



SHREE DEVI INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University & Recognized by AICTE)

AIRPORT ROAD, KENJAR, MANGALORE – 574 142

Phone: 0824 – 2254104 Website: www.sdc.ac.in, E-mail : sdit_kenjar@rediffmail.com

Ref :

Date:

2015 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
1.	15MAT31	Engineering Mathematics –III*	4
2.	15CV32	Strength of Materials	4
3.	15CV33	Fluid Mechanics	4
4.	15CV34	Basic Surveying	4
5.	15CV35	Engineering Geology	4
6.	15CV36	Building Materials and Construction	4
7.	15CVL37	Building Materials Testing Laboratory	2
8.	15CVL38	Basic Surveying Practice	2

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Course Name	Engineering Mathematics –III*
Course Code	15CV31
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Develop the knowledge of the use of periodic signals and Fourier series to analyze circuits and system communications. 2. Explain the general linear system theory for continuous-time signals and digital signal processing using the Fourier Transform and z-transform. 3. Apply the principles of curve fitting and the most common methods for curve fitting such as linear regression. Outline properties of correlation and compute Karl-Pearson's coefficient of correlation. 4. Employ appropriate numerical methods to solve algebraic and transcendental equations. Apply method of interpolation for prediction and apply numerical integration to calculate definite integrals of analytical functions or experimental data points 5. Apply Green's Theorem, Divergence Theorem and Stokes' theorem in various applications in the field of electromagnetic and gravitational fields and fluid flow problems. Determine the extremals of functionals and solve the simple problems of the calculus of variations.

CO-PO Mapping:

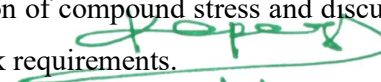
CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	-	-	-	-	-	-	-	-	-	-

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CO-2	3	2	-	-	-	-	-	-	-	-	-	-
CO-3	3	2	-	-	-	-	-	-	-	-	-	-
CO-4	3	2	-	-	-	-	-	-	-	-	-	-
CO-5	3	2	-	-	-	-	-	-	-	-	-	-
Max.	3	2	-	-	-	-	-	-	-	-	-	-


Course Name	Strength of Materials
Course Code	15CV32
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Studying the concept of stress and strain and applying them for different materials in any structural members Decide suitable type of foundation based on soil parameters. 2. To study the behavior of thin and thick cylinders under the action pressures and to evaluate the principal stress and strain and draw graphical method in arriving stresses under the action of compound stress and discussion of various failures Exhibit the knowledge of building finishes and form work requirements. 3. To study the different types of beams, supports and loads and construct the shear force and bending moment diagram for beams under the various loadings and support conditions


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	<p>4. Applying torsional equations for the given structural members and constructing the bending and shear stress for the various sections</p> <p>5. To evaluate the behaviour of beams subjected to various loading conditions using different methods and to determine the structural elements such as columns and struts using Euler's and Rankine-Gordon's formula for different end conditions</p>
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CO and PO Mapping:

CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	-	-	-	-	-	-	-	-	-	-
CO-2	3	3	-	-	-	2	-	-	-	-	-	-
CO-3	3	2	-	-	-	1	-	-	-	-	-	-
CO-4	3	3	-	-	-	2	-	-	-	-	-	-
CO-5	3	3	-	-	-	2	-	-	-	-	-	-
Max.	3	3	-	-	-	2	-	-	-	-	-	-



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Course Name	Fluid Mechanics
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Course Code	15CV33
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand the fundamental properties of fluid and its applications. 2. Study the concept hydrostatic laws and application to solve practical problems. 3. Learn principles of Kinematics and hydro dynamics for practical applications. 4. Learn the basics of flow measurements. 5. Understand the basic design of pipe and pipe networks considering flow, pressure and losses.

CO and PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	-	-	-	-	-	-	-
CO2	3	3	-	-	-	-	-	-	-	-	-	-
CO3	3	3	-	-	-	1	-	-	-	-	-	-
CO4	3	3	-	-	-	2	-	-	-	-	-	-
CO5	3	3	-	-	-	1	-	-	-	-	-	-
Max.	3	3	-	-	-	1	-	-	-	-	-	-



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Course Name	Basic Surveying
Course Code	15CV34
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Describe the Basic Principles of surveying and read / interpret the maps needed for the site selection and development. Estimate measurement errors and apply corrections.2. Understand the various bearing system in Compass survey. Interpret the various Angle using Magnetic compass. Apply the correction in a traverse due to local attraction and closing error.3. Understand the working principles of Levelling instruments. Determine the elevations and profile of the ground.4. Understand the working principles, methods of Plane table surveying.5. Interpret survey data and compute areas and volumes.


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CO – PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	-	-	-	-	-	-	-
CO2	3	3	-	-	-	-	-	-	-	-	-	-
CO3	3	3	-	-	-	1	-	-	-	-	-	-
CO4	3	3	-	-	-	-	-	-	-	-	-	-
CO5	3	3	-	-	-	1	-	-	-	-	-	-
Max.	3	3	-	-	-	1	-	-	-	-	-	-

Course Name	Engineering Geology
Course Code	15CV35
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Apply geological knowledge in different civil engineering practice.2. Students will acquire knowledge on durability and competence of foundation rocks, and confidence enough to use the best building materials. <p style="text-align: right;"> Principal SHREE DEVI INSTITUTE OF TECHNOLOGY MANGALORE</p>

	<p>3. Plan enough for the safety, stability, economy and life of the structures that they construct.</p> <p>4. Assess to solve various issues related to ground water exploration, build up dams, bridges, tunnels which are often confronted with ground water problems.</p> <p>5. Make Use of GIS, GPS and remote sensing as a latest tool in different civil engineering construction.</p>
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CO and PO Mapping:

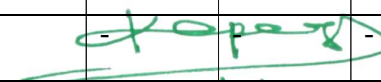
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	-	-	-	-	-	-	-	-	-	-
CO2	3		-	-	-	-	-	-	-	-	-	-
CO3	3	3	-	-	-	-	-	-	-	-	-	-
CO4	3	3	-	-	-	-	-	-	-	-	-	-
CO5	3	3	-	-	-	2	2	-	-	-	-	-
Max.	3	3	-	-	-	2	2	-	-	-	-	-


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Course Name	Building Materials and Construction
Course Code	15CV36
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand and recognise good materials to be used for the construction work. 2. Investigate the soil conditions. Understand different kinds of foundation, masonry and its suitability for various kinds of buildings. 3. Understand the concept of different kinds of roofs, floors, lintels and arches. 4. Gain knowledge about different kinds of doors, windows, ventilators, stairs, and formwork. 5. Gain knowledge about paints, pointing and adopt suitable repair and maintenance work to enhance durability of buildings.

CO and PO Mapping:

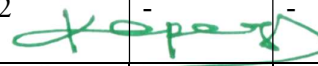
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	-	-	2	1	-	-	-	-	-
CO-2	3	1	-	-	-	2	1	-	-	-	-	-
CO-3	3	-	-	-	-	1	1	-	-	-	-	-
CO-4	3	-	-	-	-	2	1	-	-	-	-	-
CO-5	3	-	-	-	-	2	1	-	-	-	-	-
Max.	3	1	-	-	-	2	1	-	-	-	-	-


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Course Name	Building Materials Testing Laboratory
Course Code	15CVL37
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Reproduce the basic knowledge of mathematics and engineering in finding the strength in tension, compression, shear and torsion. 2. Identify, formulate and solve engineering problems of structural elements subjected to flexure. 3. Evaluate the impact of engineering solutions on the society and also will be aware of contemporary issues regarding failure of structures due to unsuitable materials.

CO – PO Mapping:


CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	1	1	-	-	2	2	-	-
CO2	3	3	-	-	1	1	-	-	2	2	-	-
CO3	3	3	-	-	-	2	2	-	1	2	-	-
Max.	3	3	-	-	1	1	2	-	2	2	-	-


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Course Name	Surveying Practice
Course Code	15CVL38
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Apply the basic principles of engineering surveying and for linear and angular measurements. 2. Comprehend effectively field procedures required for a professional surveyor. 3. Use techniques, skills and conventional surveying instruments necessary for engineering practice.

CO and PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	-	2	-	-	-	2	1	-	-
CO-2	3	-	-	-	2	-	-	-	1	1	-	-
CO-3	3	-	-	-	2	-	-	-	1	1	-	-
Max.	3	-	-	-	2	-	-	-	2	1	-	-


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Date:

2015 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
9.	15MAT41	Engineering Mathematics –IV*	4
10.	15CV42	Analysis of Determinate Structures	4
11.	15CV43	Applied Hydraulics	4
12.	15CV44	Concrete Technology	4
13.	15CV45	Basic Geotechnical Engineering	4
14.	15CV46	Advanced Surveying	4
15.	15CVL47	Fluid Mechanics and Hydraulic Machines Laboratory	2
16.	15CVL48	Engineering Geology Laboratory	2

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Course Name	Analysis of Determinate Structures
Course Code	15CV42
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Discussion on concept of structural systems and analysing the forces in determinate trusses by method of joints and method of sections and construct ILD for determinate beams and trusses. 2. To analyse the determinate beams and trusses subjected to moving loads and construct ILD. 3. To determine the deflection for determinate beams using different methods and theorems. 4. Evaluate the concept of energy principles and energy theorems and its applications to estimate the deflection of trusses, bent frames and study on special applications on dummy unit load. 5. To analyse the thrust, shear and bending moment for different arches at same and different level and analysing the cable under different load conditions.

CO – PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	-	-	-	2	-	-	-	-	-	-
CO-2	3	3	-	-	-	2	-	-	-	-	-	-
CO-3	3	3	-	-	-	2	-	-	-	-	-	-

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CO-4	3	3	-	-	-	2	-	-	-	-	-	-
Max.	3	3	-	-	-	2	-	-	-	-	-	-

Course Name	Applied Hydraulics
Course Code	15CV43
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Understand dimensional homogeneity of an equation and generate model studies. 7. Analyze different types of open channels and to design the most economical channel. 8. Evaluate suitable points where hydraulic jump occurs for its best application. 9. Compute the impact of jet on different types of vanes for maximum hydraulic efficiency. 10. Understand the execution, efficiency and design different types of turbines and pumps.

CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	-	-	-	1	-	-	-	-	-	-
CO-2	3	3	-	-	-	-	-	-	-	-	-	-

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CO-3	3	3	-	-	-	-	-	-	-	-	-	-
CO-4	3	3	-	-	-	-	-	-	-	-	-	-
CO-5	3	3	-	-	-	1	-	-	-	-	-	-
Max.	3	3	-	-	-	1	-	-	-	-	-	-

Course Name	Concrete Technology
Course Code	15CV44
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Ascertain the properties of concrete and concrete ingredients. 2. Understand the behaviour of fresh concrete. 3. Understand the behaviour of hardened concrete. 4. Proportioning of concrete mix as per relevant codes. 5. Possess knowledge of special concrete and understand the need for special concrete.


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CO and PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	2	3	-	-	-	-	-	-	-	-	-	
CO-2	2	3	-	-	-	-	-	-	-	-	-	
CO-3	1	3	-	-	-	-	-	-	-	-	-	-
CO-4	2	3	-	-	-	-	-	-	-	-	-	2
CO-5	2	3	-	-	3	-	-	-	-	-	-	2
Max.	2	3	-	-	3	-	-	-	-	-	-	2


Course Name	Basic Geotechnical Engineering
Course Code	15CV45
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Make use of the procedures to determine index properties of any type of soil, classify and list the soil based on its index properties.2. Determine compaction characteristics of soil and apply that knowledge to assess field compaction procedures.


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	<p>3. Estimate permeability property of soils and acquires conceptual knowledge about stresses due to seepage and effective stress; Also acquire ability to estimate seepage losses across hydraulic structure.</p> <p>4. Evaluate shear strength parameters of different types of soils using the data of different shear tests and comprehend Mohr-Coulomb failure theory.</p> <p>5. Solve practical problems related to estimation of consolidation settlement of soil deposits also time required for the same financing concepts.</p>
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CO-PO Mapping:


CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	-	-	1	-	-	-	-	-	-
CO-2	3	2	-	-	-	-	-	-	-	-	-	-
CO-3	3	3	-	-	-	-	-	-	-	-	-	-
CO-4	3	3	-	-	-	-	-	-	-	-	-	-
CO-5	3	3	-	-	-	1	-	-	-	-	-	-
Max.	3	3	-	-	-	1	-	-	-	-	-	-


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Course Name	Advanced Surveying
Course Code	15CV46
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Apply the knowledge of measuring angles to solve a practical problem by applying necessary corrections and checks. 7. Learn the concepts of Tacheometry and Geodetic Surveying and its real time application in the field of civil engineering. 8. Design and implement the different types of curves for deviating type of alignments. 9. Learn the terms and methods of Aerial Surveying for large scale Survey works. 10. Use of Modern instruments and methods for obtaining Geo-spatial data, Applications of Remote Sensing & GIS in Civil Engineering


CO and PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	-	-	-	-	-	-	-
CO2	3	2	-	-	-	-	-	-	-	-	-	-
CO3	3	3	-	-	-	-	-	-	-	-	-	-


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CO4	3	3	-	-	2	-	-	-	-	-	-	-
CO5	3	-	-	-	2	-	-	-	-	-	-	-
Max.	3	3	-	-	2	-	-	-	-	-	-	-

Course Name	Fluid Mechanics and Hydraulic Machines Laboratory
Course Code	15CVL47
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Apply the knowledge in finding friction factor for different pipes and also determine coefficients of vertical orifice. 2. Determine the rate of flow by notches and weirs. 3. Estimate the rate of flow by Venturimeter, Orificemeter and Venturiflume. 4. Interpret the output results obtained from impact of jet, pumps, turbine to check the performance


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CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	1	-	-	1	1	-	-	-	-	-	-
CO-2	3	1	-	-	-	-	-	-	-	-	-	-
CO-3	3	1	-	-	1	1	-	-	-	-	-	-
CO-4	3	1	-	-	1	1	-	-	-	-	-	-
Max.	3	1	-	-	1	1	-	-	-	-	-	-


Course Name	Engineering Geology Laboratory
Course Code	15CVL48
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Identify the minerals, rocks and utilize them effectively in Civil Engineering practices.2. Interpret subsurface information such as thickness of soil, weathered zone, depth of hard rock and saturated zone by using geophysical methods.3. Interpret and understand the geological conditions of the area for implementation of Civil Engineering projects.

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	4. Adapt the techniques in the interpretation of topographical map and LANDSAT Imageries to find out the lineaments and other structural features for the given area
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CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	2	2	-	-	-	-	-	-	-	-	-	-
CO-2	2	2	-	-	-	2	-	-	-	-	-	-
CO-3	2	2	-	-	-	2	-	-	-	-	-	-
CO-4	2	2	-	-	-	2	1	-	-	-	-	-
Average	2	2	-	-	-	2	1	-	-	-	-	-


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Date:

2015 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
17.	15CV51	Design of RC Structural Elements	4
18.	15CV52	Analysis of Indeterminate Structures	4
19.	15CV53	Applied Geotechnical Engineering	4
20.	15CV54	Computer Aided Building Planning and Drawing	4
21.	15CV551	Air pollution and Control	3
22.	15CV561	Traffic Engineering	3
23.	15CVL57	Geotechnical Engineering Laboratory	2
24.	15CVL58	Concrete and Highway Materials Laboratory	2

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Course Name	Design of RC Structural Elements
Course Code	15CV51
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand design philosophies, assumption and principles of Limit state method of design. 2. Analyse the single, double and flanged beam for flexure and shear 3. Design single, double and flanged beams for shear, combined bending and torsion 4. Design cantilever, continuous, one way and two way slab, dog legged and open well staircase. 5. Design short axially loaded columns and rectangular and square column footings.

CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	2	-	2	-	-	-	-	-	1
CO-2	3	3	3	-	-	2	-	-	-	-	-	1
CO-3	3	3	3	-	-	2	-	-	-	-	-	1
CO-4	3	2	3	-	-	2	-	-	-	-	-	1
CO-5	3	2	3	-	-	2	-	-	-	-	-	1

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Max.	3	3	3	2	-	2	-	-	-	-	-	1
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Course Name	Analysis of Indeterminate Structures
Course Code	15CV52
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 11. Determine the moment in indeterminate beams and frames having variable moment of inertia and subsidence using slope deflection method. 12. Determine the moment in indeterminate beams and frames of no sway and sway using moment distribution method. 13. Construct the bending moment diagram for beams and frames by Kani's method. 14. Construct the bending moment diagram for beams and frames using flexibility method. 15. 3Analyze the beams and indeterminate frames by system stiffness method

CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	3	-	-	1	-	-	-	-	-	-
CO-2	3	3	3	-	-	1	-	-	-	-	-	-

Kopar

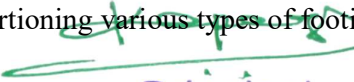
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CO-3	3	3	3	-	-	1	-	-	-	-	-	-
CO-4	3	3	3	-	-	1	-	-	-	-	-	-
CO-5	3	3	3	-	-	1	-	-	-	-	-	-
Max.	3	3	3	-	-	1	-	-	-	-	-	-


Course Name	Applied Geotechnical Engineering
Course Code	15CV53
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Plan and execute geotechnical site investigation programme for different civil engineering projects. 2. Analyze the stress distribution and compute settlement in various types of soil. 3. Estimate the factor of safety against failure of slopes and to compute lateral pressure distribution behind earth retaining structures. 4. Determine the bearing capacity of soil and to achieve proficiency in proportioning various types of footing. 5. Estimate load carrying capacity of single pile and group of piles.


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CO-PO Mapping

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	1	-	-	-	-	-	-	-	-	-
CO-2	3	3	1	-	-	-	-	-	-	-	-	-
CO-3	3	3	2	-	-	-	-	-	-	-	-	-
CO-4	3	3	2	-	-	-	-	-	-	-	-	-
CO-5	2	2	2	-	-	-	-	-	-	-	-	-
Max.	3	3	2	-	-	-	-	-	-	-	-	-


Course Name	Computer Aided Building Planning & Drawing
Course Code	15CV54
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Prepare, read and interpret the drawings in a professional set up.2. Know the procedures of submission of drawings and Develop working and submission drawings for building.3. Plan and design a residential or public building as per the given requirements.


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CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	-	-	-	-	-	-	-
CO2	3	3	-	-	2	-	-	-	-	-	-	-
CO3	3	3	-	-	2	-	-	-	-	-	-	-
Max.	3	3	-	-	2	-	-	-	-	-	-	-

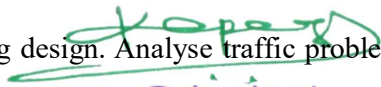
Course Name	Air Pollution and Control
Course Code	15CV551
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Understand the sources and effects of air pollution.2. Understand the meteorological factors influencing air pollution and analyze air pollutant dispersion models.3. Learn the different sampling techniques, monitoring and analyze the air pollutants.4. Illustrate particular and gaseous pollution control methods.5. Understand the different episodes of air pollution, concept of noise pollution, laws and acts.


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CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	1	-	-	-	-	2	-	-	-	-	-
CO2	3	3	3	-	-	2	1	-	-	-	-	-
CO3	3	3	1	-	-	2	2	-	-	-	-	-
CO4	3	3	-	-	-	1	2	-	-	-	-	-
CO5	3	3	-	-	-	1	1	-	-	-	-	-
Max.	3	3	3	-	-	2	2	-	-	-	-	-

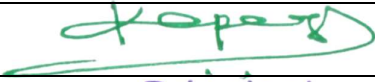
Course Name	Traffic Engineering
Course Code	15CV561
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">1. Understand the human factors and vehicular factors in traffic engineering design. Analyse traffic problems and plan for traffic systems for various uses.2. Conduct different types of traffic surveys and analysis of collected data using statistical concepts.3. Design channels, intersections, signals and parking arrangements.


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	<p>4. Understand traffic and environment safety, plan for integration of public transport system.</p> <p>5. Understand Traffic Management Systems and the basic knowledge of Intelligent Transportation System.</p>
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CO-PO Mapping:


CO's	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	-	-	-	1	-	-	-	-	-	-
CO2	3	-	-	-	-	1	-	-	-	-	-	-
CO3	3	-	3	-	-	1	-	-	-	-	-	-
CO4	3	-	-	-	-	1	-	-	-	-	-	1
CO5	3	-	-	-	-	1	-	-	-	-	-	1
Max.	3	-	3	-	-	1	-	-	-	-	-	1

Course Name	Geotechnical Engineering Lab	
Course Code	15CVL57	
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>1. Physical and index properties of the soil.</p>	<p style="text-align: right;">  Principal SHREE DEVI INSTITUTE OF TECHNOLOGY MANGALORE </p>

	<ol style="list-style-type: none"> 2. Classify based on index properties and field identification. 3. To determine OMC and MDD, plan and assess field compaction program. 4. Shear strength and consolidation parameters to assess strength and deformation characteristics. 5. In-situ shear strength characteristics (SPT-Demonstration)
--	--

CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	3	-	-	-	-	2	1	-	-
CO-2	3	-	-	3	-	-	-	-	2	1	-	-
CO-3	3	-	-	3	-	-	-	-	2	1	-	-
CO-4	3	-	-	3	-	-	-	-	2	1	-	-
CO-5	3	-	-	3	-	-	-	-	2	1	-	-
Max.	3	-	-	3	-	-	-	-	2	1	-	-


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Course Name	Concrete and Highway Materials Laboratory
Course Code	15CVL58
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. To study the properties of cement and sand used in highway construction. 2. To study the properties of coarse aggregates and bitumen for use in highway construction. 3. To study the properties of fresh and hardened concrete for use in highway construction.

CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	3	1	-	1	-	2	2	-	1
CO-2	3	-	-	3	1	-	1	-	2	2	-	1
CO-3	3	-	-	3	1	-	1	-	2	2	-	1
Max.	3	-	-	3	1	-	1	-	2	2	-	1


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Ref :

Date:


2015 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
25.	15CV71	Municipal and Industrial Wastewater Engineering	4
26.	15CV72	Design of RCC and Steel Structures	4
27.	15CV73	Hydrology and Irrigation Engineering	4
28.	15CV742	Ground Water & Hydraulics	3
29.	15CV752	Prefabricated Structures	3
30.	15CVL76	Environmental Engineering Laboratory	2
31.	15CVL77	Computer Aided Detailing of Structures	2
32.	15CVP78	Project Phase – I + Project Seminar	2

Course Name	Municipal Wastewater Engineering
Course Code	15CV71
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Understand sewerage network and influencing parameters. 7. Learn and design hydraulic elements of sewers, concept of self-purification. 8. Understand and design different unit operations involved in conventional and biological treatment process. 9. Understand various industrial effluent treatment methods with respect to reduction in volume and strength and execute various treatment methods for removal and treatment of solids and collides. 10. Apply the principles of Industrial effluent treatment process for different industrial wastes.

CO – PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	1	-	-	3	3	-	-	-	-	-



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CO-2	3	3	2	-	-	3	3	-	-	-	-	-
CO-3	3	2	1	-	-	3	3	-	-	-	-	-
CO-4	3	2	1	-	-	-	3	-	-	-	-	-
CO-5	3	2	1			3	3	-	-	-	-	-
Max.	3	3	2	-	-	3	3	-	-	-	-	-

Course Name	Design of RCC and Steel Structures
Course Code	15CV72
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>16. Students will acquire the basic knowledge in RCC and Steel structures.</p> <p>17. Students will have the ability to follow design procedures as per codal provisions and steps to arrive at structurally safe RC and Steel members.</p>

CO-PO Mapping:

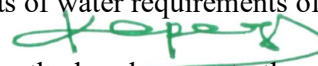
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	3	-	-	3	-	-				


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CO2	3	-	3	-	-	3	-	-	-	-	-	-
Max.	3	-	3	-	-	3	-	-	-	-	-	-

Course Name	Hydrology and Irrigation Engineering
Course Code	15CV73
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Learn the basic elements & principles of Hydrological cycle, precipitation evaporation& infiltration. Understand various types of irrigation systems, & soil-water crop relationship. 7. Understand the concepts of Evaporation, Evapo-transpiration and Infiltration. 8. To study the basic definitions and Estimate runoff. To understand the basic concepts of hydrographs and Learn hydrograph analysis. 9. Understand concept of duty, delta, benefits, ill-effects of irrigation and concepts of water requirements of crops. 10. Estimate capacity of canal, design the canal using Lacey's and Kennedy's method and compute the reservoir capacity.

CO and PO Mapping:


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CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	2	3	-	-	-	-	-	-	-	-	-	-
CO-2	-	3	2	1	-	-	-	-	-	-	-	-
CO-3	2	3	3	-	-	-	-	-	-	-	-	-
CO-4	2	3	-	-	2	-	-	-	-	-	-	-
CO-5	1	-	2	2	2	-	-	-	-	-	-	-
Max.	2	3	3	2	2	-	-	-	-	-	-	-

Course Name	Ground Water & Hydraulics
Course Code	15CV742
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Find the characteristics of aquifers. 2. Estimate the quantity of ground water by various methods. 3. Locate the zones of ground water resources. 4. Select particular type of well and augment the ground water storage <div style="text-align: right;">  Principal SHREE DEVI INSTITUTE OF TECHNOLOGY MANGALORE </div>

CO and PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	2	3	-	-	-	-	-	-	-	-	-	-
CO-2	-	3	2	2	-	-	-	-	-	-	-	-
CO-3	2	3	3	-	-	-	-	-	-	-	-	-
CO-4	2	3	-	-	2	-	-	-	-	-	-	-
Max.	2	3	3	2	2	-	-	-	-	-	-	-

Course Name	Prefabricated Structures
Course Code	15CV752
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Apply the principles and systems of prefabrication in the field. 2. Understand need of resource management, and various types of equipment used in construction. 3. Identify suitable prefabricated components for specific use. 4. Adopt the design principles for prefabricated structures. 5. Utilize the various code provisions regarding progressive collapse.


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CO and PO Mapping:


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Cos	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12

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CO1	3	-	-	-	-	2	-	-	-	-	-	-
CO2	3	-	-	-	-	2	-	-	-	-	-	-
CO3	3	-	-	-	-	2	-	-	-	-	-	-
CO4	3	-	-	-	-	2	-	-	-	-	-	-
CO5	3	2	-	-	-	2	-	-	-	-	-	-
Max.	3	2	-	-	-	2	-	-	-	-	-	-

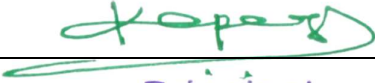
Course Name	Environmental Engineering Laboratory
Course Code	15CVL76
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Acquire capability to conduct experiments and estimate the concentration of different parameters. 7. Compare the result with standards and discuss based on the purpose of analysis. 8. Determine type of treatment, degree of treatment for water and wastewater. 9. Identify the parameter to be analysed for the student project work in environmental stream


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CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	-	3	-	-	2	-	-	-	-	-
CO-2	3	2	2	-	-	-	2	-	-	-	-	-
CO-3	3	2	-	2	-	-	2	-	-	-	-	-
CO-4	3	2	-	-	-	-	2	-	-	-	-	-
Average	3	2	2	3	-	-	2	-	-	-	-	-


Course Name	Computer Aided Detailing of Structures
Course Code	15CVL77
Course Objectives	After a successful completion of the course, the student will be able to:


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	<p>5. To understand the concept of RCC and steel structural elements and its bar bending schedule and execute them using auto CADD software.</p> <p>6. After execution, the students are capable of detailing the structural elements as per prescribed code book</p>
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CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	-	-	-	-	-	-	-	-	-	-
CO-2	3	3	-	-	2	-	-	-	-	-	-	-
Max.	3	3	-	-	2	-	-	-	-	-	-	-


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Ref :

Date:

2015 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
33.	15CV81	Quantity Surveying and Contracts Management	4
34.	15CV82	Design of Pre-stressed Concrete	4
35.	15CV833	Pavement Design	3
36.	15CV84	Internship/ Professional Practice	2
37.	15CVP85	Project Work	6
38.	15CVS86	Seminar on current trends in Engineering and Technology	


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Course Name	Quality Surveying and Contract Management
Course Code	15CV81
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Understand the terms of Estimation, drawings attached with estimate, types of estimate. Arrive approximate quantities of different items of work and cost of building. To estimate and prepare the BBS for R.C.C Structures such as Slab, beams, Footing and column. 2. To prepare the detailed and abstract estimate of road, earthwork in cutting, filling and partly cutting and filling , septic tank, steel truss and manhole. 3. Understand the Specifications of different items of work of building. Able to calculate the quantities of dry materials and cost by using the rates of dry materials and labour cost required for different items of works. 4. Attain the knowledge on tender and its Process, laws of Contract and Types of Contract and contract forms. 5. Attain the Knowledge on valuation and Various terms associated in contract. Prepare Valuation report of building.

CO – PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	2	-	-	-	-	-	-	-	-	-	1
CO2	3	2	-	-	-	-	-	-	-	-	-	1
CO3	3	2	-	-	-	-	-	-	-	-	-	-
CO4	3	-	-	-	-	-	-	2	-	-	-	-
CO5	3	-	-	-	-	-	-	2	-	-	-	-
Max.	3	2	-	-	-	-	-	2	-	-	-	1


Course Name	Design of Pre-stressed Concrete
Course Code	15CV82
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. To understand the concept, properties and types of prestressing, steel and high strength concrete. 2. Will be able to calculate the losses in pre Stress based on different parameters and to understand and solve deflection and crack width 3. Will acquire the knowledge to analyze and design the sections for flexure. 4. Capable of analyzing the PSC element and finding its efficiency. 5. Design PSC beam for different requirements.


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CO – PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	2	-	-	-	-	-	-
CO2	3	3	-	-	-	2	-	-	-	-	-	-
CO3	3	3	3	-	-	2	-	-	-	-	-	-
CO4	3	3	3	-	-	2	-	-	-	-	-	-
CO5	3	3	3	-	-	2	-	-	-	-	-	-
Average	3	3	3	-	-	2	-	-	-	-	-	-

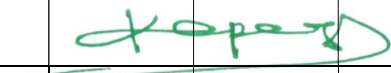
Course Name	Pavement Design
Course Code	15CV833
Course Objectives	After a successful completion of the course, the student will be able to:


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	<p>18. Understand concepts of pavements design strategies and analyze stress, strain and deflection by boussinesq's, burmister's theory.</p> <p>19. Study the concept of ESWL and Design flexible pavement based on different methods confirming IRC -37.</p> <p>20. Evaluate performance, failures of flexible pavements and design airfield pavement.</p> <p>21. Apply the concepts of stresses and design rigid pavement based on different methods confirming IRC -58.</p> <p>22. Analyze performance, maintenance of rigid pavement and design of joints in rigid pavement.</p>
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CO-PO Mapping:

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	1			1						
CO-2	3	3	3			2						
CO-3	3	3	3			2						
CO-4	3	3	3			2						
CO-5	3	3	3			2						
Average	3	3	3			2						


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Course Name	Internship
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Course Code	15CV84
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>11. Understand domain knowledge</p> <p>12. Learn Skills required as per real practical applications</p> <p>13. Preparation of Report based on exposure to industry</p> <p>14. Presentation of Internship</p>

CO and PO Mapping:


CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	1	-	-	2	-	3	3	3	3	2
CO-2	3	2	1	-	3	3	-	3	3	3	2	3
CO-3	3	3	2	-	-	2	-	-	3	-	2	-
CO-4	3	3	3	-	-	2	-	-	-	-	-	-
Max.	3	3	3	-	3	3	-	3	3	3	3	3


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Course Name	Project Work
Course Code	15CVP85
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 11. Describe the project and be able to defend it. 12. Develop critical thinking and problem-solving skills. 13. Learn to use modern tools and techniques. 14. Communicate effectively and to present ideas clearly and coherently both in written and oral forms. 15. Develop skills to work in a team to achieve common goal, Develop skills of project management and finance and Develop skills of self-learning, evaluate their learning and take appropriate actions to improve it. Prepare them for life-long learning to face the challenges and support the technological changes to meet the societal needs.

CO and PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	3	-	3	3	-	-	-
CO2	3	3	3	-	-	3	-	-	-	-	-	-
CO3	3	3	3	-	-	3	-	-	3	-	-	-

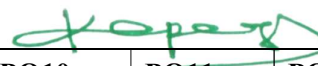

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CO4	3	3	3	-	-	3	-	-	-	-	-	-
CO5	3	3	3	-	-	-	-	3	3	3	3	3
Max.	3	3	3	-	-	3	-	3	3	3	3	3


Course Name	Seminar on current trends in Engineering and Technology
Course Code	15CVS86
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Develop knowledge in the field of Civil Engineering and other disciplines through independent learning and collaborative study. 7. Identify and discuss the current, real-time issues and challenges in engineering & technology. 8. Develop written and oral communication skills. 9. Explore concepts in larger diverse social and academic contexts. 10. Apply principles of ethics and respect in interaction with others


CO-PO Mapping:

CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	2	-	-	-	-	3			


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CO-2	3	-	-	-	-	3	-	3	-	-	-	-
CO-3	3	-	-	2	-	-	-	-	-	-	3	3
CO-4	3	-	-	2	-	3	-	-	3	3	3	3
Average	3	-	-	2	-	3	-	3	3	3	3	3


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