

Course Outcome	
COs	HS6151 Technical English – I
1	Learners should be able to speak clearly confidently and comprehensively using appropriate communicative strategies.
2	Learners should be able to communicate with one or many listeners using appropriate communicative strategies.
3	Learners should be able to write cohesively, coherently and flawlessly avoiding grammatical errors, using a wide vocabulary range, organizing their ideas logically on a topic.
4	Learners should be able to read different genres of texts adopting various reading strategies.
5	Learners should be able to listen/view and comprehend different spoken discourses/excerpts in different accents
COs	MA6151 Mathematics – I
1	This course equips students to have basic knowledge and understanding in the field of materials.
2	This course equips students to have basic knowledge and understanding in the field of integral calculus.
3	The students would become knowledgeable in the area of infinite series and their convergence for mathematical modeling.
4	This course equips students to have basic knowledge and understanding in the field of differential calculus.
5	This course equips students to have basic knowledge and understanding in the field of matrices and evaluation of multiple integrals.
COs	PH6151 Engineering Physics – I
1	The students will have knowledge on the basics of physics related to properties of matter.
2	The students will apply these fundamental principles to solve practical problems related to materials used for engineering applications.

3	The students will have knowledge on the basics of physics related to optics.
4	The students will have knowledge on the basics of physics related to properties of acoustics.
5	The students will have knowledge on the basics of crystal physics and quantum physics.
COs	CY6151 Engineering Chemistry – I
1	The knowledge gained on polymer chemistry will provide a strong platform to understand the concepts on these subjects for further learning.
2	The knowledge gained on thermodynamics will provide a strong platform to understand the concepts on these subjects for further learning.
3	The knowledge gained on spectroscopy will provide a strong platform to understand the concepts on these subjects for further learning.
4	The knowledge gained on phase rule will provide a strong platform to understand the concepts on these subjects for further learning.
5	The knowledge gained on Nano materials will provide a strong platform to understand the concepts on these subjects for further learning.
COs	GE6151 Computer Programming
1	At the end of the course, the student should be able to design C programs for problems.
2	At the end of the course, the student should be able to write and execute C programs for simple applications.
3	At the end of the course, the student should be able to think logically and write pseudo code or draw flow charts for problems.
4	At the end of the course, the student would gain knowledge on the number systems and organization of a digital computer.
5	At the end of the course, the student would gain knowledge on the usage of arrays, strings, functions, pointers, structures and unions in C.
COs	GE6152 Engineering Graphics
1	On Completion of the course the student will be able to perform free hand

	sketching of basic geometrical constructions and multiple views of objects
2	On Completion of the course the student will be able to do orthographic projection of lines and plane surfaces.
3	On Completion of the course the student will be able to draw projections and solids and development of surfaces
4	On Completion of the course the student will be able to prepare isometric and perspective sections of simple solids
5	On Completion of the course the student will be able to demonstrate computer aided drafting.
COs	GE6161 Computer Practices Laboratory
1	At the end of the course, the student should be able to apply good programming design methods for program development.
2	At the end of the course, the student should be able to design and implement C programs for simple applications.
3	At the end of the course, the student should be able to develop recursive programs.
4	At the end of the course, the student should be able to use office software.
5	At the end of the course, the student would be familiar with presentation and visualization tools.
COs	GE6162 Engineering Practices Laboratory
1	At the end of the course, the student should be able to fabricate carpentry components.
2	At the end of the course, the student should be able to use welding equipments to join the structures
3	At the end of the course, the student should be able to fabricate electrical circuits.
4	At the end of the course, the student should be able to fabricate pipe connections including plumbing works.
5	At the end of the course, the student should be able to fabricate electronics

	circuits.
COs	GE6163 Physics and Chemistry Laboratory – I
1	The hands on exercises undergone by the students will help them to apply physics principles of thermal physics to evaluate engineering properties of materials.
2	The students will be outfitted with hands-on knowledge in the quantitative chemical analysis of water quality related parameters.
3	The hands on exercises undergone by the students will help them to apply physics principles of optics to evaluate engineering properties of materials.
4	At the end of the course, the student would be familiar with conduct metric titration of strong acids and strong bases.
5	At the end of the course, the students would be able familiar with determination of molecular weight of polymer by vacometry.

SEMESTER – II

	Course Outcome
COs	HS6251 TECHNICAL ENGLISH – II
1	Learners should be able to speak convincingly, express their opinions clearly using appropriate communicative strategies.
2	Learners should be able to write effectively and persuasively and produce different types of writing such as narration, description, exposition and argument as well as creative, critical, analytical and evaluative writing.
3	Learners should be able to read different genres of texts, infer implied meanings and critically analyse and evaluate them for ideas as well as for method of presentation.
4	Learners should be able to listen/view and comprehend different spoken excerpts critically and infer unspoken and implied meanings.
5	Learners should be able to initiate a discussion, negotiate and argue using appropriate communicative strategies.

COs	MA6251 MATHEMATICS – II
1	Students would have learnt techniques in solving ordinary differential equations that model engineering problems
2	Students would have learnt the concepts of vector calculus, needed for problems in all engineering disciplines.
3	Students would have learnt the standard techniques of complex variable theory so as to apply them with confidence in application areas such as heat conduction, elasticity, fluid dynamics and flow the of electric current.
4	Students would have learnt the purpose of using Laplace transforms to create a new domain in which it is easier to handle the problem that is being investigated
5	Students would have learnt techniques in complex integration and further evaluation of integrals by Cauchy's theorem.
COs	PH6251 ENGINEERING PHYSICS-II
1	The students will have knowledge on the basics of properties of conducting and super conducting Materials.
2	The students will apply these fundamental principles to solve practical problems related to materials used for engineering applications.
3	The students will have knowledge on the basics of Preparation and processing of insulating and magnetic materials.
4	The students will have knowledge on the basics of Preparation and processing of Electronic materials.
5	The students will have knowledge on the basics of Preparation and processing of advanced material
COs	CY6251 ENGINEERING CHEMISTRY – II
1	The knowledge gained conversant with boiler feed water requirements, related problems and water treatment techniques.
2	The students would have gained knowledge on Principles of electrochemical reactions, redox reactions in corrosion of materials and methods for corrosion prevention and protection of materials.
3	The knowledge gained on Preparation, properties and applications of engineering materials.

4	The knowledge gained on Types of fuels, calorific value calculations, manufacture of solid, liquid and gaseous fuels
5	The students would gain knowledge on Principles and generation of energy in batteries, nuclear reactors, solar cells, wind mills and fuel cells.
COs	GE6252 BASIC ELECTRICAL AND ELECTRONICS ENGINEERING
1	Students would have learnt the basic theorems used in Electrical circuits and the different components and function of electrical machines.
2	Students would have knowledge about the fundamentals of semiconductor and applications
3	Students will be able to understand the principles of digital electronics
4	Students will be able to impart knowledge of communication.
5	Students would have learnt the key principles involved in communication.
COs	GE6253ENGINEERING MECHANICS
1	Students will be well versed in the basic concepts of Laws of Mechanics STATICS OF PARTICLES.
2	Students will be familiar with the equilibrium of forces, action and reaction forces, equilibrium of rigid bodies in two and three dimensions.
3	Students would have learnt different types of sectional surfaces and their characteristics.
4	Students would gain knowledge in dynamic characteristics of particles viz., acceleration, relative motion and impact and moment.
5	At end of this course, students would have learnt about the capacity to predict the effect of force and motion in the course of carrying out the design functions of engineering.
COs	GE6261 COMPUTER AIDED DRAFTING AND MODELING LABORATORY
1	Student will be well versed in Creation of simple figures like polygon and general multi-line figures.
2	Students will be familiar with Drawing front view, top view and side view of objects from the given pictorial views.
3	Students would have learnt to Draw a plan of residential building

4	Students would gain knowledge about Drawing sectional views of prism, pyramid, cylinder, cone, etc.,
5	At end of this course, students would have learnt to develop skill to use software to create 2D and 3D models
COs	GE6262 PHYSICS AND CHEMISTRY LABORATORY - II
1	Student will be well versed in analyzing the characteristics of Semiconductor.
2	Students will be familiar with the Poiseuille's method
3	Students would have learnt to determine the power of prism.
4	Students would gain knowledge about Air wedge method.
5	At end of this course, students would understand physics concepts applied in optics, thermal physics and properties of matter.

Semester III

	Course Outcome
COs	MA6351 TRANSFORMS AND PARTIAL DIFFERENTIAL EQUATIONS
1	Students would get familiarize about the Fourier series to generate a sequence of waves
2	Students would have learnt about the Fourier Transform to a sequence non-parabolic waves to a general function.
3	Students will be familiar with the construction of partial differential equation and finding methods to solve it
4	Students would gain knowledge about the applications of PDE in Chemical Engineering
5	Students would have acquired knowledge on Z Transforms for a 3D model and its solution
COs	GE6351 ENVIRONMENTAL SCIENCE AND ENGINEERING
1	Upon successful completion of this course, the students will be able to find and implementing scientific, technological, economic and political solutions to environmental problems.
2	Upon successful completion of this course, the students will be able to study the interrelationship between living organism and environment.
3	Upon successful completion of this course, the students will be able to appreciate the importance of environment by assessing its impact on the human world; envision the surrounding environment, its functions and its value.

4	Upon successful completion of this course, the students will be able to study the dynamic processes and understand the features of the earth's interior and surface.
5	Upon successful completion of this course, the students will be able to study the integrated themes and biodiversity, natural resources, pollution control and waste management.
COs	CE6301ENGINEERING GEOLOGY
1	This course module will help the students to to understand the importance of Geological knowledge.
2	The students can understand the physical properties of various minerals
3	The students would be able to understand geological knowledge on earth, earthquake, volcanism
4	The students would have learnt to apply this knowledge in projects such as dams, tunnels, bridges, roads
5	The students would be able to understand to apply this knowledge to choose the foundation for airport and harbor.
COs	CE6302MECHANICS OF SOLIDS
1	Upon completion of this course, the students would have learnt fundamental concepts of Stress, Strain and deformation of solids
2	Upon completion of this course, the students would learnt to apply the fundamental concepts to bars, beams and thin cylinders.
3	Upon completion of this course, the students would know the mechanism of load transfer in beams, the induced stress resultants and deformations.
4	Upon completion of this course, the students would understand the effect of torsion on shafts and springs
5	Upon completion of this course, the students would understand to analyse a complex two dimensional state of stress and plane trusses
COs	CE6303 MECHANICS OF FLUIDS
1	At the end of the course, The students will be able to get a basic knowledge of fluids in static, kinematic and dynamic equilibrium.
2	At the end of the course, the students will be able to apply basic knowledge to analyse the flow on pipes.
3	At the end of the course, the students will be able to analyse the characteristics of boundary layer.

4	At the end of the course, the students will be able to understand the studies of dimensional & non-dimensional parameters.
5	Upon successful completion of this course, the students will also gain the knowledge of the applicability of physical laws in addressing problems in hydraulics
COs	CE6304 SURVEYING I
1	Students would have gained a clear knowledge on fundamentals of chain surveying.
2	Students would have a clear understanding on working and uses of Compass and Plane table surveying.
3	Students can use all surveying equipments.
4	They would have gained knowledge to prepare LS & CS, contour maps.
5	They can carry out surveying works related to land and civil engineering projects
COs	CE6311 SURVEY PRACTICAL I
1	Students completing this course would have acquired practical knowledge on handling basic survey instruments
2	Students can gain practical knowledge about the development of contour map of given area.
3	They can also gain experience to work with levelling instruments.
4	They would have gained knowledge to prepare LS & CS.
5	They can carry out surveying works related to land and civil engineering projects
COs	CE6312 COMPUTER AIDED BUILDING DRAWING
1	At the end of this course, students will be able to draft the plan, elevation and sectional views of the buildings, industrial structures, and framed buildings using computer softwares.
2	They will gain the knowledge to draft the different types of roof structures.
3	They would have gain knowledge about the building information modelling.
4	Students can learn to draft the building in accordance with development and Control rules as per National Building code.
5	Students will know about the principles of planning, orientation and complete joinery details.

Semester IV

	Course Outcome
Cos	MA6459 NUMERICAL METHODS
1	The students to have a clear perception of the power of statistical techniques and ideas.
2	Ability to demonstrate the applications of these techniques to problems drawn from industry.
3	Ability to demonstrate the applications of these techniques to problems drawn from management.
4	Ability to demonstrate the applications of these techniques to problems drawn from other engineering fields.
5	The students to have a clear perception of the power of numerical techniques and ideas.
Cos	CE6401 CONSTRUCTION MATERIALS
1	From this course the students learnt about the common building materials and advanced building materials.
2	This course helps the students to compare the properties of most common and advanced building materials.
3	The students will be useful to understand the typical and potential applications of these materials
4	The students will understand the relationship between material properties and structural form
5	This course enables the students to understand the importance of experimental verification of material properties.
COs	CE6402 STRENGTH OF MATERIALS
1	At the end of this course, students will have thorough knowledge in analysis of indeterminate beams.
2	At the end of this course, the student would have the ability to assess the behavior of columns, beams and failure of materials.
3	They will gain knowledge to use of energy method for estimating the slope and deflections of beams and trusses.

4	They also learnt about the behavior of unsymmetrical and symmetrical sections.
5	Students can gain knowledge about the three dimensional stresses and its behavior on symmetrical and unsymmetrical sections.
COs	CE6403APPLIED HYDRAULIC ENGINEERING
1	Upon successful completion of this course, The students will be able to apply their knowledge of fluid mechanics in addressing problems in open channels
2	Upon successful completion of this course, the students will possess the skills to solve problems in uniform, gradually and rapidly varied flows In steady state conditions.
3	Students can learnt to apply the energy equation for RVF
4	At the end of this course, the students will possess skills to determine the critical depth and velocity of critical and subcritical flow.
5	Upon successful completion of this course, the students will have knowledge in hydraulic machineries (pumps and turbines).
COs	CE6404SURVEYING II
1	Upon successful completion of this course, the students will understand the advantages of electronic surveying over conventional surveying methods
2	Upon successful completion of this course, the students will Understand the working principle of GPS, its components, signal structure, and error sources
3	Upon successful completion of this course, the students will Understand various GPS surveying methods and processing techniques used in GPS observations
4	The students would have knowledge about the features and working principles of total station.
5	At the end of this course, they acquire skills to deals with the geodetic measurements and control survey methodology and its adjustments.
COs	CE6405SOIL MECHANICS
1	Upon completion of the course, graduates will have the ability to determine Index properties and classify the soil.
2	Upon completion of this course, graduates know to determine engineering properties through standard tests and empirical correction with index properties

3	They acquire knowledge on behavior and the performance of saturated soil.
4	At the end of this course student attains adequate knowledge in assessing both physical and engineering behavior of soils.
5	At the end of this course student attains adequate knowledge in assessing mechanism of stress transfer in two-phase systems and stability analysis of slopes.
COs	CE6411STRENGTH OF MATERIALS LABORATORY
1	Upon completion of this practical course, The students will have the required knowledge in the area of testing of materials and components of structural elements experimentally.
2	Upon completion of this practical course, The students will have the knowledge to test the materials under the action of different forces.
3	At the end of this course, the students would have knowledge to determine the characteristics of materials experimentally.
4	Upon completion of this practical course, the students will have knowledge to make the soil test reports.
5	At the end of this course, the students would have knowledge to handle the various experiments.
COs	CE6412HYDRAULIC ENGINEERING LABORATORY
1	This practical course enables the students to measure flow in pipes and determine frictional losses.
2	The students would gain experience to develop characteristics of pumps and turbines.
3	This practical course enables the Students should to verify the principles studied in theory by performing the experiments in lab.
4	At the end of this course enables the students to handle the various experiments like Venturimeter, orifice meter and Bernoulli's experiment.
5	Also they can assess the flow through pipes and determination of characteristics of various types of pumps.
CE6413	SURVEY PRACTICAL II
1.	Upon completion of this course , Students would have acquired practical knowledge on handling survey instruments like Theodolite, Tachometer and Total station
2.	The students would have adequate knowledge to carryout Triangulation and Astronomical surveying including general field marking.
3	They acquire knowledge to handle various engineering projects and curves setting.
4	The students would have knowledge to observe azimuth, foundation marking, simple and transmission curves.

5	The students would have adequate knowledge to do field work using Total Station.
---	--

Semester V

Course Outcome	
COs	CE6501STRUCTURAL ANALYSIS I
1	Upon completion of this course, students will be able to analysis trusses, frames and arches
2.	Upon completion of this course, students will be able to analyse structures for moving loads
3.	Upon completion of this course, students will be able to conversant with classical methods of analysis.
4	At the end of this course they will be able to understand the basic theory and the concepts of structural analysis.
5	Also they will have knowledge to the classical methods for the analysis of buildings.
COs	CE6502FOUNDATION ENGINEERING
1	At the end of this course, they will have knowledge on common method of subsoil investigation.
2	At the end of this course student acquires the capacity to investigate the soil Condition.
3	Also the will have knowledge to select the foundation and design a suitable foundation.
4	Upon completion of course, graduates will have the ability to select type of foundation required for the soil at a place
5	Upon completion of course, graduates will be able to design shallow, foundation, deep foundation and retaining structures.
COs	CE6503ENVIRONMENTAL ENGINEERING I
1	This course gives the knowledge to make the students conversant with principles of water supply, treatment and distribution.
2	Also this course will gives the students to well-known method of water treatment and advanced water treatment.
3	Upon completion of this course, the students will understand an insight into

	the structure of drinking water supply systems, including water transport, treatment and distribution
4	Upon completion of this course, the students will have an understanding of water quality criteria and standards, and their relation to public health
5	Upon completion of this course, the students will have the ability to design and evaluate water supply project alternatives on basis of chosen selection criteria
COs	CE6504HIGHWAY ENGINEERING
1	Upon the course completion, the students will get the knowledge to know the basic concepts of highway planning, alignment and geodetic design of highways.
2	At the end of this course, the students will get the knowledge to know the types of pavements and design consideration of pavements.
3	Also the acquire knowledge about the highway construction materials and its characteristics.
4	By the end of this course, students would have acquired knowledge on planning, design, construction of highway as per IRC standards.
5	By the end of this course, students should be able to understand themaintenance of highways as per IRC standards and other methods.
COs	CE6505 DESIGN OF REINFORCED CONCRETE ELEMENTS
1	Upon this course completion, the students will understand the different types of philosophies related to design of basic structural elements.
2	At the end of this course, the students will know about the uses of Indian standard code books in designing of structural elements.
3	They acquire knowledge about the limit state design of beams, columns and footings.
4	Also they will get the required knowledge to design the bond, anchorage, shear & torsion.
5	At the end of this course, the student shall be in a position to design the basic elements of reinforced concrete structures.
COs	CE6506CONSTRUCTION TECHNIQUES, EQUIPMENT AND PRACTICE
1	The students will be able to understand the various construction techniques, practices.
2	Also they will be able to understand the equipments needed for different types of construction activities.
3	At the end of this course the student shall have a reasonable knowledge about the various construction procedures for sub to super structure and also

	the equipment needed for construction of various types of structures from foundation to super structure.
4	The knowledge gained in this course would be used to understand different construction techniques, practices and equipments.
5	The students will be able to plan the requirements for substructure and superstructure a construction.
COs	GE6674COMMUNICATION AND SOFT SKILLS- LABORATORY BASED
1	At the end of the course, learners should be able toTake international examination such as IELTS and TOEFL.
2	At the end of the course, learners should be able to Make presentations and Participate in Group Discussions
3	At the end of the course, learners should be able to Successfully answer questions in interviews
4	At the end of this course, the students can enhance their personality.
5	Also they can Strengthen their prospects of success in competitive examinations.
COs	CE6511SOIL MECHANICS LABORATORY
1	Upon completion of the course, graduates will have the ability to determine Index properties and classify the soil.
2	Upon completion of this course, graduates know to determine engineering properties through standard tests and empirical correction with index properties
3	They acquire knowledge on behavior and the performance of saturated soil.
4	At the end of this course,Students know the techniques to determine index properties.
5	Also they can determine the engineering properties such as shear strength, compressibility and permeability by conducting appropriate tests.
COs	CE6512SURVEY CAMP
1	This course will give knowledge about the surveying the points of inaccessible.
2	This course will give the practical knowledge to do the triangulation by the total station.
3	This course will give the practical knowledge to do the trilateration by the total station.

4	This course will give the practical knowledge to do the Rectangulation by the total station.
5	At the end of this camp, the students becomes well versed in handling the total station.

Semester VI

	Course Outcome
COs	CE6601DESIGN OF REINFORCED CONCRETE & BRICK MASONRY STRUCTURES
1	At the end of this course, the students will have the detailed knowledge about the types, characteristics, factors, and design of retaining walls.
2	The students will get required knowledge in designing of various types of water tanks.
3	The students also can get the clear knowledge about the design of staircases, flat slabs, mat foundation.
4	The students also can get the knowledge in applying the yield line theory to determine the collapse load and plastic moment of various shapes of slabs.
5	Upon completion of this course, The student shall have a comprehensive design knowledge related to various structural systems.
COs	CE6602STRUCTURAL ANALYSIS II
1	At the end of this course, the students would have the knowledge in advanced methods to analyse the matrix methods such as flexibility and stiffness matrix methods.
2	The students will have the knowledge about the methods used for analyzing the plastic structures.
3	The students will get the knowledge about the advanced analysis method of Finite Element Method.
4	Also they will have better knowledge about the method of analyzing space and cable structures.
5	The students after completing the course will have the knowledge on advanced methods of analysis of structures including space and cable structures.
COs	CE6603DESIGN OF STEEL STRUCTURES
1	The students will know the forces acting on the structural elements of steel structures.
2	They will have the ability to design the tension and compression members.

3	Also they would have detailed knowledge to design the structural elements for beams, roof trusses and industrial structures.
4	The students after completing this course would have knowledge on the design of structural steel members subjected to compressive, tensile and bending forces, as per current code (IS 800 -2007)
5	The students would also know to design structural systems such as roof trusses and gantry girders.
COs	CE6604RAILWAYS, AIRPORTS AND HARBOUR ENGINEERING
1	The students will have good knowledge about the basic systems of railway planning, geometric design of railways, construction and maintenance.
2	At the end of this course the students will have the knowledge classification , planning , site selection of airport, etc.
3	The students can able to design the components of airport such as runway, catchment area, parking and circulation area.
4	At the end of this course, the students can get the detailed knowledge about the basic components of harbor, its importance and design.
5	On completing the course, the students will have the ability to Plan and Design various civil Engineering aspects of Railways, Airports and Harbor.
COs	CE6605ENVIRONMENTAL ENGINEERING II
1	By this course, the students can enhance their knowledge by knowing the principle and design of sewage collection and conveyance.
2	The students also will have the knowledge about primary and secondary treatment of sewage and disposal.
3	The students completing the course will have ability to estimate sewage generation and design sewer system including sewage pumping stations
4	The students completing the course will have required understanding on the characteristics and composition of sewage, self-purification of streams
5	The students completing the course will have ability to perform basic design of the unit operations and processes that are used in sewage treatment
COs	CE6005 Construction Planning And Scheduling(elective for 2014-18 batch)
1	The student should be able to plan construction projects, schedule the activities using network diagrams.
2	They would have the knowledge to determine the cost of the project, and control the cost of the project by creating cash flows.

3	Also they would have the ability to do budgeting and to use the project information as decision making tool.	SE ME STE R VII
4	They would have the knowledge about safety during construction, and the principles of quality control.	
5	They will get required knowledge about Organizing information in databases and Other conceptual Models of Databases.	
COs	CE6002 Concrete Technology(elective for 2013-17 batch)	
COs	CE6701STRUCTURAL DYNAMICS AND EARTHQUAKE ENGINEERING	
1	The student will possess the knowledge on properties of materials required for concrete tests on construction materials.	
2	The students will know about the procedures for making conventional and special concretes.	
3	The students would have the knowledge about the physical and chemical properties of various materials.	
4	They will have the knowledge on various techniques of concrete pouring used in onshore and off shore structures.	
5	They will be able to assess the repair and rehabilitation techniques.	
COs	CE6611ENVIRONMENTAL ENGINEERING LABORATORY	
1	The students will understand the procedure to make sampling.	
2	The students will get better knowledge about the preservation methods of sampling.	
3	Also get the knowledge about the significance of characterization of waste water.	
4	At the end of this practical course, the students will have the knowledge about the methods for treatability.	
5	The students completing the course will be able to characterize wastewater and conduct treatability studies	
COs	CE6612Concrete And Highway Engineering Laboratory	
1	The students can learnt the principle and procedure of testing on fresh and hardened concrete.	
2	They can get the knowledge about the testing of aggregates such as specific gravity, Gradation of Aggregate, Crushing Strength, Abrasion Value etc.	
3	The students will have the knowledge to handle the instruments used for testing of bitumen.	
4	At the end of this practical course, they can able to handle the instruments used for testing concrete and highway materials.	
5	Student knows the techniques to characterize various pavement materials through relevant tests.	

1	The students will have the knowledge about the dynamic loading and the dynamic Performance of the structures.
2	By this course, the students can get the knowledge about Different types of dynamic loading on structures.
3	The students can get the knowledge about the performance of structures under earthquake loading is also one of the focus of the course.
4	The students will able to design the structures for seismic loading as per code provisions.
5	At the end of the course, student will have the knowledge to analyse structures subjected to dynamic loading.
COs	CE6702PRESTRESSED CONCRETE STRUCTURES
1	Student shall have a knowledge on methods of prestressing and able to design various prestressed concrete structural elements.
2	The students would have knowledge in need for prestressing among the conventional method.
3	By this course, the students will have the knowledge about the methods, types and advantages of prestressing.
4	The students are also will get the knowledge about the design of prestressed Concrete structures subjected to flexure and shear.
5	Student shall have a knowledge on Analysis of Composite beams and continuous beams which is applied for the projects of bridges.
COs	CE6703WATER RESOURCES AND IRRIGATION ENGINEERING
1	The students will have knowledge and skills on Planning, design, operation and Management of reservoir system.
2	The students will gain knowledge on different methods of irrigation including canal irrigation.
3	They will get exposed different phases in Water Resources Management and National Water Policy.
4	The students will get required knowledge on Reservoir planning, Management.
5	At the end of this course, The students will get required knowledge economic analysis including Irrigation and Irrigation management practices.
COs	CE6704 ESTIMATION AND QUANTITY SURVEYING
1	The student shall be able to estimate the material quantities, prepare a bill of quantities, make specifications and prepare tender documents.

2	Upon successful completion of this course, Student shall be able to prepare value Estimates.
3	The students can get the ability to estimate the quantities of item of works involved in buildings, water supply and sanitary works, road works and irrigation works
4	The students will equipped with the ability to do rate analysis, valuation of properties.
5	The students also will have the ability to prepare the reports for estimation of various items.
COs	CE6711COMPUTER AIDED DESIGN AND DRAFTING LABORATORY
1	The students will get familiar about to analyse the different types of structures.
2	They will gain the knowledge to draft the different types of solid slabs and RCC Tee beam bridges.
3	They will get the knowledge about reinforcement detailing of RCC structures and drafting the design software.
4	Students can learn to draft the bridges in accordance with development and Control rules as per Indian Standard code.
5	At the end of the course the student acquires hands on experience in design and Preparation of structural drawings for concrete / steel structures normally encountered in Civil Engineering practice.
Cos	CE6712 DESIGN PROJECT
1	The students would have the knowledge about design and detailing of retaining wall , bridge structures, septic tank etc.
2	The students can improve their design capability.
3	This course conceives purely a design problem in any one of the disciplines of Civil Engineering; e.g., Design of an RC structure, Design of a waste water treatment plant, Design of a foundation system, Design of traffic intersection etc.
4	At the end of the course, they can attain detailed knowledge about the design calculations and set of drawings which follow the design.
5	On completion of the design project students will have a better experience in designing various design problems related to Civil Engineering.
COs	CE6006Traffic Engineering And Management
1	On completing this course, the Students will be able to Analyse traffic problems and plan for traffic systems various uses.
2	On completing this course, the Students will be able to Design Channels, Intersections, signals and parking arrangements
3	On completing this course, the Students will be able to Develop Traffic management Systems
4	The students will know the concept of traffic planning and characteristics.

5	The students would have the knowledge in traffic surveys, traffic design and visual aids.
Cos	EN6501 MUNICIPAL SOLID WASTE MANAGEMENT
1	Upon completion of this course, the students will be able to understand the nature and characteristics of municipal solid wastes
2	Upon completion of this course, the students will have the ability to plan waste minimization.
3	The students will be able to understand the regulatory requirements regarding municipal solid waste management
4	The students can be able to understand the principles of design storage, collection, transport, processing
5	The students will know detailed about the methodology used for disposal of municipal solid waste

Semester VIII

COs	MG6851 PRINCIPLES OF MANAGEMENT
1	Upon completion of the course, students will be able to have clear understanding of managerial functions like planning, organizing, staffing, leading & controlling
2.	Student shall have same basic knowledge on international aspect of management.
3	Students will be able to understand the concept of evolution of Management.
4	Student shall have same basic knowledge on functions and Principles of management.
5	They will learn the application of the principles in an organization.
COs	CE6016 PREFABRICATED STRUCTURES
1	The student shall be able to design some of the prefabricated elements
2	The students also have the knowledge of the construction methods in using these elements.
3	They will acquire the detailed knowledge about the design principles of joint flexibility, joint deformation etc.
4	They will be trained to design for abnormal loads in prefabricated structures according to the code provisions.
5	They are also trained to design joints in structural members according to the code provisions.
COs	CE6021 REPAIR AND REHABILITATION OF STRUCTURES

1	Students must gained knowledge on quality of concrete, durability aspects, causes of Deterioration. and demolition procedures.
2	They will be able to assess the distressed structures and repaired structures
3	They acquire knowledge in procedures for demolish the structures, safety regulations etc.
4	They would have knowledge about the characteristics of special concrete, its types and method pouring.
5	They also will have knowledge in techniques of repair and protection methods.
COs	CE6811PROJECT WORK
1	The student may develop a process of interest to achieve strategic goals
2	The student may develop skills to manage creative teams and project process effectively and efficiently
3.	The student may develop a leadership effectiveness in organizations
4.	The students may acquire concepts to address specific management needs
5.	The student may develop a tool to for the betterment of the society