



SHREE DEVI INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University & Recognized by AICTE)

AIRPORT ROAD, KENJAR, MANGALORE – 574 142

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Ref :

Date:

2018 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
1.	18MAT31	Transform Calculus, Fourier Series and Numerical Techniques	3
2.	18CV32	Strength of Materials	4
3.	18CV33	Fluid Mechanics	3
4.	18CV34	Building Materials and Construction	3
5.	18CV35	Basic Surveying	3
6.	18CV36	Engineering Geology	3
7.	18CVL37	Computer Aided Building Planning & Drawing	2
8.	18CVL38	Building Materials Testing Laboratory	2
9.	18CPC39	Constitution of India, Professional Ethics and Cyber Law	1

Course Name	Transform Calculus, Fourier Series and Numerical Techniques
Course Code	18CV31

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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.
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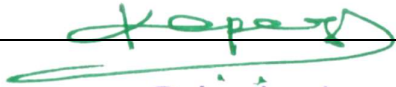
CO-PO Mapping:

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


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


Course Name	Strength of Materials
Course Code	18CV32
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. 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. 7. 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. 8. 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>9. Applying torsional equations for the given structural members and constructing the bending and shear stress for the various sections</p> <p>10. 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-gordans formula for different end conditions</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	-	-	-	-	-	-
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
Course Code	18CV33
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	-	-	-	-	-	-

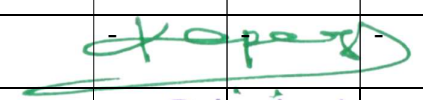

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Max.	3	3	-	-	-	1	-	-	-	-	-	-
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Course Name	Building Materials and Construction
Course Code	18CV34
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <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	-	-	-	-	-


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

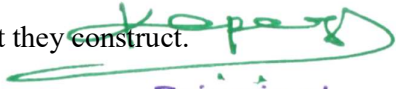
Course Name	Basic Surveying
Course Code	18CV35
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Describe the Basic Principles of surveying and read / interpret the maps needed for the site selection and development. 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.

CO and PO Mapping


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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	18CV36
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. 3. Plan enough for the safety, stability, economy and life of the structures that they construct.

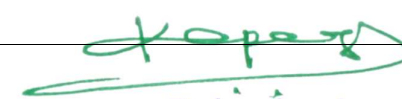

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	<p>4. Assess to solve various issues related to ground water exploration, build up dams, bridges, tunnels which are often confronted with ground water problems.</p> <p>5. Make Use of GIS, GPS and remote sensing as a latest tool in different civil 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	-	-	-	-	-

Course Name	Computer Aided Building Planning & Drawing
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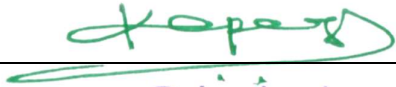
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Course Code	18CVL37
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Prepare, read and interpret the drawings in a professional set up. 2. Know the procedures of 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.

CO and PO Mapping:

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

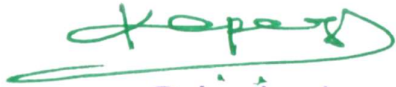
Course Name	Building Materials Testing Laboratory
Course Code	18CVL38


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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.
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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	-	-		1	2	-	1	2	-	-
Max.	3	3	-	-	1	1	2	-	2	2	-	-


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2018 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
10.	18MAT41	Complex Analysis, Probability and Statistical Methods	3
11.	18CV42	Analysis of Determinate Structures	4
12.	18CV43	Applied Hydraulics	3
13.	18CV44	Concrete Technology	3
14.	18CV45	Advanced Surveying	3
15.	18CV46	Water Supply and Treatment Engineering	3
16.	18CVL47	Engineering Geology Laboratory	2
17.	18CVL48	Fluid Mechanics and Hydraulic Machines Laboratory	2
18.	18KAK / KVK 49	Aadalitha Kannada / Balake Kannada	1

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Course Name	Analysis of Determinate Structures
Course Code	18CV42
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	-	-	-	-	-	-
CO-5	3	3	-	-	-	2	-	-	-	-	-	-
Max.	3	3	-	-	-	2	-	-	-	-	-	-

Course Name	Applied Hydraulics
Course Code	18CV43
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 11. Understand dimensional homogeneity of an equation and generate model studies. 12. Analyze different types of open channels and to design the most economical channel. 13. Evaluate suitable points where hydraulic jump occurs for its best application. 14. Compute the impact of jet on different types of vanes for maximum hydraulic efficiency. 15. Understand the execution, efficiency and design different types of turbines and pumps.


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

Course Name	Concrete Technology
Course Code	18CV44
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.



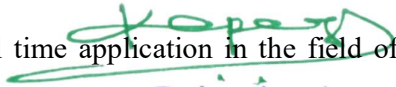
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CO and PO Mapping:

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

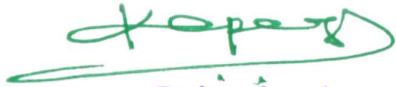
Course Name	Advanced Surveying
Course Code	18CV45
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">6. Apply the knowledge of measuring angles to solve a practical problem by applying necessary corrections and checks.7. Learn the concepts of Tacheometry and Geodetic Surveying and its real time application in the field of civil engineering.


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	<p>8. Design and implement the different types of curves for deviating type of alignments.</p> <p>9. Learn the terms and methods of Aerial Surveying for large scale Survey works.</p> <p>10. Use of Modern instruments and methods for obtaining Geo-spatial data, Applications of Remote Sensing & GIS in Civil Engineering</p>
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CO and PO Mapping:

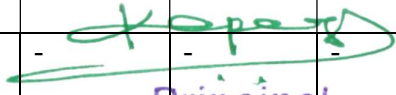
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	3	-	-	-	-	-	-	-	-	-	-
CO2	3	2	-	-	-	-	-	-	-	-	-	-
CO3	3	3	-	-	-	-	-	-	-	-	-	-
CO4	3	3	-	-	2	-	-	-	-	-	-	-
CO5	3	-	-	-	2	-	-	-	-	-	-	-
Max.	3	3	-	-	2	-	-	-	-	-	-	-


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Course Name	Water Supply and Treatment Engineering
Course Code	18CV46
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 demand and supply of water and estimate average, peak water demand for a community. 2. Understand the source of water based on quality, quantity and analyze the quality of water and various steps involved in its treatment. 3. Understand different levels of treatment technologies and design treatment units 4. Understand the concept of advanced treatment technologies. 5. Understand the different concepts of water supply project and design the most economical rising main.

CO-PO Mapping:

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


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

Course Name	Engineering Geology Laboratory
Course Code	18CVL47
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. 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:

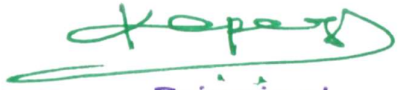
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	2	2	-	-	-	-	-	-	-	-	-	-
CO-2	2	2	-	-	-	2	-	-	-	-	-	-
CO-3	2	2	-	-	-	2		-	-	-	-	-
CO-4	2	2	-	-	-	2	1	-	-	-	-	-
Max.	2	2	-	-	-	2	1	-	-	-	-	-

Course Name	Fluid Mechanics and Hydraulic Machines Laboratory
Course Code	18CVL48
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	-	-	-	-	-	-


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Ref :

Date:

2018 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
19.	18CV51	Construction Management & Entrepreneurship	3
20.	18CV52	Analysis of Indeterminate Structures	4
21.	18CV53	Design of RC Structural Elements	4
22.	18CV54	Basic Geotechnical Engineering	3
23.	18CV55	Municipal Wastewater Engineering	3
24.	18CV56	Highway Engineering	3
25.	18CVL57	Surveying Practice	2
26.	18CVL58	Concrete and Highway Materials Laboratory	2
27.	18CIV59	Environmental Studies	1

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Course Name	Construction Management & Entrepreneurship
Course Code	18CV51
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 construction management process, use of construction management tools and techniques for successful completion of construction projects. 2. Understand need of resource management, and various types of equipment used in construction. 3. Inculcate human values and grow up as responsible human beings. Understand and solve various issues encountered by professionals in discharging professional duties and hence keeping up to the ethical conduct. 4. To understand the importance of economics and finance in civil engineering projects. 5. Gain knowledge and skills needed to run a business successfully. Fulfil the professional obligations effectively with global outlook.

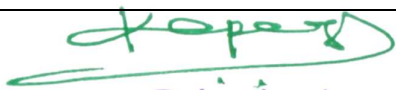
CO – PO Mapping:

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


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

Course Name	Analysis of Indeterminate Structures
Course Code	18CV52
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>16. Determine the moment in indeterminate beams and frames having variable moment of inertia and subsidence using slope deflection method.</p> <p>17. Determine the moment in indeterminate beams and frames of no sway and sway using moment distribution method.</p> <p>18. Construct the bending moment diagram for beams and frames by Kani's method.</p> <p>19. Construct the bending moment diagram for beams and frames using flexibility method.</p> <p>20. 3Analyze the beams and indeterminate frames by system stiffness method</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	3	-	-	1	-	-	-	-	-	-
CO-2	3	3	3	-	-	1	-	-	-	-	-	-
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	Design of RC Structural Elements
Course Code	18CV53
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 shear3. Design single, double and flanged beams for shear, combined bending and torsion4. 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.

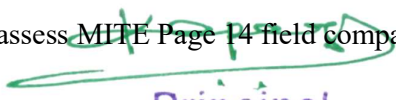
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CO and PO Mapping:

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

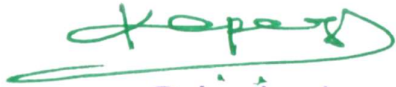
Course Name	Basic Geotechnical Engineering
Course Code	18CV54
Course Objectives	After a successful completion of the course, the student will be able to: 6. Make use of the procedures to determine index properties of any type of soil, classify and list the soil based on its index properties. 7. Determine compaction characteristics of soil and apply that knowledge to assess MITE Page 14 field compaction procedures.


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	<p>8. 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>9. Evaluate shear strength parameters of different types of soils using the data of different shear tests and comprehend Mohr-Coulomb failure theory.</p> <p>10. 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:

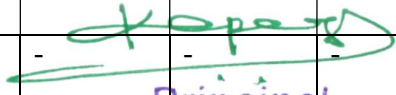
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	-	-	-	-	1	-	-	-	-	-	-
CO-2	3	2	-	-	-	-	-	-	-	-	-	-
CO-3	3	3	-	-	-	-	-	-	-	-	-	-
CO-4	3	3	-	-	-	-	-	-	-	-	-	-
CO-5	3	3	-	-	-	1	-	-	-	-	-	-
Max.	3	3	-	-	-	1	-	-	-	-	-	-


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Course Name	Municipal Wastewater Engineering
Course Code	18CV55
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 sewerage network and influencing parameters. 2. Learn and design hydraulic elements of sewers, concept of self-purification. 3. Understand and design different unit operations involved in conventional and biological treatment process. 4. 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. 5. 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	2	1	-	-	3	3	-	-	-	-	-
CO-2	3	2	1	-	-	3	3	-	-	-	-	-
CO-3	3	2	1	-	-	3	3	-	-	-	-	-
CO-4	3	2	1	-	-	-	3	-	-	-	-	-
CO-5	3	2	1	-	-	3	3	-	-	-	-	-

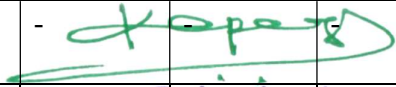

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Max.	3	2	1	-	-	3	3	-	-	-	-	-
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Course Name	Highway Engineering
Course Code	18CV56
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 5. Acquire the capability of proposing a new alignment or re-alignment of existing roads, conduct necessary field investigation for generation of required data. 6. Evaluate the engineering properties of the materials and suggest the suitability of the same for pavement construction. 7. Design road geometrics, structural components of pavement and drainage. 8. Evaluate the highway economics by few select methods and also will have a basic knowledge of various highway financing concepts.

CO-PO Mapping:

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

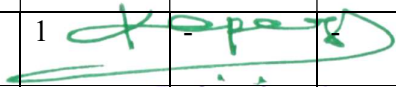

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CO-3	3	3	2	2	-	2	-	-	-	-	-	-
CO-4	3	3	2	2	-	1	-	-	-	-	-	-
Max.	3	3	2	2	-	2	1	-	-	-	-	-

Course Name	Surveying Practice
Course Code	18CVL57
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-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	-	-	-	2	1	-	-



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CO-3	3	-	-	-	2	-	-	-	1	1	-	-
Max.	3	-	-	-	2	-	-	-	2	1	-	-

Course Name	Concrete and Highway Materials Laboratory
Course Code	18CVL58
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:

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Sl.No	Course Code	Subject Name	Credits
28.	18CV61	Design of Steel Structural Elements	4
29.	18CV62	Applied Geotechnical Engineering	4
30.	18CV63	Hydrology and Irrigation Engineering	4
31.	18CV642	Solid Waste Management	3
32.	18ME653	Supply Chain Management	3
33.	18CVL66	Software Application Laboratory	2
34.	18CVL67	Environmental Engineering Laboratory	2
35.	18CVEP68	Extensive Survey Project	2

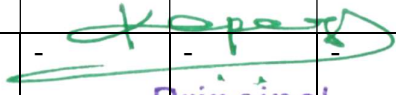
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Course Name	Design of Steel Structural Elements
Course Code	18CV61
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Possess knowledge of Steel Structures Advantages and Disadvantages of Steel structures, steel code provisions and plastic behaviour of structural steel. 7. Understand the Concept of Bolted and Welded connections. 8. Understand the Concept of Design of compression members, built-up columns and columns splices. 9. Understand the Concept of Design of tension members, simple slab base and gusseted base. 10. Understand the Concept of Design of laterally supported and un-supported steel beams.

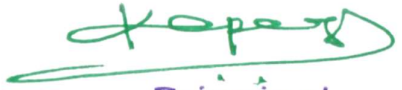
CO – PO Mapping:

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


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

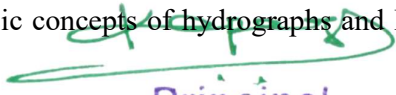
Course Name	Applied Geotechnical Engineering
Course Code	18CV62
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 21. Plan and execute geotechnical site investigation programme for different civil engineering projects. 22. Analyze the stress distribution and compute settlement in various types of soil. 23. Estimate the factor of safety against failure of slopes and to compute lateral pressure distribution behind earth retaining structures. 24. Determine the bearing capacity of soil and to achieve proficiency in proportioning various types of footing. 25. Estimate load carrying capacity of single pile and group of files.


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

Course Name	Hydrology and Irrigation Engineering
Course Code	18CV63
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.

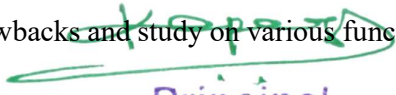

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	10. Estimate capacity of canal, design the canal using Lacey's and Kennedy's method and compute the reservoir capacity.
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CO and PO Mapping:

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

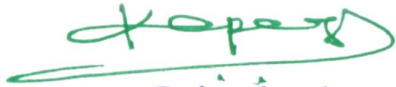
Course Name	Solid Waste Management
Course Code	18CV642
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>11. Understanding the concept of existing solid waste management and its drawbacks and study on various functional elements in detail and solve related problems.</p>


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	<p>12. Identifying the different processing techniques and discussing about the air pollution control in the municipal incinerators.</p> <p>13. Recognizing various composting methods, sanitary landfilling and design criteria for composting and sanitary landfilling and also to study the conversion of municipal solid waste to compost or bio-gas.</p> <p>14. Discussing of various types waste which comes under waste management.</p> <p>15. Discussing on the concept of incineration – pyrolysis and energy recovery systems.</p>
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CO-PO Mapping:

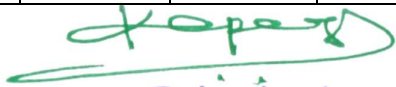
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	-	-	-	2	2	-	-	-	-	-
CO-2	3	-	-	-	-	2	2	-	-	-	-	-
CO-3	3	1	3	-	-	2	2	-	-	-	-	-
CO-4	3	-	-	-	-	2	2	-	-	-	-	-
CO-5	3	-	-	-	-	2	2	-	-	-	-	-
Max.	3	2	3	-	-	2	2	-	-	-	-	-


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Course Name	Supply Chain Management
Course Code	18ME653
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 the framework and scope of supply chain management. 7. Build and manage a competitive supply chain using strategies, models, techniques, and information technology. 8. Plan the demand, inventory and supply and optimize supply chain network. 9. Understand the emerging trends and impact of IT on Supply chain.

CO-PO Mapping:

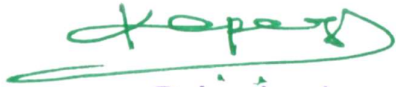
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	-	-	2	1	1	-	-	-	-	-
CO-2	2	-	-	-	2	1	-	-	-	-	-	-
CO-3	3	2	-	-	1	-	-	-	-	-	-	-
CO-4	3	-	-	-	-	1	-	-	-	-	-	-
Max.	3	2	-	-	2	1	1	-	-	-	-	-


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Course Name	Software Application Lab
Course Code	18CVL66
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>9. To analyse plane trusses, continuous beams, portal frames and multi storeyed frame structures using STAAD Pro software.</p> <p>10. To excel in project planning and scheduling of a building project using Primavera software.</p> <p>11. To use excel sheets to compute civil engineering calculations.</p>

CO-PO Mapping:

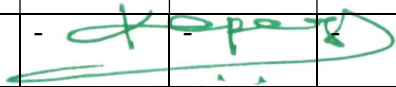
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	3	2	2	-	-	-	-	-	-	2
CO-2	3	3	3	2	2	-	-	-	-	-	-	2
CO-3	3	3	3	2	2	-	-	-	-	-	-	2
Max.	3	3	3	2	2	-	-	-	-	-	-	2


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Course Name	Environmental Engineering Laboratory
Course Code	18CVL67
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 4. Acquire capability to conduct experiments and estimate the concentration of different parameters. 5. Compare the result with standards and discuss based on the purpose of analysis. 6. Determine type of treatment, degree of treatment for water and waste water. 7. Identify the parameter to be analyzed for the student project work in environmental stream

CO-PO Mapping:

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


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Course Name	Extensive Survey Project
Course Code	18CVEP68
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 skills to handle conventional and modern surveying equipments for location of object and setting out works. 2. Interpret and analyze data to prepare drawings and report of engineering projects like water supply, highway and irrigation engineering. 3. Understand the technical difficulties at site and managerial skills to tackle them in completing assigned survey work. 4. Function as team member imparting networking communication and lifelong learning process.

CO-PO Mapping:

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


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Ref :

Date:

2018 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
36.	18CV61	Design of Steel Structural Elements	4
37.	18CV62	Applied Geotechnical Engineering	4
38.	18CV63	Hydrology and Irrigation Engineering	4
39.	18CV642	Solid Waste Management	3
40.	18ME653	Supply Chain Management	3
41.	18CVL66	Software Application Laboratory	2
42.	18CVL67	Environmental Engineering Laboratory	2
43.	18CVEP68	Extensive Survey Project	2

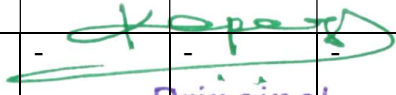
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Course Name	Design of Steel Structural Elements
Course Code	18CV61
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 11. Possess knowledge of Steel Structures Advantages and Disadvantages of Steel structures, steel code provisions and plastic behaviour of structural steel. 12. Understand the Concept of Bolted and Welded connections. 13. Understand the Concept of Design of compression members, built-up columns and columns splices. 14. Understand the Concept of Design of tension members, simple slab base and gusseted base. 15. Understand the Concept of Design of laterally supported and un-supported steel beams.

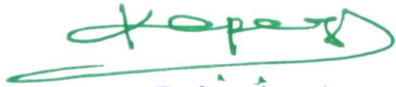
CO – PO Mapping:

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


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

Course Name	Applied Geotechnical Engineering
Course Code	18CV62
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>26. Plan and execute geotechnical site investigation programme for different civil engineering projects.</p> <p>27. Analyze the stress distribution and compute settlement in various types of soil.</p> <p>28. Estimate the factor of safety against failure of slopes and to compute lateral pressure distribution behind earth retaining structures.</p> <p>29. Determine the bearing capacity of soil and to achieve proficiency in proportioning various types of footing.</p> <p>30. Estimate load carrying capacity of single pile and group of files.</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	1	-	-	-	-	-	-	-	-	-
CO-2	3	3	1	-	-	-	-	-	-	-	-	-
CO-3	3	2	2	-	-	-	-	-	-	-	-	-
CO-4	3	2	2	-	-	-	-	-	-	-	-	-
CO-5	2	2	2	-	-	-	-	-	-	-	-	-
Max.	3	3	2	-	-	-	-	-	-	-	-	-

Course Name	Hydrology and Irrigation Engineering
Course Code	18CV63
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none">11. Learn the basic elements & principles of Hydrological cycle, precipitation evaporation& infiltration. Understand various types of irrigation systems, & soil-water crop relationship.12. Understand the concepts of Evaporation, Evapo-transpiration and Infiltration.13. To study the basic definitions and Estimate runoff. To understand the basic concepts of hydrographs and Learn hydrograph analysis.14. Understand concept of duty, delta, benefits, ill-effects of irrigation and concepts of water requirements of crops.

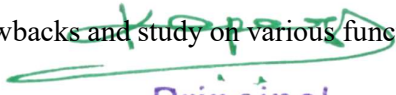
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	15. Estimate capacity of canal, design the canal using Lacey's and Kennedy's method and compute the reservoir capacity.
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CO and PO Mapping:

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

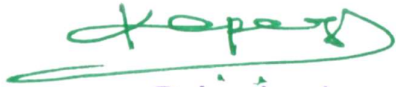
Course Name	Solid Waste Management
Course Code	18CV642
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>16. Understanding the concept of existing solid waste management and its drawbacks and study on various functional elements in detail and solve related problems.</p>


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	<p>17. Identifying the different processing techniques and discussing about the air pollution control in the municipal incinerators.</p> <p>18. Recognizing various composting methods, sanitary landfilling and design criteria for composting and sanitary landfilling and also to study the conversion of municipal solid waste to compost or bio-gas.</p> <p>19. Discussing of various types waste which comes under waste management.</p> <p>20. Discussing on the concept of incineration – pyrolysis and energy recovery systems.</p>
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CO-PO Mapping:

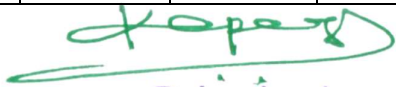
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	-	-	-	2	2	-	-	-	-	-
CO-2	3	-	-	-	-	2	2	-	-	-	-	-
CO-3	3	1	3	-	-	2	2	-	-	-	-	-
CO-4	3	-	-	-	-	2	2	-	-	-	-	-
CO-5	3	-	-	-	-	2	2	-	-	-	-	-
Max.	3	2	3	-	-	2	2	-	-	-	-	-


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Course Name	Supply Chain Management
Course Code	18ME653
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>10. Understand the framework and scope of supply chain management.</p> <p>11. Build and manage a competitive supply chain using strategies, models, techniques, and information technology.</p> <p>12. Plan the demand, inventory and supply and optimize supply chain network.</p> <p>13. Understand the emerging trends and impact of IT on Supply chain.</p>

CO-PO Mapping:

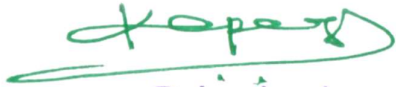
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	2	-	-	2	1	1	-	-	-	-	-
CO-2	2	-	-	-	2	1	-	-	-	-	-	-
CO-3	3	2	-	-	1	-	-	-	-	-	-	-
CO-4	3	-	-	-	-	1	-	-	-	-	-	-
Max.	3	2	-	-	2	1	1	-	-	-	-	-


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Course Name	Software Application Lab
Course Code	18CVL66
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>12. To analyse plane trusses, continuous beams, portal frames and multi storeyed frame structures using STAAD Pro software.</p> <p>13. To excel in project planning and scheduling of a building project using Primavera software.</p> <p>14. To use excel sheets to compute civil engineering calculations.</p>

CO-PO Mapping:

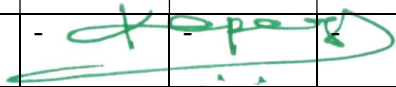
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	3	2	2	-	-	-	-	-	-	2
CO-2	3	3	3	2	2	-	-	-	-	-	-	2
CO-3	3	3	3	2	2	-	-	-	-	-	-	2
Max.	3	3	3	2	2	-	-	-	-	-	-	2


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Course Name	Environmental Engineering Laboratory
Course Code	18CVL67
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>8. Acquire capability to conduct experiments and estimate the concentration of different parameters.</p> <p>9. Compare the result with standards and discuss based on the purpose of analysis.</p> <p>10. Determine type of treatment, degree of treatment for water and waste water.</p> <p>11. Identify the parameter to be analyzed for the student project work in environmental stream</p>

CO-PO Mapping:

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


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Course Name	Extensive Survey Project
Course Code	18CVEP68
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 5. Apply skills to handle conventional and modern surveying equipments for location of object and setting out works. 6. Interpret and analyze data to prepare drawings and report of engineering projects like water supply, highway and irrigation engineering. 7. Understand the technical difficulties at site and managerial skills to tackle them in completing assigned survey work. 8. Function as team member imparting networking communication and lifelong learning process.

CO-PO Mapping:

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


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

Ref :

Date:

2018 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
44.	18CV71	Quality Surveying and Contract Management	3
45.	18CV72	Design of RCC and Steel Structures	3
46.	18CV732	Air Pollution and Control	3
47.	18CV745	Urban Transport Planning	3
48.	18ME753	Industrial Safety	3
49.	18CVL76	Computer Aided Detailing of Structures	2
50.	18CVL77	Geotechnical Engineering Laboratory	2
51.	18CVP78	Project Work Phase - I	1

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Course Name	Quality Surveying and Contract Management
Course Code	18CV71
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>16. 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.</p> <p>17. To prepare the detailed and abstract estimate of road, earthwork in cutting, filling and partly cutting and filling , septic tank, steel truss and manhole.</p> <p>18. 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.</p> <p>19. Attain the knowledge on tender and its Process, laws of Contract and Types of Contract and contract forms.</p> <p>20. Attain the Knowledge on valuation and Various terms associated in contract. Prepare Valuation report of building.</p>

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	-	-	-	-	-	-	-	-	-	1

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CO4	3	-	-	-	-	-	-	2	-	-	-	-
CO5	3	-	-	-	-	-	-	2	-	-	-	-
Max.	3	2	-	-	-	-	-	2	-	-	-	1

Course Name	Design of RCC and Steel Structures
Course Code	18CV72
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>31. Students will acquire the basic knowledge in RCC and Steel structures.</p> <p>32. 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:

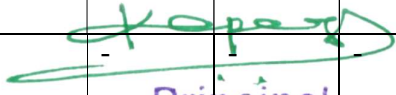
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1	3	-	3	-	-	2	-	-	-	-	-	-
CO2	3	-	3	-	-	2	-	-	-	-	-	-
Max.	3	-	3	-	-	2	-	-	-	-	-	-


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Course Name	Air Pollution and Control
Course Code	18CV732
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>16. Understand the sources and effects of air pollution.</p> <p>17. Understand the meteorological factors influencing air pollution and analyze air pollutant dispersion models.</p> <p>18. Learn the different sampling techniques, monitoring and analyze the air pollutants.</p> <p>19. Illustrate particular and gaseous pollution control methods.</p> <p>20. Understand the different episodes of air pollution, concept of noise pollution, laws and acts.</p>

CO and PO Mapping:

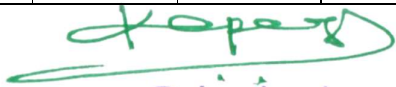
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	1	-	-	-	-	2	-	-	-	-	-
CO-2	3	3	3	-	-	2	1	-	-	-	-	-
CO-3	3	3	1	-	-	2	2	-	-	-	-	-
CO-4	3	3	-	-	-	1	2	-	-	-	-	-
CO-5	3	3	-	-	-	1	1	-	-	-	-	-
Max.	3	3	3	-	-	2	2	-	-	-	-	-


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Course Name	Urban Transport Planning
Course Code	18CV745
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>21. Design, conduct and administer surveys to provide the data required for transportation planning.</p> <p>22. Supervise the process of data collection about travel behaviour and analyze the data for use in transport planning.</p> <p>23. Develop and calibrate modal split, trip generation rates for specific types of land use developments.</p> <p>24. Adopt the steps that are necessary to complete a long-term transportation plan</p>

CO-PO Mapping:

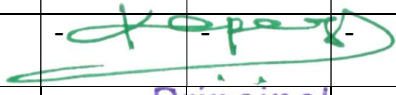
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	2	2	-	-	1	-	-	-	-	-
CO-2	3	3	2	2	-	2	-	-	-	-	-	-
CO-3	3	3	2	2	-	2	-	-	-	-	-	-
CO-4	3	3	2	2	-	1	-	-	-	-	-	-
Average	3	3	2	2	-	2	1	-	-	-	-	-


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Course Name	Industrial Safety
Course Code	18ME753
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>14. Understand the basic safety terms and international standards.</p> <p>15. Identify the hazards and risk analysis around the work environment and industries.</p> <p>16. Use the safe measures while performing work in and around the work area of the available laboratories. Able to recognize the sign boards and its application</p> <p>17. Recognise the types of fires extinguishers and to demonstrate the portable extinguishers used for different classes of fires. Report the case studies by sharing experience of the employees working in housekeeping, laboratories like workshops, electrical labs, machine shops, electronics and computer laboratories.</p>

CO-PO Mapping:

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


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Course Name	Computer Aided Detailing of Structures
Course Code	18CVL76
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>15. To understand the concept of RCC and steel structural elements and its bar bending schedule and execute them using auto CADD software.</p> <p>16. After execution, the students are capable of detailing the structural elements as per prescribed code book</p>

CO-PO Mapping:

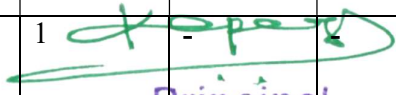
CO'S	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO-1	3	3	-	-	-	-	-	-	-	-	-	-
CO-2	3	3	-	-	2	-	-	-	-	-	-	-
Max.	3	3	-	-	2	-	-	-	-	-	-	-


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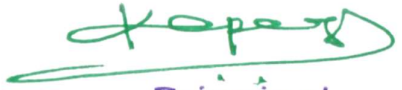
Course Name	Geotechnical Engineering Lab
Course Code	18CVL77
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>12. Physical and index properties of the soil .</p> <p>13. Classify based on index properties and field identification.</p> <p>14. To determine OMC and MDD, plan and assess field compaction program.</p> <p>15. Shear strength and consolidation parameters to assess strength and deformation characteristics.</p> <p>16. In-situ shear strength characteristics(SPT-Demonstration)</p>

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	-	-


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


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

Ref :

Date:

2018 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
52.	18CV81	Design of Pre-stressed Concrete	3
53.	18CV825	Pavement Design	3
54.	18CVP83	Project Work	8
55.	18CVS84	Technical Seminar	1
56.	18CVI85	Internship	3

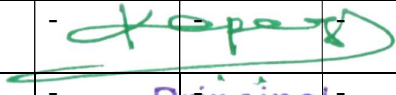
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Course Name	Design of Pre-stressed Concrete
Course Code	18CV81
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>21. To understand the concept, properties and types of prestressing, steel and high strength concrete.</p> <p>22. Will be able to calculate the losses in pre Stress based on different parameters and to understand and solve deflection and crack width</p> <p>23. Will acquire the knowledge to analyze and design the sections for flexure.</p> <p>24. Capable of analyzing the PSC element and finding its efficiency.</p> <p>25. Design PSC beam for different requirements.</p>

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	3	-	-	2	-	-	-	-	-	-
CO-4	3	3	3	-	-	2	-	-	-	-	-	-
CO-5	3	3	3	-	-	2	-	-	-	-	-	-

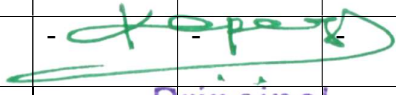

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Max.	3	3	3	-	-	2	-	-	-	-	-	-
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Course Name	Pavement Design
Course Code	18CV825
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>33. Understand concepts of pavements design strategies and analyze stress, strain and deflection by boussinesq's, burmister's theory.</p> <p>34. Study the concept of ESWL and Design flexible pavement based on different methods confirming IRC -37.</p> <p>35. Evaluate performance, failures of flexible pavements and design airfield pavement.</p> <p>36. Apply the concepts of stresses and design rigid pavement based on different methods confirming IRC -58.</p> <p>37. Analyze performance, maintenance of rigid pavement and design of joints in rigid pavement.</p>

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	-	-	-	-	-	-


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

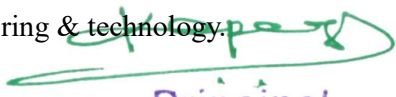
Course Name	Project Work
Course Code	18CVP83
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 21. Describe the project and be able to defend it. 22. Develop critical thinking and problem-solving skills. 23. Learn to use modern tools and techniques. 24. Communicate effectively and to present ideas clearly and coherently both in written and oral forms. 25. 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.


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

Course Name	Technical Seminar
Course Code	18CVS84
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ul style="list-style-type: none">25. Develop knowledge in the field of Civil Engineering and other disciplines through independent learning and collaborative study.26. Identify and discuss the current, real-time issues and challenges in engineering & technology.27. Develop written and oral communication skills.


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	28. Explore concepts in larger diverse social and academic contexts. 29. Apply principles of ethics and respect in interaction with others
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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	-	-	-	-	2	-	-	-
CO-2	3	-	-	-	-	2	-	-	-	-	-	-
CO-3	3	-	-	2	-	-	-	-	-	-	2	2
CO-4	3	-	-	2	-	2	-	-	2	2	2	2
Max.	3	-	-	2	-	2	-	-	2	2	2	2

Course Name	Internship
Course Code	18CVI85
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>18. Understand domain knowledge</p> <p>19. Learn Skills required as per real practical applications</p>

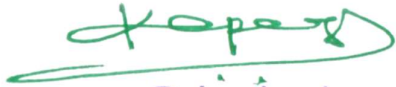

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	20. Preparation of Report based on exposure to industry
	21. Presentation of Internship

CO-PO Mapping:

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


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