



SHREE DEVI INSTITUTE OF TECHNOLOGY

(Affiliated to Visvesvaraya Technological University & Recognized by AICTE)

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2016 SCHEME – CO AND PO MAPPING

Sl.No	Course Code	Subject Name	Credits
1.	16CCT11	Mechanization in Construction	4
2.	16CCT12	Construction Project and Management	4
3.	16CCT13	Advanced Techniques in Concrete Construction	4
4.	16CCT14	Construction Quality and Safety	4
5.	16CCT154	Sustainable Materials and Green Building	3
6.	16CCTL16	Advanced Material Testing Lab	2
7.	16CCT17	Seminar	2

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Course Name	Mechanization in Construction
Course Code	16CCT11
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 applications of different types of equipments /machineries used in construction industry. 2. Understand use of modern tools and techniques. 3. Know the methods of drilling and blasting. 4. Impact of different construction activities on environment. 5. Apply the latest equipment technique in the construction industry.

CO and PO Mapping:

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



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

Course Name	Construction Project and Management
Course Code	16CCT12
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Allocate the funds for each work and execute the same. 2. Calculate the total time required to complete the job without delay and delay in the project and also estimate the amount of additional funds may require to complete the job. 3. Apply concept of scheduling and networking. 4. Know the idea of time and cost relationship. 5. Apply the idea of line of Balance and Building Information Model.

CO and PO Mapping:

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


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


Course Name	Advanced Techniques in Concrete Construction
Course Code	16CCT13
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Solve the problems of environmental issues concerned to building materials and cost effective building technologies. 2. Analyze different alternative building materials, which will be suitable for specific climate and in sustainable manner. 3. Recommend various types of alternative building materials, technologies and to design a energy efficient building by considering local climatic condition and building materials. 4. Conduct the various tests on fresh and hardened concrete, special concrete and the methods of manufacturing of concrete.


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	5. Know the idea of utilizing less carbon emission materials.
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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	2	-	-	-	-	-	-
CO2	3	-	-	2	2	2	2	2	-	-	-	-
CO3	3	-	-	3	-	2	2	2	-	-	-	-
CO4	3	-	-	2	-	-	-	-	-	-	-	-
CO5	3	-	-	2	-	-	-	-	-	-	-	-
Max.	3	-	-	3	2	2	2	2	-	-	-	-


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Course Name	Construction Quality and Safety
Course Code	16CCT14
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Gain the knowledge, Importance and necessity of quality management in construction. 2. Learn and apply the importance of safety management in construction. 3. Apply concept of safety management. 4. Know the idea of relationship between quality and safety management. 5. Apply the idea of structural safety and safety measure.

CO and PO Mapping:

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


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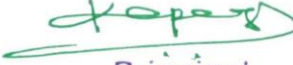
Max.	3	-	-	3	2	2	2	2	-	-	-	-
Course Name	Sustainable Materials and Green Building											
Course Code	16CCT154											
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Solve the problems of environmental issues concerned to building materials and cost effective building technologies. 2. Analyze different alternative building materials, which will be suitable for specific climate and in sustainable manner. 3. Recommend various types of alternative building materials, technologies and to design a energy efficient building by considering local climatic condition and building materials. 4. Conduct the various tests on fresh and hardened concrete, special concrete and the methods of manufacturing of concrete. 5. Know the idea of utilizing less carbon emission materials. 											


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

Course Name	Advanced Material Testing Lab
Course Code	16CCTL16
Course Objectives	After a successful completion of the course, the student will be able to: <ol style="list-style-type: none">1. Achieve the Knowledge of design and development of experimental skills.2. Understand the properties fresh and hardened concrete.3. Understand the classification of soil and safe bearing capacity of soil in construction industry.


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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	1	-	1	-	3	3	-	1
CO2	3	-	-	3	1	-	1	-	3	3	-	1
CO3	3	-	-	3	1	-	1	-	3	3	-	1
Max.	3	-	-	3	1	-	1	-	3	3	-	1

Course Name	Technical Seminar
Course Code	16CCT17
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 knowledge in the field of Civil Engineering and other disciplines through independent learning and collaborative study.2. Identify and discuss the current, real-time issues and challenges in engineering & technology.3. Develop written and oral communication skills.4. Explore concepts in larger diverse social and academic contexts.

5. 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
CO1	3	-	-	2	-	-	-	-	3	-	-	-
CO2	3	-	-		-	3	-	3	-	-	-	-
CO3	3	-	-	2	-	-	-	-	-	-	3	3
CO4	3	-	-	2	-	3	-	-	3	3	3	3
Max.	3	-	-	2	-	3	-	3	3	3	3	3



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Sl.No	Course Code	Subject Name	Credits
8.	16CCT21	Design concepts of sub- structures	4
9.	16CCT22	Construction Economics and Finance	4
10.	16CCT23	Pre-Engineered Construction Technology	4
11.	16CCT24	Construction Contracts and Specification	4
12.	16CCT253	Pavement Design and Construction	4
13.	16CCTL26	Software Application Laboratory	2
14.	16CCT27	Seminar	2

Course Name	Design concepts of sub- structures
Course Code	16CCT21
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 importance of soil exploration; determine the Bearing capacity of the soil in various field conditions. 2. Design the shallow foundations and raft foundation. 3. Understand and solve the problems associated with pile foundations. 4. Understand importance of geo-synthetics as soil reinforcement.


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	5. Understand deep foundation and necessity of soil Reinforcement
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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	-	-	3	2	2	2	2	-	-	-	-
CO-3	3	-	-	3	-	2	2	2	-	-	-	-
CO-4	3	-	-	3	-	-	-	-	-	-	-	-
CO-5	3	-	-	3	-	-	-	-	-	-	-	-
Max.	3	-	-	3	2	2	2	2	-	-	-	-

Course Name	Construction Economics and Finance
Course Code	16CCT22
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 importance of economics and finance in civil engineering projects.


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	<p>2. To understand and analyze financial statements.</p> <p>3. To assess profit, loss and break-even point.</p> <p>4. To develop a budget, manage and regulate it.</p> <p>5. To analyse different risks and uncertainties.</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	-	-	-	1	1	1	-	-
CO-2	3	2	2	2	1	1	1	1	1	1	-	-
CO-3	3	2	-	2	2	1	1	1	-	1	-	-
CO-4	3	2	-	-	-	-	1	1	-	-	-	-
CO-5	3	2	-	-	-	-	1	1	-	-	-	-
Max.	3	3	2	2	2	1	1	1	1	1	-	-


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Course Name	Pre-Engineered Construction Technology
Course Code	16CCT23
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. To design the pre-engineered structures and execute the same for a given structure. 7. To know the different types of stresses acting on the structures while lifting the prefabricated structures and type of equipment required to support such stresses. 8. Know Production and Hoisting Technology. 9. Impact of different Precast sandwich Panels, Pre-stressed concrete in construction industry. 10. Apply the latest Pre-Engineered Buildings equipment technique in the construction industry.

CO and PO Mapping:

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


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Max.	3	-	-	3	2	1	1	1	-	-	-	-
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Course Name	Construction Contracts and Specification
Course Code	16CCT24
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Attain the knowledge on estimates, Develop and present rate analysis and specifications and develop and present the tender documents for the project. 7. Attain the knowledge on tendering procedure, claims and dispute mechanisms and attain the knowledge on BOT, PPP, Concession contracts. 8. Attain the knowledge on laws affecting engineers, relational contracts.

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


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CO3	3	-	-	3	-	2		1	-	-	-	-
CO4	3	-	-	2	-	-	-	-	-	-	-	-
CO5	3	-	-	2	-	-	-	-	-	-	-	-
Max.	3	-	-	3	2	2	1	1	-	-	-	-


CO-PO Mapping:

Course Name	Pavement Design and Construction
Course Code	16CCT252
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 6. Explain the various factors affecting design and performance of pavements. 7. Calculate the stresses and deflection in flexible and rigid pavements. 8. Select suitable equipment for preparation of sub grade and preparation stages for base and sub base layers. 9. Design the thickness of flexible pavements by different methods under different exposure conditions and materials. 10. Design the thickness of concrete pavements and joints associated with CC pavements in addition to the computation of stresses in CC pavements.

CO and PO Mapping:

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

Course Name	Software Application Laboratory
Course Code	16CCTL26
Course Objectives	After a successful completion of the course, the student will be able to: 4. Achieve Knowledge of Design and development of soft skills. 5. Understand the application of planning and scheduling techniques to construction project. 6. Optimize time and cost for the construction project.


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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	2	3	-	-	-	-	-	-	2
CO2	3	3	3	2	3	-	-	-	-	-	-	2
CO3	3	3	3	2	3	-	-	-	-	-	-	2
Average	3	3	3	2	3	-	-	-	-	-	-	2

Course Name	Technical Seminar
Course Code	16CCT27
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 knowledge in the field of Civil Engineering and other disciplines through independent learning and collaborative study.2. Identify and discuss the current, real-time issues and challenges in engineering & technology.3. Develop written and oral communication skills.4. Explore concepts in larger diverse social and academic contexts.5. 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
CO1	3	-	-	2	-	-	-	-	3	-	-	-
CO2	3	-	-		-	3	-	3	-	-	-	-
CO3	3	-	-	2	-	-	-	-	-	-	3	3
CO4	3	-	-	2	-	3	-	-	3	3	3	3
Average	3	-	-	2	-	3	-	3	3	3	3	3


Sl. No	Course Code	Subject Name	Credits
15.	16CCT31	Seminar / Presentation on Internship	20
16.	16CCT32	Report on Internship	
17.	16CCT33	Evaluation and Viva-Voce of Internship	
18.	16CCT34	Evaluation of Project Phase - 1	1


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Course Name	Internship
Course Code	16CCT31/32/33
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 and Report of Internship.</p>

CO-PO Mapping:


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


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Course Name	Project phase I
Course Code	16CCT34
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>9. Describe the project and be able to defend it.</p> <p>10. Develop critical thinking and problem-solving skills.</p> <p>11. Learn to use modern tools and techniques.</p> <p>12. Communicate effectively and to present ideas clearly and coherently both in written and oral forms.</p> <p>13. 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.</p>


CO- PO Mapping:

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


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

Sl. No	Course Code	Subject Name	Credits
19.	16CCT41	Restoration and Rehabilitation of Structures	4
20.	16CCT422	Construction Demolition and Waste Management	3
21.	16CCT43	Evaluation of Project Phase-2	3
22.	16CCT44	Evaluation of Project and Viva-voce	10


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Course Name	Restoration and Rehabilitation of Structures
Course Code	16CCT41
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>11. Predict the failure modes in structures. And Design the structures to overcome the failure in construction activities.</p> <p>12. Understand the deterioration of structures. and Suggest remedial measures for different types of failures.</p>

CO-PO Mapping:


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


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Course Name	Construction Demolition and Waste Management
Course Code	16CCT422
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <ol style="list-style-type: none"> 1. Formulate, design, evaluate and review pre-construction and construction phase resource efficient waste management plans. 2. Evaluate, assess and recommend potential reuse/recycling/disposal options considering existing and potential future markets/use.

CO and PO Mapping:

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


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Course Name	Evaluation of Project phase 2 and Viva Voce.
Course Code	16CCT43/44
Course Objectives	<p>After a successful completion of the course, the student will be able to:</p> <p>14. Describe the project and be able to defend it.</p> <p>15. Develop critical thinking and problem-solving skills.</p> <p>16. Learn to use modern tools and techniques.</p> <p>17. Communicate effectively and to present ideas clearly and coherently both in written and oral forms.</p> <p>18. 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.</p>

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


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



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