

DEPARTMENT OF CIVIL ENGINEERING
Course Outcomes-2022 Scheme (M.Tech - CCT)

S.No.	Subject Code	Course Code	Course Outcomes
1	22CCT11 STATISTICS AND OPTIMIZATION TECHNIQUES	C101.1	Apply the knowledge of direct methods and iterative methods for solving system of linear equations up to required accuracy
		C101.2	Acquire the idea of significant figures, method of approximation of roots of equation.
		C101.3	Understand numerical methods/linear programming techniques to various root finding/differential and integral equations
		C101.4	Interpret the probability concepts in Civil engineering
		C101.5	Learn the applications of statistical methods for the experiments and civil engineering projects

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2	22CCT12 SUSTAINABLE CONSTRUCTION MATERIALS	C102.1	Solve the problems of environmental issues concerned to building materials and cost effective building technologies
		C102.2	Analyze different alternative building materials, which will be suitable for specific climate and in sustainable manner
		C102.3	Recommend various types of alternative building materials, technologies and to design a energy efficient building by considering local climatic condition and building materials
		C102.4	Conduct the various tests on fresh and hardened concrete, special concrete and the methods of manufacturing of concrete
		C102.5	Know the idea of utilizing less carbon emission materials

S.No.	Subject Code	Course Code	Course Outcomes
		C103.1	Gain the knowledge, Importance and necessity of quality management in construction
		C103.2	Learn and apply the importance of safety

3	22CCT13 CONSTRUCT ION QUALITY AND SAFETY		management in construction
		C103.3	Apply concept of safety management
		C103.4	Know the idea of relationship between quality and safety management
		C103.5	Apply the idea of structural safety and safety measure

S.No.	Subject Code	Course Code	Course Outcomes
4	22CCT14 CONSTRUCT ION PROJECT MANAGEMENT	C104.1	Allocate the funds for each work and execute the same.
		C104.2	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.
		C104.3	Apply concept of scheduling and networking
		C104.4	Know the idea of time and cost relationship
		C104.5	Apply the idea of line of Balance and Building Information Model

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5	22CCT15 MECHANIZA TION IN CONSTRUCT ION	C105.1	Understand applications of different types of equipments/machineries used in construction industry
		C105.2	Understand use of modern tools and techniques
		C105.3	Know the methods of drilling and blasting.
		C105.4	Impact of different construction activities on environment
		C105.5	Apply the latest equipment technique in the construction industry

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6	22RMI17 RESEARCH METHODOLO GY AND IPR	C106.1	Discuss research methodology and the technique of defining a research problem
		C106.2	Explain the functions of the literature review in research, carrying out a literature search, developing theoretical and conceptual frameworks and writing a review.
		C106.3	Explain various research designs, sampling designs, measurement and scaling techniques and also different methods of data collections.
		C106.4	Explain several parametric tests of hypotheses, Chi-square test, art of interpretation and writing research reports
		C106.5	Discuss various forms of the intellectual property,

			its relevance and business impact in the changing global business environment and leading International Instruments concerning
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7	22CCTL17 ADVANCED MATERIAL TESTING LABORATOR Y	C107.1	Achieve the Knowledge of design and development of experimental skills.
		C107.2	Understand the properties fresh and hardened concrete
		C107.3	Understand the classification of soil and safe bearing capacity of soil in construction industry

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8	22CCT21 CONSTRUCTI ON ECONOMICS AND FINANCE	C201.1	To understand the importance of economics and finance in civil engineering projects
		C201.2	To understand and analyze financial statements
		C201.3	To assess profit, loss and break-even point
		C201.4	To develop a budget, manage and regulate it
		C201.5	To analyse different risks and uncertainties

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9	22CCT22 PRE ENGINEERED CONSTRUCTION TECHNOLOGY	C202.1	To design the pre-engineered structures and execute the same for a given structure.
		C202.2	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
		C202.3	Know Production and Hoisting Technology
		C202.4	Impact of different Precast sandwich Panels ,Pre-stressed concrete in construction industry
		C202.5	Apply the latest Pre-Engineered Buildings equipment technique in the construction industry

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10	22CCT231 BUILDING SERVICES AND MAINTENANCE	C203.1	Manage the building services provisions in big construction sites
		C203.2	Synchronize the construction activities with installation of building services
		C203.3	Select the suitable electrical as well mechanical services for particular requirements of buildings
		C203.4	Select the appropriate type of maintenance depending upon necessity and requisite budget
		C203.5	Apply M.I.S. for building maintenance. Maintenance standards

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11	22CCT242 PAVEMENT DESIGN AND CONSTRUCTION	C204.1	Explain the various factors affecting design and performance of pavements
		C204.2	Calculate the stresses and deflection in flexible and rigid pavements
		C204.3	Select suitable equipment for preparation of sub grade and preparation stages for base and sub base layers
		C204.4	Design the thickness of flexible pavements by different methods under different exposure conditions and materials
		C204.5	Design the thickness of concrete pavements and joints associated with CC pavements in addition to the computation of stresses in CC pavements

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12	22CCTL25 Mini Project with Seminar	C205.1	Construct the company profile by compiling the brief history, management structure, products / services offered, key achievements and market performance for his / her organization of internship.
		C205.2	Determine the challenges and future potential for his / her internship organization in particular and the sector in general.
		C205.3	Test the theoretical learning in practical situations by accomplishing the tasks assigned during the internship period.
		C205.4	Apply various soft skills such as time management, positive attitude and communication skills during performance of the tasks assigned in internship organization

		C205.5	Analyze the functioning of internship organization and recommend changes for improvement in processes.
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13	22CCTL26 Software Application Laboratory	C206.1	Achieve Knowledge of Design and development of soft skills.
		C206.2	Understand the application of planning and scheduling techniques to construction project
		C206.3	Optimize time and cost for the construction project.

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14	22CCT31 RESTORATIO N AND REHABILITAT ION OF THE STRUCTURES	C207.1	Predict the failure modes in structures. And Design the structures to overcome the failure in construction activities
		C207.2	Understand the deterioration of structures. and Suggest remedial measures for different types of failures
		C207.3	Understand different methods of demolition

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15	22CCT321 CONSTRUCT ION CONTRACTS SPECIFICATI ON AND ESTIMATION	C208.1	Attain the knowledge on estimates, Develop and present rate analysis and specifications. And Develop and present the tender documents for the project
		C208.2	Attain the knowledge on tendering procedure, claims and dispute mechanisms. And Attain the knowledge on BOT, PPP, Concession contracts
		C208.3	Attain the knowledge on laws affecting engineers, relational contracts

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16	22CCT332 GREEN BUILDING TECHNOLO GY	C209.1	Define a green building, along with its features, benefits and rating systems
		C209.2	Describe the criteria used for site selection and water efficiency methods.
		C209.3	Explain the energy efficiency terms and methods used in green building practices.
		C209.4	Select materials for sustainable built environment & adopt waste management methods

		C209.5	Describe the methods used to maintain indoor environmental quality
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17	22CCT34 PROJECT WORK PHASE – 1	C210.1	Demonstrate a sound technical knowledge of their selected project topic
		C210.2	Undertake problem identification, formulation, and solution
		C210.3	Design engineering solutions to complex problems utilising a systems approach
		C210.4	Communicate with engineers and the community at large in written and oral forms.

S.No.	Subject Code	Course Code	Course Outcomes
18	22CCT35 SOCIETAL PROJECT	C211.1	Demonstrate a sound technical knowledge of their selected societal project topic.
		C211.2	Undertake problem identification, formulation, and solution.
		C211.3	Design engineering solutions to complex problems utilising a systems approach.
		C211.4	Communicate with engineers and the community at large in written and oral forms.

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19	22CCTI36 INTERNSHIP	C212.1	Gain practical experience within industry in which the internship is done
		C212.2	Acquire knowledge of the industry in which the internship is done.
		C212.3	Apply knowledge and skills learned to classroom work.
		C212.4	Develop a greater understanding about career options while more clearly defining personal career goals.
		C212.5	Experience the activities and functions of professionals.
		C212.6	Develop and refine oral and written communication skills.
		C212.7	Identify areas for future knowledge and skill development.

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20	22CCT41 PROJECT WORK PHASE -2	C213.1	Present the project and be able to defend it
		C213.2	Make links across different areas of knowledge and to generate, develop and evaluate ideas and information so as to apply these skills to the project task
		C213.3	Habituated to critical thinking and use problem solving skills
		C213.4	Communicate effectively and to present ideas clearly and coherently in both the written and oral forms.