



**MEENAKSHI SUNDARARAJAN ENGINEERING COLLEGE**  
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Website : [www.msec.edu.in](http://www.msec.edu.in)  
**M.E CONSTRUCTION ENGINEERING AND MANAGEMENT**

**REGULATION – 2017**

**COURSE OUTCOMES**

**MA5165 Statistical Methods for Engineers (C101)**

<b>CO CODE</b>	<b>COURSE OUTCOME</b>
C101.1	Obtain the value of the point estimators using the method of moments and method of maximum likelihood.
C101.2	Use various test statistics in hypothesis testing for mean and variances of large and small samples.
C101.3	Determine the regression line using the method of least square and also to calculate the partial and multiple correlation coefficient for the given set of data points.
C101.4	Test the hypothesis for several means using one way, two way or three way classifications.
C101.5	Get exposure to the principal component analysis of random vectors and matrices.

**CN5101 Modern Construction Materials (C102)**

<b>CO CODE</b>	<b>COURSE OUTCOME</b>
C102.1	Explain the various types of special concretes
C102.2	Select the different processing of steel and applications of coating
C102.3	Explain the manufacturing process and applications of polymer composites
C102.4	Identify the different flooring materials and application of façade materials
C102.5	Apply the knowledge of smart and intelligent materials in construction field

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**CN5102 Construction Equipment (C103)**

CO CODE	COURSE OUTCOME
C103.1	Develop knowledge on planning of equipment and selection of equipment
C103.2	Explain the knowledge on fundamentals of earth work operations, earth moving operations and types of earth work equipment
C103.3	Develop the knowledge on special construction equipment's
C103.4	Apply the knowledge on asphalt and concrete plants
C103.5	Apply the knowledge and select the proper materials handling equipment

**CN5103 Construction Planning, Scheduling and Control (C104)**

CO CODE	COURSE OUTCOME
C104.1	Identify and estimate the activity in the construction
C104.2	Schedule the networking of activities using critical path method
C104.3	Evaluate the project budget required for the particular construction project
C104.4	Recognize the various quality control tool required in the construction industry
C104.5	Explain the different databases that can be maintained in a construction industry using computers.

**CN5001 Advanced Concrete Technology (C105)**

CO CODE	COURSE OUTCOME
C105.1	Understand the testing of concrete making materials as per IS code and admixtures
C105.2	Know the procedure to determine the properties of fresh and hardened of concrete.

  
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C105.3	Design of concrete mix and grade as per IS codes and ACI method.
C105.4	Describe the application and use of special concrete.
C105.5	Know the methods and techniques involved in the concrete for various structures.

**CN5003 Quantitative Techniques in Management (C106)**

CO CODE	COURSE OUTCOME
C106.1	Apply the knowledge of science and engineering fundamentals in learning the concept of operations research and its practical applicability for solving challenges in construction.
C106.2	Identify, formulate, plan and schedule construction engineering projects.
C106.3	Apply the knowledge of financial management and cost concepts.
C106.4	Design the required man, material, equipment, cost and time as per needs by proper decision rules.
C106.5	Analyze the cost by break-even analysis and modern construction management software.

**CN5201 Advanced Construction Techniques (C107)**

CO CODE	COURSE OUTCOME
C107.1	Understand the modern construction techniques used in the sub structure construction.
C107.2	Demonstrate knowledge and understanding of the principles and concepts relevant to super structure construction for buildings
C107.3	Understand the concepts used in the construction of special structures
C107.4	Knowledge on Various strengthening and repair methods for different cases.
C107.5	Identify the suitable demolition technique for demolishing a building.

  
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**CN5202 Contract Laws and Regulations (C108)**

CO CODE	COURSE OUTCOME
C108.1	Design the construction contracts
C108.2	Develop a skill for the tendering process.
C108.3	Explain the duties of the arbitrator.
C108.4	Develop an idea on the various legal requirements to be met in relation to land and construction.
C108.5	Identify and apply the provisions provided in the labour welfare schemes.

**CN5203 Computer Applications in Construction Engineering and Planning (C109)**

CO CODE	COURSE OUTCOME
C109.1	Use of software's in construction Industry.
C109.2	Apply various optimization techniques.
C109.3	Apply Deterministic and Probabilistic Inventory Models.
C109.4	Analyze the scheduling concepts.
C109.5	Solve problems using simulation and ERP systems.

**CN5204 Economics and Finance Management in Construction (C110)**

CO CODE	COURSE OUTCOME
C110.1	Describe the basic principles of Economic in construction
C110.2	Evaluate alternate proposals
C110.3	Evaluate alternative investments

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C110.4	Select best source of finance for a project
C110.5	Manage the finance and accounting

**CN5006 Construction Project Management (C111)**

CO CODE	COURSE OUTCOME
C111.1	Identify the stages involved in a project and analyze the obligatory services to be taken up while performing a construction activity.
C111.2	Apply the professional skills acquired in managing a construction project.
C111.3	Develop the ability to attain an equilibrium among Innovation, Technology and Economic feasibility.
C111.4	Cultivate an idea on effective resource utilization and identify factors affecting job productivity.
C111.5	Estimate the cost of construction project.

**CN5007 Construction Personnel Management (C112)**

CO CODE	COURSE OUTCOME
C112.1	Identify, select and plan the manpower in construction project
C112.2	Strategize and classify the structure of organization and operations
C112.3	Interpret the human relations and significance of organisational behaviour
C112.4	Formulate welfare measure for personnel in construction sector
C112.5	Develop methods to manage quantitative and qualitative performance

  
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**CN5211 Advanced Construction Engineering and Computing Techniques (C113)**

CO CODE	COURSE OUTCOME
C113.1	Compare and analyse the methods of mix proportioning and effect of admixtures in concrete
C113.2	Practice the test of NDT and workability tests on concrete
C113.3	Apply the analytical techniques and graphical analysis to interpret the experimental data
C113.4	Schedule project data and generate reports with graphical information
C113.5	Simulate the risks involved in construction project

**CN5212 Practical Training I (C114)**

CO CODE	COURSE OUTCOME
C114.1	Gained first-hand knowledge of practical problems in carrying out engineering tasks
C114.2	Gather knowledge in communication and interpersonal skills
C114.3	Developed skills in facing and solving the field problems

**CN5301 Quality Control and Assurance in Construction (C201)**

CO CODE	COURSE OUTCOME
C201.1	Achieve the knowledge of quality management guidelines, quality circles.
C201.2	Apply the quality standards for preparing Quality system documents.
C201.3	Explain the skill of preparing inspection procedures for quality planning.
C201.4	Select the techniques and tools for Quality Assurance and

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	Control in Construction Industry.
C201.5	Achieve the knowledge of quality improvement techniques

**CN5010 Resource Management and Control in Construction (C202)**

CO CODE	COURSE OUTCOME
C202.1	Identify the different types of resources in a construction industry
C202.2	Evaluate the labour productivity and the influencing factors
C202.3	Calculate the equipment output and its operation condition of construction equipment
C202.4	Describe the terms of cash inflow, cash outflow and balance sheet
C202.5	Categorize the time and cost related information's in a construction sector.

**CN5011 Project Safety Management (C203)**

CO CODE	COURSE OUTCOME
C203.1	Develop the knowledge on accidents and their causes
C203.2	Develop the knowledge about safety programmes safety programme job-site safety assessment
C203.3	Apply the knowledge contractual obligations
C203.4	Explain about designing for safety and safety procedures
C203.5	Develop the knowledge owners' and designers responsibility

**CN5311 Practical Training II (C204)**

  
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CO CODE	COURSE OUTCOME
C204.1	Gained first-hand knowledge of practical problems in carrying out engineering tasks
C204.2	Gather knowledge in communication and interpersonal skills
C204.3	Developed skills in facing and solving the field problems

**CN5312 Seminar (C205)**

CO CODE	COURSE OUTCOME
C205.1	Work on a specific technical topic in CEM domain to acquire skills of oral presentation
C205.2	Acquire technical writing abilities for seminars and conferences
C205.3	Present the topic using visual aids and interact with students

**CN5313 Project Work (C206)**

CO CODE	COURSE OUTCOME
C206.1	Understand the problem areas in construction engineering and management
C206.2	Prioritize the objectives for the selected research area
C206.3	Application of literature data to frame methodology of phase 2

**CN5411 Practical Training III (C207)**

  
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CO CODE	COURSE OUTCOME
C207.1	Gained first-hand knowledge of practical problems in carrying out engineering tasks
C207.2	Gather knowledge in communication and interpersonal skills
C207.3	Developed skills in facing and solving the field problems

**CN5412 Project Work (C208)**

CO CODE	COURSE OUTCOME
C208.1	Apply literature survey from phase 1 to implement methodology
C208.2	Experiment the process involved and analyse the results
C208.3	Provide suggestions and recommendations for the objectives of project

  
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