KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 3rd
Course Outcomes
Course Name : Fluid Mechanics, Course Code : RCE 303

After completion of this course, the student will be able to

CO-1: Understand the broad principles of fluid statics, kinematics and dynamics
CO-2: Explain the basic terms of fluid mechanics
CO-3: Classify the fluid flow.
CO-4: Illustrate the continuity, momentum and energy principles
CO-5: Apply dimensional analysis

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	1	1	-	-	-	-	1	-	-	1	-	-
CO-2	3	2	-	-	-	-	-	-	1	-	-	1	-	-
CO-3	3	2	-	-	-	-	-	-	1	-	-	1	1	-
CO-4	3	3	2	2	-	-	-	-	1	-	-	1	2	-
CO-5	3	2	2	2	-	-	-	-	1	1	-	1	2	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 3rd

Course Outcomes

Course Name : Mechanics of Solid , Course Code : RME 303

After completion of this course, the student will be able to

CO-1: Explain the effect of applied load on solid body under various loading conditions.

CO-2: Calculate stresses and deflection in beams and shafts.

CO-3: Analyse spring and columns under various loading conditions.

CO-4: Analyse and design the pressure vessels.

CO-5: Analyse curved and unsymmetrical beams for stresses.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	1	1	-	-	-	-	1	-	-	1	2	2
CO-2	3	3	1	1	-	-	-	-	1	-	-	1	2	2
CO-3	3	3	1	1	-	-	-	-	1	-	-	1	2	2
CO-4	3	3	1	1	-	-	-	-	1	-	-	1	2	2
CO-5	3	3	1	1	-	-	-	-	1	-	-	1	2	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 3rd
Course Outcomes
Course Name : Surveying , Course Code : RCE 302

After completion of this course, the student will be able to

CO-1: Understand the need and principle of surveying and estimate errors in measurement and apply corrections
CO-2: Calculate distances, bearing, angles (horizontal and vertical) using different surveying instruments
CO-3: Understand the principle of Leveling & Tachometry and interpret the survey data for determining elevations (R.L.)
CO-4: Understand the principle of Traversing & Triangulation and compute traverse coordinates and omitted measurements
CO-5: Understand the use of curves in road / railway alignment and apply different methods of setting out of simple circular curve

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	1	1	-	-	-	-	1	-	-	1	-	2
CO-2	3	1	1	1	2	-	-	-	1	-	-	1	-	2
CO-3	3	1	1	1	2	-	-	-	1	-	-	1	-	2
CO-4	3	1	1	1	2	-	-	-	1	-	-	1	-	2
CO-5	3	1	1	1	2	-	-	-	1	-	-	1	3	3

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 3rd

Course Outcomes

Course Name :Human Values & Professional ethics, Course Code : RVE 301

After completion of this course, the student will be able to

CO-1: Understand the need, basic guidelines, content and process for Value Education with reference to Technical Education

CO-2: Understand Harmony in the Human Being - Harmony in Myself

CO-3: Understand Harmony in the Family and Society- Harmony in Human-Human Relationship

CO-4: Understand Harmony in the Nature and Existence - Whole existence as Co-existence

CO-5: Apply Holistic Understanding of Harmony on Professional Ethics

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-2	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-3	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-4	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-5	-	-	-	-	-	3	3	3	3	1	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 3rd
Course Outcomes
Course Name : Building Materials & Constructions , Course Code : RCE 301

After completion of this course, the student will be able to

CO-1: Identify various building materials and understand their basic properties.
CO-2: Access the various traditional and new building materials in the field of Civil engineeing construction.
CO-3: Analyse and select suitable type of flooring and roofing as per thier construction needs.
CO-4: Understand the concept of plastering, pointing and various other building services.
CO-5: Understand the various fire protection, sound and thermal insulation techniques and their application

CO-PO mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-2	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-3	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-4	-	-	-	-	-	3	3	3	3	1	-	2	-	-
CO-5	-	-	-	-	-	3	3	3	3	1	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 3rd
Course Outcomes
Course Name : Building Materials & Constructions lab , Course Code : RCE 351

After completion of this course, the student will be able to

CO-1 Determine the quality of bricks, cement, fine aggregate and coarse aggregate and its suitability for construction purpose.

CO-2 Design the mix, make the specimens and test the same for the strength for comparison with design strength.

CO-3 Develop ability to function as a member of a team to complete the assigned task

CO-PO mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	-	1	1	1	1	-	1	1	-	2	-	2
CO-2	3	2	2	2	2	1	1	-	1	1	-	2	-	2
CO-3	-	-	-	-	-	-	-	-	1	1	-	1	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 3rd

Course Outcomes

Course Name : Surveying lab , Course Code : RCE 352

After completion of this course, the student will be able to

CO-1 Identify and interpret the various symbols used on topographical maps.

CO-2 Demonstrate and handle various conventional surveying tools in Civil Engineering applications.

CO-3 Apply field data for plotting and adjustment of errors.

CO-4 Develop ability to function as a member of a team to complete the assigned task.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	-	-	-	-	-	-	-	1	1	-	-	-	-
CO-2	3	-	-	-	-	-	-	-	1	1	-	1	-	1
CO-3	3	-	2	-	2	-	-	-	1	1	-	1	-	2
CO-4	-	-	-	-	-	-	-	-	3	1	-	1	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 3rd
Course Outcomes
Course Name : Fluid Mechanics lab , Course Code : RCE 353

After completion of this course, the student will be able to

CO-1	Verify Bernaulli's Theorem & Momentum equation in pipe flow.
CO-2	Verify continuity equation and demonstrate flow visualisation in pipe flow.
CO-3	Verify the concept of buoyancy and determine –metacenter point.
CO-4	Illustrate the concept of wind tunnel.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	3	1	-	-	-	-	1	-	-	1	-	-
CO-2	3	2	3	1	-	-	-	-	1	-	-	1	-	-
CO-3	3	2	3	1	-	-	-	-	1	-	-	1	-	-
CO-4	3	2	3	1	2	-	-	-	1	-	-	1	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 3rd
Course Outcomes
Course Name : Mathematics III , Course Code : RAS 301

After completion of this course, the student will be able to

CO-1: Apply the concept of Laplace transform in solving real life problems.

CO-2: Evaluate the fourier integral of a function. They study the properties & applications of fourier transformation , also explore the Z transform of a given function to find the solution of difference equation.

CO-3: Learn the concept of Formal Logic ,Group and Rings to Rings to evaluate real life problems.

CO-4: Apply the concept of Set, Relation, function and Counting Techniques

CO-5: Apply the concept of Lattices and Boolean Algebra to create Logic Gates and Circuits, Truth Table, Boolean Functions.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	2	2	2	1	2	1	1	-	-	1	1	1
CO-2	3	3	3	2	1	1	2	1	1	-	-	-	1	1
CO-3	3	3	3	1	2	2	1	1	1	1	1	1	3	1
CO-4	3	2	3	1	1	2	2	2	1	1	1	1	3	1
CO-5	3	2	1	1	1	2	2	1	1	1	1	1	3	1

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DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 3rd

Course Outcomes

Course Name : CBSNT lab , Course Code : RCE 353

After completion of this course, the student will be able to

CO-1:	Write program to find inverse of a matrix, eigen values of matrix and for solving system of linear equations.
CO-2:	Write program for finding roots of equations by Newton-Raphson Method.
CO-3:	Write program of Gauss Forward and backward interpolation formula.
CO-4:	Write program for solving ordinary differential equations by RK4 methods and for one dimensional heat and fluid flow problem.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	2	2	2	-	-	-	2	-	-	2	-	-
CO-2	3	3	2	2	2	-	-	-	2	-	-	2	-	-
CO-3	3	3	2	2	2	-	-	-	2	-	-	2	-	-
CO-4	3	3	2	2	2	-	-	-	2	-	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Data Structures, Course Code : RCS405

After completion of this course, the student will be able to

CO1: Apply the knowledge of data structure concepts and the various algorithms while designing and developing software and some hardware.
CO2: Analyze the complexity and correctness of the new algorithms.
CO3: Choose the appropriate data structure and algorithm design method for a specified application.
CO4: Apply and implement learned algorithm design techniques and data structures to solve problems.
CO5: Understand and apply fundamental algorithmic problems including Tree traversals, Graph traversals, and shortest paths.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	3	3	-	-	1	-	-	-	1	2	-	-
CO-2	2	3	2	2	1	-	1	-	-	-	1	2	-	-
CO-3	2	2	3	3	1	-	1	-	-	-	1	2	1	-
CO-4	2	3	3	2	1	-	1	-	-	-	1	2	1	-
CO-5	3	3	3	3	1	-	1	-	-	-	1	2	1	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Environment & Ecology, Course Code : RAS402

After completion of this course, the student will be able to

CO1: Understand ecological relationships between organisms and their environment.
CO2: Understand the importance of natural resources as well as different sources of energy.
CO3: Understand about environmental pollutions and issues.
CO4: Understand the role of government and NGOs related to environmental protection and education.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	1	-	-	-	-	3	3	1	1	-	-	2	-	-
CO-2	1	-	-	-	-	3	3	1	1	-	-	2	-	-
CO-3	1	-	-	-	-	3	3	1	1	-	-	2	-	2
CO-4	1	-	-	-	-	3	3	3	1	-	2	2	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name : Geoinformatics, Course Code : RCE402

After completion of this course, the student will be able to

CO1: Understand concept of photogrammetric surveying and apply it in Aerial Photography.
CO2: Acquire the knowledge of remote sensing and apply its concepts.
CO3: Understand and apply Digital Image processing for analysis.
CO4: Apply principles of Geographic Information System in Civil engineering.
CO5: Apply GPS Survey techniques in Civil Engineering.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	2	3	1	1	-	1	-	-	2	-	-
CO-2	3	3	3	2	3	1	1	-	1	-	-	2	-	-
CO-3	3	3	3	3	3	1	1	-	1	-	-	2	-	-
CO-4	3	3	3	3	3	2	2	-	1	2	-	2	-	2
CO-5	3	3	3	3	3	3	1	-	1	2	-	2	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Hydraulics & Hydraulic Machines , Course Code : RCE401

After completion of this course, the student will be able to

CO1: Apply the governing equations of uniform flow in an open channel.
CO2: Apply energy depth relationships for gradually varied flow.
CO3: Apply the concept of Rapidly Varied Flow in Open Channel Flow.
CO4: Understand the working principle of Rotodynamic pumps and their operation.
CO5: Understand the working principle of Rotodynamic machines with their efficiencies.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	-	-	-	-	-	1	-	-	1	1	-
CO-2	3	3	3	-	-	-	-	-	1	-	-	1	2	-
CO-3	3	3	3	2	-	-	-	-	1	-	-	1	2	-
CO-4	3	3	3	2	-	-	-	-	1	-	-	1	1	1
CO-5	3	3	3	2	-	-	-	-	1	-	-	1	1	1

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name : Material Science , Course Code : ROE047

After completion of this course, the student will be able to

CO1: Understand the fundamental of atomic structure and imperfections along with the properties of ferrous and non-ferrous materials.
CO2: Associate the mechanical behavior of material under different types testing.
CO3: Analyze the microstructures properties and phase diagram of engineering materials.
CO4: Understand the methods of heat treatment to modify the properties of various ferrous and non-ferrous metals and their application.
CO5: Understand the properties and application of ceramic, plastic and composite materials.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	-	-	-	-	-	-	-	1	-	-	-	-	-
CO-2	3	-	-	-	-	-	-	-	1	-	-	-	2	2
CO-3	3	-	-	3	2	-	-	-	1	-	-	2	-	-
CO-4	3	-	-	2	2	1	2	-	1	-	-	2	-	2
CO-5	3	-	-	-	2	1	3	-	1	-	-	2	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Structure Analysis , Course Code : RCE403

After completion of this course, the student will be able to

CO1: Understand type of structures and method of analysis of force and stresses induced in the structures.
CO2: Understand type of trusses and method of analysis of force and stresses induced in the trusses.
CO3: Apply strain energy concept and its theorems and introduction of various methods to calculate slope and deflection of determinate structures.
CO4: Apply the concept of moving loads and influence lines on beams and trusses and variations in bending moment and shear force at different sections.
CO5: Analyse determinate arches for different loading conditions

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	1	-	-	-	-	-	1	-	-	1	3	-
CO-2	3	3	1	-	-	-	-	-	1	-	-	1	3	-
CO-3	3	3	1	-	-	-	-	-	1	-	-	1	3	-
CO-4	3	3	1	-	-	-	-	-	1	-	-	1	3	-
CO-5	3	3	1	-	-	-	-	-	1	-	-	1	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Department of Civil Engineering
KIET Group Of Institutions, Ghaziabad
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Hydraulics & Hydraulic Machines Lab , Course Code : RCE455

After completion of this course, the student will be able to

CO1: Measure various open channel flow parameters.
CO2: Demonstrate working of hydraulic machines (Pumps and Turbines)
CO3: Calibrate the flow through weirs and notches.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	-	1	-	-	-	-	2	-	-	1	2	-
CO-2	3	1	-	1	-	-	-	-	2	-	-	1	-	2
CO-3	3	1	-	1	-	-	-	-	2	-	-	1	2	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Structure analysis Lab , Course Code : RCE453

After completion of this course, the student will be able to

CO1: Verify the deflection in different structural members.
CO2: Understand the behavior of arches and plotting of Influence Line Diagram.
CO3: Evaluate Critical load in Struts with different end conditions.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	-	-	-	-	-	1	-	-	1	3	-
CO-2	3	3	3	-	-	-	-	-	1	-	-	1	3	-
CO-3	3	3	3	-	-	-	-	-	1	-	-	1	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name :Building Planning & Drawing Lab , Course Code : RCE454

After completion of this course, the student will be able to

CO1: Apply the principles of planning and bye-laws (National building code) used for building planning
CO2: Develop the plan, elevation and sectional views of the buildings using AutoCAD software.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	1	-	1	-	-	2	1	3	1	1	-	1	-	3
CO-2	1	-	1	-	3	1	-	-	2	2	-	3	-	3

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 4th
Course Outcomes
Course Name : Geoinformatics Lab , Course Code : RCE452

After completion of this course, the student will be able to

CO1: Measure distances, horizontal & vertical angles and coordinates using total station.
CO2: Use various functions of total station such as REM, MLM and measurement of area of a land parcel.
CO3: Create 3-d view of a stereo-pair of aerial photographs with mirror stereoscope.
CO4: Interpret digital image using FCC (False colour composite).
CO5: Measure coordinates using GPS and understand digitization using GIS.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	-	3	1	1	-	1	-	-	2	-	2
CO-2	3	3	3	2	3	1	1	-	1	-	-	2	-	2
CO-3	3	3	3	-	3	1	1	-	1	-	-	2	-	-
CO-4	3	3	3	2	3	1	1	-	1	-	-	2	-	-
CO-5	3	3	3	-	3	1	1	-	1	-	-	2	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 5th

Course Outcomes

Course Name : Geotechnical Engineering , Course Code : RCE 501

After completion of this course, the student will be able to

CO-1: Classify the soil and determine its Index properties

CO-2: Evaluate permeability and seepage properties of soil

CO-3: Interpret the compaction and consolidation characteristics & effective stress concept of soil

CO-4: Determine the shear strength, earth pressure and slope stability of soil

CO-5: Analyse bearing capacity and settlement characteristics of soil for shallow and deep foundation

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	1	1	-	1	1	-	2	1	_	2	-	-
CO-2	3	3	2	2	-	1	1	-	-	1	_	1	1	-
CO-3	3	3	2	2	-	1	1	-	-	1	_	1	1	1
CO-4	3	3	2	2	-	1	1	-	-	1	_	1	2	-
CO-5	3	3	3	3	-	1	1	-	-	1	_	1	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 5th
Course Outcomes
Course Name : Managerial Economics, Course Code : RAS 501

After completion of this course, the student will be able to

CO 1: Explain meaning, definition and scope of engineering economics, demand and supply.

CO2: Explain the concept and characteristics of supply, demand forecasting and performance measures.

CO 3: Describe the various forms of cost and return to scale.

CO 4: Appraise market structures and propose management decisions based on features of different market structures.

CO5: Analyse features of Indian Economy and various concepts of National Income.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	2	1	2	1	2	3	-	1	1	1	1	-	-
CO-2	2	2	1	2	2	2	1	-	2	1	3	-	-	-
CO-3	3	2	1	2	2	2	2	1	-	1	3	2	-	-
CO-4	2	2	1	2	2	2	2	-	1	1	1	-	-	-
CO-5	2	1	1	2	2	1	2	-	-	1	3	1	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 5th
Course Outcomes
Course Name : Quantity Estimation & Management, Course Code : RCE 503

After completion of this course, the student will be able to

CO 1: Understand the importance of units of measurement and preliminary estimate for administrative approval of projects.

CO 2: Understand the contracts and tender documents in construction projects.

CO 3: Analyse and assess the quantity of materials required for civil engineering works as per specifications.
CO 4: Evaluate and estimate the cost of expenditure and prepare a detailed rate analysis report.

CO 5: Analyse and choose cost effective approach for civil engineering projects.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	2	1	-	-	1	1	1	1	2	-	2
CO-2	-	1	-	1	-	-	-	1	1	1	1	2	-	2
CO-3	2	2	3	3	1	-	-	1	1	1	1	2	-	2
CO-4	3	3	2	3	1	-	-	-	1	1	2	1	-	2
CO-5	3	3	2	2	2	-	-	-	1	1	3	1	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 5th

Course Outcomes

Course Name :Design of Structures I , Course Code : RCE 502

After completion of this course, the student will be able to

CO1. Analyse the structure by suitable methods to calculate unknown forces, slope and deflection.
CO2. Apply influence line principles for analysis of indeterminate beams and arches.
CO3. Analyse and design cable structure using influence line diagram.
CO4. Apply basics of force and stiffness methods of matrix analysis for beams, frames and trusses.
CO5. Apply the concepts of plastic analysis to analyse the structure by using different mechanism.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	-	1	-	-	-	-	1	-	-	2	3	-
CO-2	3	3	2	1	-	-	-	-	1	-	-	2	2	-
CO-3	3	3	3	2	-	-	-	-	1	-	-	2	2	-
CO-4	3	3	2	2	-	-	-	-	1	-	-	2	3	-
CO-5	3	3	1	2	-	-	-	-	1	-	-	2	1	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 5th

Course Outcomes

Course Name :Geotechnical Engineering lab, Course Code : RCE 551

After completion of this course, the student will be able to

CO-1: Determine index properties of soil sample.
CO-2: Classify the soils on the basis of Indian standard
CO-3: Determine permeability and compaction characteristics of soil.
CO-4: Estimate shear strength parameters of soil samples.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	1	2	-	-	-	-	1	1	-	2	-	-
CO-2	3	1	1	2	-	-	-	-	1	1	-	2	-	-
CO-3	3	1	3	2	-	-	-	-	1	2	-	2	-	-
CO-4	3	1	3	3	-	-	-	-	1	2	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 5th
Course Outcomes
Course Name :Construction management lab, Course Code : RCE 553

After completion of this course, the student will be able to

CO 1: Estimate the quantities of work and material for construction for Building/ Septic tank/Water supply pipe line/road/bridge.
CO 2: Prepare of Bill of Quantities (BOQ) for given project.
CO 3: Apply software tools for estimation of quantities and preparation of BOQ.
CO 4: Prepare tender document for any given project work.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	1	-	1	1	-	-	1	1	2	3	2	-	3
CO-2	2	1	-	1	2	-	-	2	1	2	3	1	-	3
CO-3	2	2	-	1	3	-	-	1	2	1	2	1	-	3
CO-4	2	2	-	-	-	-	-	-	-	-	-	-	-	3

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 5th

Course Outcomes

Course Name :Concrete Technology lab, Course Code : RCE 554

After completion of this course, the student will be able to

CO1: Evaluate the properties of constituent material of concrete.
CO2: Investigate quality parameters of fresh & hardened concrete.
CO3: Design the concrete mix for desired strength.
CO4: Evaluate strength of concrete using Non-Destructive methods.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	2	-	-	-	-	1	1	1	-	1	-	2
CO-2	3	2	3	2	2	-	-	-	1	1	-	1	-	2
CO-3	3	2	3	2	-	-	-	-	1	1	-	1	-	2
CO-4	3	2	-	3	3	1	3	-	1	1	-	1	2	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 5th
Course Outcomes
Course Name :Cad lab- 1 , Course Code : RCE 552

After completion of this course, the student will be able to

CO1: Understand latest software tools in analysis and design of civil engineering structures
CO2: Apply software tools for structural analysis and design
CO3: Work on Geotechnical Software.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	1	1	3	-	-	-	2	2	-	2	-	-
CO-2	3	3	3	3	3	-	-	2	2	2	-	2	3	-
CO-3	3	3	3	3	3	-	-	2	2	2	-	2	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 5th
Course Outcomes
Course Name : Cyber security, Course Code : RUC-501

After completion of this course, the student will be able to

CO 1 : Understand the need of information system and security risks
CO 2 : Understand security risk and preventive tools in information system
CO 3 : Develop Secure Information Systems and assuring risk governance
CO 4 : Identify the need of Security Policies in emerging technologies
CO 5 : Understand Information Security Standards and Acts

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	-	-	-	1	-	-	1	-	-	2	-	-
CO-2	3	2	3	3	3	1	-	-	1	-	-	2	-	-
CO-3	3	3	3	3	3	2	2	3	3	2	2	2	-	-
CO-4	1	-	-	-	2	2	-	2	1	-	-	2	-	-
CO-5	1	-	-	-	-	-	-	2	1	-	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 5th
Course Outcomes
Course Name : Concrete Technology , Course Code : RCE-052

After completion of this course, the student will be able to

CO 1 : Understand the properties of constituent material of concrete.
CO 2 : Apply admixtures to enhance the properties of concrete.
CO 3 : Design the concrete mix for various strengths using difference methods.
CO4: Evaluate the strength and durability parameters of concrete.
CO 5 : Use advanced concrete types in construction industry.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	-	-	2	-	-	-	-	1	-	-	1	-	3
CO-2	3	-	1	2	2	2	2	1	1	-	-	2	-	3
CO-3	3	3	3	3	2	2	2	2	1	2	-	1	3	3
CO-4	3	3	2	2	3	-	-	-	1	-	-	1	2	3
CO-5	3	1	-	-	1	2	2	1	1	-	2	2	-	3

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Transportation Engineering, Course Code : RCE 603

After completion of this course, the student will be able to

CO-1: Explain the development of roads, their alignment & conduct survey.
CO-2: Design the various geometric parameters of road.
CO-3: Assess the traffic characteristics & design the road intersections & signals.
CO-4: Examine the properties of highway materials & their application.
CO-5: Apply methods to construct various types of roads.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	2	2	1	-	-	1	1	-	1	1	-	-	-	-
CO-2	3	3	3	2	-	1	2	2	1	2	-	-	-	-
CO-3	3	3	3	2	-	1	2	2	1	2	-	-	-	-
CO-4	3	2	2	1	-	1	2	-	1	1	-	-	-	-
CO-5	3	2	1	-	-	2	2	-	1	-	-	-	-	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name: Transportation Engineering Lab, Course Code : RCE 653

After completion of this course, the student will be able to

CO-1: Determine properties of aggregates and assess its suitability in construction for transportation infrastructure.
CO-2: Determine properties of bitumen and check its suitability for pavement construction.
CO-3: Investigate traffic and speed study on highway.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	2	-	-	-	1	-	-	1	2	-	-	-	-
CO-2	3	2	-	-	-	1	-	-	1	2	-	-	-	-
CO-3	3	3	-	2	3	1	-	-	1	2	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Structure Detailing Lab, Course Code : RCE 654

After completion of this course, the student will be able to

CO-1: Apply latest software tools for structural drafting and detailing of building components
CO-2: Create bar bending schedule for structural components of a building
CO-3: Understand full set of structural drawing of a building

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	1	-	-	3	-	-	1	1	2	-	2	2	-
CO-2	3	1	-	-	3	-	-	1	1	2	-	1	2	-
CO-3	3	-	-	-	-	-	-	-	2	1	-	1	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Sociology, Course Code : RAS 602

After completion of this course, the student will be able to

CO-1: Understand Nature, Scope and Importance of Industrial Sociology.
CO-2: Understand Industrial System and various Aspects of Industrialization.
CO-3: Understand Industrial Policies and Regulations of India.
CO-4: Explain contemporary issues in industrial sociology.
CO-5: Apply models of industrialization in context with social and cultural issues.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	-	-	-	-	-	3	1	-	3	-	2	1	-	-
CO-2	1	-	-	-	-	3	1	-	3	-	2	1	-	-
CO-3	-	-	-	-	-	3	1	-	3	-	-	2	-	-
CO-4	-	-	-	-	-	3	1	-	3	-	2	2	-	-
CO-5	-	-	-	-	-	3	1	-	3	2	-	3	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Industrial Management, Course Code : RAS 601

After completion of this course, the student will be able to

CO-1: Understand the Concept and scope of Industrial management and productivity.
CO-2: Understand theories and principles of modern management.
CO-3: Apply the concept of work-study and Inventory control to achieve organizational goals.
CO-4: Apply the quality control techniques in industrial management.
CO-5: Apply the concept of project management tools for industrial projects.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	1	-	-	-	-	1	-	1	1	-	1	2	-	-
CO-2	2	-	-	-	-	2	2	1	1	-	1	2	-	-
CO-3	2	2	2	3	2	-	-	-	2	2	3	1	-	-
CO-4	2	2	3	3	2	1	-	-	2	2	3	1	-	-
CO-5	2	2	3	3	2	-	-	-	3	2	3	1	-	-

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Foundation Design, Course Code : RCE 061

After completion of this course, the student will be able to

CO-1: Apply the process of soil exploration using various methods.
CO-2: Analyse bearing capacity and settlement of soil for shallow foundation.
CO-3: Design the various types of shallow and deep foundation.
CO-4: Understand the characteristics of well foundations and retaining wall.
CO-5: Understand the concept of soil reinforcement.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	**3**	**2**	**-**	**2**	**1**	**1**	**-**	**-**	**1**	**-**	**-**	**1**	-	-
CO-2	**3**	**3**	**2**	**-**	**3**	**-**	**-**	**-**	**1**	**-**	**-**	**-**	2	-
CO-3	**3**	**3**	**3**	**-**	**-**	**-**	**-**	**-**	**1**	**2**	**-**	**-**	2	-
CO-4	**3**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**-**	-	-
CO-5	**3**	**2**	**-**	**-**	**-**	**-**	**2**	**-**	**1**	**-**	**-**	**2**	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Environmental Engineering, Course Code : RCE 602

After completion of this course, the student will be able to

CO-1: Assess water demand and optimal size of water mains.
CO-2: Design the distribution system & assess the capacity of reservoir.
CO-3: Determine physical, chemical & biological parameter of water.
CO-4: Design treatment units for water and waste water.
CO-5: Apply emerging technologies for treatment of waste water.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	3	3	3	2	3	3	1	2	1	-	1	-	-
CO-2	3	3	3	3	2	2	3	1	2	1	-	1	-	-
CO-3	3	3	1	1	1	3	3	3	2	1	-	1	-	-
CO-4	3	3	3	3	3	3	3	2	3	1	-	1	-	-
CO-5	3	3	3	3	3	3	3	3	2	1	-	3	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Environmental Engineering Lab, Course Code : RCE 652

After completion of this course, the student will be able to

CO-1: Measure and compare the physical, chemical and biological properties of water & waste water.
CO-2: Measure the level of air pollution (Particulate Matter) and noise pollution.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	2	2	1	3	3	3	2	1	1	-	2	-	-
CO-2	3	3	2	1	1	3	3	2	1	1	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Cyber Security, Course Code : RUC 601

After completion of this course, the student will be able to

CO-1: Understand the need of information system and security risks.
CO-2: Understand security risk and preventive tools in information system.
CO-3: Develop Secure Information Systems and assuring risk governance.
CO-4: Identify the need of Security Policies in emerging technologies.
CO-5: Understand Information Security Standards and Acts.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	1	-	-	-	1	-	-	1	-	-	2	-	-
CO-2	3	2	3	3	3	1	-	-	1	-	-	2	-	-
CO-3	3	3	3	3	3	2	2	3	3	2	2	2	-	-
CO-4	1	-	-	-	2	2	-	2	1	-	-	2	-	-
CO-5	1	-	-	-	-	-	-	2	1	-	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : CAD Lab - 2, Course Code : RCE 651

After completion of this course, the student will be able to

CO-1: Apply GIS software for georeferencing, digitizing and interpreting satellite images.
CO-2: Apply software tools for analysis and design of water distribution system.
CO3: Apply software tools for numerical solution to geotechnical engineering problems.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	3	1	3	3	1	2	-	1	1	-	2	-	-
CO-2	3	3	3	3	3	2	-	-	1	1	-	2	-	-
CO-3	3	3	3	3	3	-	-	-	1	1	-	2	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 6th
Course Outcomes
Course Name : Design of Structures II, Course Code : RCE 601

After completion of this course, the student will be able to

CO-1: Design RCC beams for flexure by IS methods.
CO-2: Design RCC beams for shear by IS methods.
CO-3: Design RCC slabs and staircase by IS methods.
CO-4: Design the RCC compression members by IS methods.
CO-5: Design various types of footings and cantilever retaining wall.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1 (PO-13)	PSO-2 (PO-14)
CO-1	3	3	3	2	2	1	-	2	1	1	-	2	2	-
CO-2	3	3	3	2	2	1	-	2	1	1	-	2	2	-
CO-3	3	3	3	2	2	1	-	2	1	1	-	2	2	-
CO-4	3	3	3	2	2	1	-	2	1	1	-	3	2	-
CO-5	3	3	3	2	2	1	-	2	1	1	-	2	2	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)

Academic Session : 2018 - 2019 Semester : 7th

Course Outcomes

Course Name : Engineering Hydrology, Course Code : NCE035

After completion of this course, the student will be able to

CO-1: Understand hydrological cycle and various analyzing techniques
CO-2: Measure and estimate the precipitation and abstraction.
CO-3: Plot the Hydrographs and analyze the runoff characteristics
CO-4: Understand the concept of flood and apply the flood routing techniques.
CO-5: Understand and apply various principles involved in groundwater modelling and well hydraulics.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	1	1	1	-	-	1	2	-	-	-	-	-	-	-
CO-2	1	1	1	-	-	2	2	-	-	1	-	-	-	-
CO-3	2	2	3	1	-	2	2	-	-	1	1	-	-	-
CO-4	2	3	3	2	-	2	-	-	-	1	1	1	-	2
CO-5	1	1	1	1	-	1	1	-	-	1	-	-	2	2

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Plastic analysis of structures, Course Code : NCE042

After completion of this course, the student will be able to

CO-1: Understand the basic concepts of plastic behavior of structure.
CO-2: Apply the different methods of plastic analysis.
CO-3: Analyze the beams and frames for plastic failure.
CO-4: Apply the concepts of Plastic analysis in analysis of multistoried and multi bay frames.
CO-5: Analyze the structures for deflection at collapse.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	1	1	-	-	-	-	1	-	-	1	-	-
CO-2	3	3	3	2	-	-	-	-	1	-	-	1	3	-
CO-3	3	3	2	2	-	-	-	-	1	-	-	1	3	-
CO-4	3	3	3	2	-	-	-	-	1	-	-	1	3	-
CO-5	3	3	2	2	-	-	-	-	1	-	-	1	3	-

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DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Quality Management, Course Code : NOE 072

After completion of this course, the student will be able to

CO-1: Understand and apply quality concept in design and manufacturing.
CO-2: Understand different functions of organization and access human factors involved in it.
CO-3: Use different types of control charts and various attributes to analyze the problems regarding quality management.
CO-4: Use the concept of defects in quality management.
CO-5: Apply quality assurance methods like ISO-9000, Taguchi method and JIT method.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	-	-	2	-	-	1	1	2	2	1	-	2	2	2
CO-2	-	-	-	-	-	2	1	2	2	1	-	2	-	-
CO-3	-	3	3	2	3	-	1	2	2	1	2	2	-	3
CO-4	-	1	-	-	2	-	1	2	2	1	-	2	-	-
CO-5	-	1	-	-	3	2	1	3	2	1	2	3	-	2

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(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Water Resource Engineering, Course Code : NCE702

After completion of this course, the student will be able to

CO-1: Describe the components of hydrological cycle, evaporation process and consumptive use.
CO-2: Apply the knowledge of stream flow measurement techniques and hydrograph theory for computation of run off.
CO-3: Design different types of irrigation channels and water logging preventive measures.
CO-4: Design the regulatory and control systems of canal and irrigation outlets.
CO-5: Apply the knowledge of ground water hydrology and determination of discharge through wells.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	2	1	-	-	1	-	-	-	-	-	-	-
CO-2	3	3	1	2	-	-	1	-	1	-	-	1	2	2
CO-3	3	3	3	2	-	-	2	-	1	-	-	1	3	-
CO-4	3	3	3	2	-	-	2	-	1	-	-	-	3	-
CO-5	3	3	3	1	1	1	1	-	1	-	-	1	3	3

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DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Seminar, Course Code : NCE751

After completion of this course, the student will be able to

CO-1: Identify, understand and discuss current, real-world issues.
CO-2: Acquire, understand and convey intended meaning of chosen topic using verbal and non-verbal method of communication.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	2	-	-	2	1	2	1	2	2	-	2	-	-
CO-2	2	2	-	-	2	1	2	1	3	3	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Design of Steel Structures, Course Code : NCE701

After completion of this course, the student will be able to

CO-1: Understand properties of steel and types of loads acting on steel structures.
CO-2: Design welded and bolted type of connections for elementary steel structures.
CO-3: Design tension members for elementary steel structures.
CO-4: Design compression members such as simple columns, braced and latticed columns and column bases.
CO-5: Design flexural members such as beams, purlins and girders.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	2	1	1	-	1	1	-	-	-	-	1	-	-
CO-2	3	3	3	2	-	1	1	3	1	-	-	1	3	-
CO-3	3	3	3	2	-	1	1	3	1	-	-	1	3	-
CO-4	3	3	3	2	-	1	1	3	1	-	-	1	3	-
CO-5	3	3	3	2	-	1	1	3	1	-	-	1	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Industrial Training, Course Code : NCE 752

After completion of this course, the student will be able to

CO-1: Attain new skills and awareness about state of art practices in various Engineering disciplines.
CO-2: Work and communicate efficiently as a part of multi-tasking professionals' team.
CO-3: Apply reasoning and logical aptitude while working in society, dealing with real life problems.
CO-4: Prepare and present technical reports effectively.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	1	-	1	2	1	1	1	1	1	2	2	-	2
CO-2	2	1	-	-	-	1	-	2	1	2	2	1	-	-
CO-3	1	1	-	-	-	2	-	1	1	1	1	2	-	-
CO-4	-	1	-	-	-	-	-	1	1	3	2	2	2	2

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DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)

Program : B.Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 7th
Course Outcomes
Course Name : Project-1, Course Code : NCE 753

After completion of this course, the student will be able to

CO-1: Work effectively as an individual and member of the team to solve complex civil engg problems
CO-2: Apply engineering knowledge to solve real life problems and involve in self-learning process
CO-3: Apply modern tools for analysis and design of complex engineering problems
CO-4: Provide ethical solutions of engineering problems taking into account its impact on society, environment and sustainability
CO-5: Prepare and present detailed project report of his/ her work and defend effectively.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	3	2	2	2	3	3	2	2	2	-	2
CO-2	3	3	3	2	2	2	2	2	2	2	1	2	2	2
CO-3	3	3	3	3	3	2	2	2	2	2	1	3	3	3
CO-4	3	3	3	2	2	2	3	3	2	2	1	2	2	2
CO-5	2	2	2	1	1	1	1	3	2	3	3	1	2	2

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DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 8th
Course Outcomes
Course Name :Analysis & design of Hydraulic Structures, Course Code : NCE 052

After completion of this course, the student will be able to

CO1: Understand the various types of head works, analysis & design of canal regulatory works.
CO2: Analyze & design various hydraulic structures like weir, barrage & cross drainage works for canal and their relative theories
CO3: Understand flood routing & sedimentation in reservoir and Design the earth dam.
CO4: Understand the gravity dams and to analysze & design the same
CO5: Analyse and design the spillways and understand about power house works

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	1	-	1	1	-	-	1	-	1	3	-
CO-2	3	3	3	1	-	1	1	-	-	1	-	1	3	-
CO-3	3	3	3	1	-	1	1	-	-	1	-	1	3	-
CO-4	3	3	3	1	-	1	1	-	-	1	-	1	3	-
CO-5	3	3	3	1	-	1	1	-	-	1	-	1	3	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 8th
Course Outcomes
Course Name :Ground Water Management, Course Code : NCE 063

After completion of this course, the student will be able to

CO1 : Comprehend basic concepts of the water cycle, permeability and flow nets
CO2 : Apply groundwater flow equations (steady and unsteady) to confined and unconfined aquifers.
CO3 : Design, development, construction and maintenance of water wells.
CO4 : Understand pollution, quality analysis of water and ground water exploration.
CO5 : Comprehend basic concepts of modeling and management of ground water..

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	1	-	-	-	-	-	-	-	-	-	1	-	-
CO-2	3	1	1	1	-	-	1	-	-	-	-	1	-	-
CO-3	3	3	2	1	-	-	1	-	1	-	-	3	3	3
CO-4	3	1	1	-	-	-	1	-	-	-	-	1	-	-
CO-5	2	1	1	-	-	-	1	-	-	-	-	2	2	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 8th
Course Outcomes
Course Name :Non Conventional Energy Resources, Course Code : NOE081

After completion of this course, the student will be able to

CO1. Explain the need, importance and scope of non-conventional energy resources.

CO2. Explain the importance of solar energy and its applications.

CO3. Explain the application of geo-thermal energy.

CO4. Describe thermoelectric and wind energy resources with applications

CO5. Discuss different types of bio-gas plant

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	1	1	-	2	2	3	1	1	-	-	2	-	-
CO-2	2	1	1	-	2	2	3	1	1	-	-	2	-	-
CO-3	2	1	1	-	2	2	3	1	1	-	-	2	-	-
CO-4	2	1	1	-	2	2	3	1	1	-	-	2	-	-
CO-5	2	1	1	-	2	2	3	1	1	-	-	2	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 8th
Course Outcomes
Course Name :Transportation Engineering-II, Course Code : NCE801

After completion of this course, the student will be able to

CO1 : Understand the importance of railway infrastructure.
CO2 : Identify the factors governing design of railway infrastructures.
CO3 : Analyze and design the railway track system.
CO4 : Understand the concepts of airport engineering and design components of airport.
CO5 : Understand the concepts of Water Transport system.

CO-PO Mapping

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	2	1	-	-	-	-	-	-	-	-	-	-	-	-
CO-2	2	2	1	-	-	2	1	-	-	-	-	1	3	-
CO-3	3	3	3	1	2	-	-	-	1	-	-	1	3	-
CO-4	3	3	3	1	2	-	-	-	1	-	-	1	3	-
CO-5	1	1	1		1	-	-	-	1	-	-	1	-	-

KIET GROUP OF INSTITUTIONS, DELHI – NCR, GHAZIABAD
DEPARTMENT OF CIVIL ENGINEERING

(An ISO – 9001:2008 Certified & 'A' Grade accredited Institution by NAAC)
Program : B. Tech (Civil Engineering)
Academic Session : 2018 - 2019 Semester : 8th
Course Outcomes
Course Name :Project, Course Code : NCE851

After completion of this course, the student will be able to

CO-1: Work effectively as an individual and member of the team to solve complex civil engg problems
CO-2: Apply engineering knowledge to solve real life problems and involve in self-learning process
CO-3: Apply modern tools for analysis and design of complex engineering problems
CO-4: Provide ethical solutions of engineering problems taking into account its impact on society, environment and sustainability
CO-5: Prepare and present detailed project report of his/ her work and defend effectively.

CO-PO Mapping

COs/POS	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2
CO-1	3	3	3	3	2	2	2	3	3	2	2	2	1	2
CO-2	3	3	3	2	2	2	2	2	2	2	1	2	2	2
CO-3	3	3	3	3	3	2	2	2	2	2	1	3	3	3
CO-4	3	3	3	2	2	2	3	3	2	2	1	2	2	2
CO-5	2	2	2	1	1	1	1	3	2	3	3	1	2	2