b>C311.4</b>	Make use of the concepts of harbors and its types and requirements in design and construction.

### **COURSE DETAILS**

<b>Course Name</b>	GEOTECHNICAL ENGINEERING-II
<b>Course Code</b>	10CV64 / C-312
<b>Academic Year</b>	2015-16
<b>Semester</b>	VI

**Course outcomes (COs):**

<b>C312.1</b>	Plan and execute the soil investigation for any civil engineering construction.
<b>C312.2</b>	Analyze any practical problems related to seepage in soil and estimate the stresses in soil.
<b>C312.3</b>	Determine factor of safety against failure of slopes and to compute bearing capacity of different types of soil.

<b>C312.4</b>	Evaluate the foundation settlement and achieve proficiency in proportioning various types of shallow foundation and pile foundations.
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### **COURSE DETAILS**

<b>Course Name</b>	HYDRAULIC STRUCTURES AND IRRIGATION DESIGN AND DRAWING
<b>Course Code/Course Index</b>	10CV65 / C-313
<b>Academic Year</b>	2015 -16
<b>Semester</b>	VI

**Course outcomes:**

<b>C310.1</b>	Understanding basic concepts of reservoir planning.
<b>C310.2</b>	Understand the concepts of dams of various irrigation structures such as gravity dam, Earth dam and spill ways.
<b>C310.3</b>	Design the different irrigation structures surplus weir and tank sluice, aqueduct.
<b>C310.4</b>	Design the different irrigation structures canal drop, canal regulator and canal gate sluice, aqueduct and canal drop, viaduct

### **COURSE DETAILS**

<b>Course Name</b>	GEOTECHNICAL ENGINEERING LABORATORY
<b>Course Code/Course Index</b>	10CVL67 / C-315
<b>Academic Year</b>	2016-17

**Course outcomes:**

<b>C315.1</b>	Clarify different types of soil as per IS codal procedures by determining index properties of soil with the concept of grain size, elastic and plastic properties of Different types of soils.
<b>C315.2</b>	Identify and Adopt different types of soil in various constructions by determining shear strength and consolidation characteristics of soils.
<b>C315.3</b>	Interpret the output result obtained from different experiments by using various instruments and machines

### **COURSE DETAILS**

<b>Course Name</b>	EXTENSIVE SURVEY VIVA VOCE
<b>Course Code/Course Index</b>	10CVL68 / C-316
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C316.1</b>	Apply skills to handle conventional & modern surveying equipments for location of objects and setting out works
<b>C316.2</b>	Interpret and analyze data to prepare drawings and reports of engineering projects like water supply, highway and irrigation etc
<b>C316.3</b>	Understand the technical difficulties at site and managerial skills to tackling them in completing the assigned survey work
<b>C316.4</b>	team member imparting networking, communicating effectively in gaining lifelong learning process

### **COURSE DETAILS**

<b>Course Name</b>	ENVIRONMENTAL ENGINEERING - II
<b>Course Code/Course Index</b>	10CV71/ C-401
<b>Academic Year</b>	2015-16
<b>Semester</b>	VII

**Course outcomes (COs)**

<b>C401.1</b>	Make use of the parameters which helps in determining the effective sewerage system and describe the necessity of sanitation
<b>C401.2</b>	Illustrate the concept of sewerage system and design of sewer
<b>C401.3</b>	Analyze the strength of waste water and select appropriate treatment and disposal methods
<b>C401.4</b>	Identify the criteria involved in secondary and tertiary treatment along with oxidation pond, ditch, sludge drying bed

### **COURSE DETAILS**

<b>Course Name</b>	DESIGN OF STEEL STRUCTURAL ELEMENTS
<b>Course Code/Course Index</b>	10CV72 / C-402
<b>Academic Year</b>	2015-16
<b>Semester</b>	VII

**Course outcomes (COs)**

C402.1	Make use of the knowledge of steel structures, Advantages and Disadvantages of steel structures, steel code provisions and plastic behaviour of structural steel
C402.2	Analyze the bolted and welded connections, failure mechanisms and to design against the failures
C402.3	Design the compression members, built-up columns and columns splices across different practical situations
C402.4	Design of tension members, column bases, laterally supported and un-supported steel beams

**COURSE DETAILS**

<b>Course Name</b>	<b>ESTIMATION AND VALUATION</b>
<b>Course Code</b>	<b>10CV73 / C-403</b>
<b>Academic Year</b>	2015-16
<b>Semester</b>	7 <sup>th</sup>

**Course outcomes:**

<b>C403.1</b>	Estimate the quantities of various components of building and its cost analysis.
<b>C403.2</b>	Understand the concepts for determining the volume of earth work by various approaches for roads, canals and hilly areas etc.
<b>C403.3</b>	Evaluate the quantity and cost Estimate for various elements like manhole, septic tank, culverts, wooden joiners and truss.
<b>C404.4</b>	Solve problems on rate and analysis for various items of building and clear knowledge about the specification, tender and its terminologies.

**COURSE DETAILS**

<b>Course Name</b>	<b>DESIGN OF PRESTRESSED CONCRETE STRUCTURES</b>
<b>Course Code/Course Index</b>	10CV74/ C404
<b>Academic Year</b>	2015-16
<b>Semester</b>	7 <sup>th</sup> Semester

**Course outcomes (COs)**

<b>C404.1</b>	Make use of the basic principles of pre-stressing and to show the analysis of sections under flexure
<b>C404.2</b>	Examine the losses occurring in pre-stress and to analyze the deflection in a pre-stressed member
<b>C404.3</b>	Explain the ultimate strength of the pre-stressed sections and shear resistance of the sections
<b>C404.4</b>	Design of end block reinforcement and to design the beams

### **COURSE DETAILS**

<b>Course Name</b>	HIGHWAY GEOMETRIC DESIGN
<b>Course Code</b>	10CV755 / C-4055
<b>Academic Year</b>	2015-16
<b>Semester</b>	VII

**Course outcomes:**

<b>C4055.1</b>	<b>Design</b> the various cross-sectional elements as per IRC standards
<b>C4055.2</b>	<b>Apply</b> the concepts of gradients, curves and <b>design</b> of super elevation and Sight distances
<b>C4055.3</b>	<b>Select</b> appropriate intersection models for the <b>design</b> of intersections
<b>C4055.4</b>	<b>Design</b> of various highway drainage elements for different hydrological conditions

### **COURSE DETAILS**

<b>Course Name</b>	PAVEMENT MATERIALS AND CONSTRUCTION
<b>Course Code</b>	10CV763 / C4063
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C4063.1</b>	<b>Select</b> suitable aggregates and Binders for road construction
<b>C4063.2</b>	<b>Apply</b> the knowledge of Bitumen works for Pavement Construction
<b>C4063.3</b>	<b>Adopt</b> various construction equipment's for various pavement layers
<b>C4063.4</b>	<b>Judge</b> the quality of construction of pavements by various quality control tests and <b>recommend</b> suitable solutions

### **COURSE DETAILS**

<b>Course Name</b>	ENVIRONMENTAL ENGINEERING LABORATORY
<b>Course Code/Course Index</b>	10CVL77/ C-407
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C407.1</b>	Examine chemical characteristics of water and wastewater
<b>C407.2</b>	Determine chemical, physical and biological characteristics of water and wastewater
<b>C407.3</b>	Estimate optimum dosage of coagulant, Residual chlorine and available chlorine

### **COURSE DETAILS**

<b>Course Name</b>	<b>Concrete and Highway Materials Laboratory</b>
<b>Course Code</b>	<b>10CVL78 / C-408</b>
<b>Academic Year</b>	2015-16

**Course outcomes:**

<b>C408.1</b>	Examine the quality and suitability of cement for construction work
<b>C408.2</b>	Analyze appropriate concrete mix and Determine strength and quality of concrete
<b>C408.3</b>	Make use of knowledge acquired on road aggregates and bitumen for their suitability as road material.
<b>C408.4</b>	Determine the suitability of soil as sub grade materials.

### **COURSE DETAILS**

<b>Course Name</b>	<b>ADVANCED CONCRETE TECHNOLOGY</b>
<b>Course Code</b>	10CV81/ C-409
<b>Academic Year</b>	2015-16
<b>Semester</b>	VIII

**Course outcomes (COs)**

<b>C409.1</b>	Analyze the Influence of chemical and mineral admixtures on structure of concrete, selection of suitable admixture to improve fresh and hardened properties of concrete.
<b>C409.2</b>	Identify the Effect of chemical, corrosion, acid attack on the durability of concrete, and able to design concrete mix using BIS, ACI, and british standards to satisfy the durability requirements.
<b>C409.3</b>	Adapt suitable type of concrete for various work and able to prepare typical mix to meet the requirement.
<b>C409.4</b>	To evaluate performance of concrete using Non destructive tests, and prepare typical mix of high density and light weight concrete.

### **COURSE DETAILS**

<b>Course Name</b>	<b>DESIGN AND DRAWING OF STEEL STRUCTURES</b>
<b>Course Code/Course Index</b>	10CV82 / C410
<b>Academic Year</b>	2015-16
<b>Semester</b>	8 <sup>th</sup> Semester



**Course outcomes:**

<b>C410.1</b>	Apply the engineering knowledge of Steel structures to draw bolted and welded connections.
<b>C410.2</b>	Interpret the design data to draw built up sections and column bases
<b>C410.3</b>	Design and detailing of bolted girder, welded girder, roof trusses and gantry girder as per codal provisions
<b>C410.4</b>	Create the drawings of girders and roof truss

### **COURSE DETAILS**

<b>Course Name</b>	PAVEMENT DESIGN
<b>Course Code/Course index</b>	10CV833/C-4113
<b>Academic Year Semester</b>	<b>2015-16</b> , Eighth Semester

**2.1 Course outcomes:**

<b>C4113.1</b>	Make use of acquired knowledge in pavement layers and its functions, different pavements and their responsible factors.
<b>C4113.2</b>	Apply knowledge to solve problems the Equivalent single wheel load and it's repetitions of loads, design of flexible pavement..
<b>C4113.3</b>	Solve problems on computations of stresses and deflections in different pavements and also design of rigid pavement.
<b>C4113.4</b>	Summarize the failures, causes and maintenances of flexible Pavement and rigid pavements.

### **COURSE DETAILS**

<b>Course Name</b>	URBAN TRANSPORT PLANNING
<b>Course Code/Course Index</b>	10CV843 / C-4123
<b>Academic Year</b>	<b>2015-16</b>
<b>Semester</b>	VIII

**Course outcomes (COs)**

<b>C4123.1</b>	Plan the transportation need of Urban cities and Propose viable solutions to assist the administration in Urban Transportation Planning.
<b>C4123.2</b>	Design and conduct surveys to provide the data required for transportation planning.
<b>C4123.3</b>	Plan the process of trip generation and distribution, Justify the need of a modal split and trip assignment.
<b>C4123.4</b>	Justify the selected land use transport models and economic evaluation of transport plans with the knowledge of transport economics and environment. Develop transportation plans for small and medium cities.

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**COURSE DETAILS**

<b>Course Name</b>	<b>Seminar</b>
<b>Course Code</b>	<b>10CV86 - C414</b>
<b>Academic Year</b>	<b>2015-16</b>

**Course outcomes:**

<b>C414.1</b>	Demonstrate a sound technical knowledge of the selected seminar topic and ability to understand and utilize technical resources
<b>C414.2</b>	Demonstrate an ability to present ideas effectively during seminars, public presentations, to faculty examiners, panel of experts
<b>C414.3</b>	demonstrate the ability to speak and debate with an appreciation for complex social and cultural sensibilities.
<b>C414.4</b>	Ability to write technical documents related to the work completed