



# PALLAVI ENGINEERING COLLEGE

(Formerly Nagole Institute of Technology & Science)  
Abdullapurmet(M), Near Hayathanagar

## DEPARTMENT OF CIVIL ENGINEERING

### COURSE OUTCOMES

#### I YEAR CE SEMESTER-I (REGULATION –R18)

**ACADEMIC YEAR: 2019-2020**

#### Course Code & Name: MA101BS Mathematics-I

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C111 [1]	Write the matrix representation of a set of linear equations and to analyze the solution of the system of equations
C111 [2]	Find the Eigen values and Eigen vectors
C111[3]	Reduce the quadratic form to canonical form using orthogonal transformations.
C111[4]	Analyse the nature of sequence and series.
C111[5]	Solve the applications on the mean value theorems.
C111[6]	Evaluate the improper integrals using Beta and Gamma functions
C111[7]	Find the extreme values of functions of two variables with/ without constraints.

#### Course Code & Name: PH102BS: Engineering Physics

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C112 [1]	The knowledge of Physics relevant to engineering is critical for converting ideas into technology
C112 [2]	An understanding of Physics also helps engineers understand the working and limitations of existing devices and techniques, which eventually leads to new innovations and improvements
C112[3]	In the present course, the students can gain knowledge on the mechanism of physical bodies upon the action of forces on them, the generation, transmission and the detection of the waves, Optical Phenomena like

	Interference, diffraction, the principles of lasers and Fibre Optics
C112[4]	Various chapters establish a strong foundation on the different kinds of characters of several materials and pave a way for them to use in at various technical and engineering applications

**Course Code & Name: CS103ES: Programming For Problem Solving**

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C113 [1]	To write algorithms and to draw flowcharts for solving problems
C113 [2]	To convert the algorithms/flowcharts to C programs.
C113 [3]	To code and test a given logic in C programming language.
C113 [4]	To decompose a problem into functions and to develop modular reusable code.
C113 [5]	To use arrays, pointers, strings and structures to write C programs.
C113 [6]	Searching and sorting problems.

**Course Code & Name: ME104ES: Engineering Graphics**

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C114 [1]	Preparing working drawings to communicate the ideas and information.
C114 [2]	Read, understand and interpret engineering drawings.

**Course Code & Name: PH105BS: Applied Physics Lab**

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C115 [1]	Analyze the characteristics of Semi conductor Devices
C115 [2]	Understand the properties of material help the students to prepare new materials for various engineering applications.

**Course Code & Name: CS106ES: Programming For Problem Solving Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C116 [1]	Formulate the algorithms for simple problems
C116 [2]	Translate given algorithms to a working and correct program
C116 [3]	Correct syntax errors as reported by the compilers
C116 [4]	Identify and correct logical errors encountered during execution
C116 [5]	Represent and manipulate data with arrays, strings and structures
C116 [6]	Use pointers of different types
C116 [7]	Create, read and write to and from simple text and binary files
C116 [8]	modularize the code with functions so that they can be reused

**Course Code & Name: \*MC109ES: Environmental Science**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C117 [1]	Based on this course, the Engineering graduate will understand /evaluate / develop technologies on the basis of ecological principles and environmental regulations which in turn helps in sustainable development

**I YEAR CE SEMESTER-II (REGULATION –R18)****ACADEMIC YEAR: 2019-2020****Course Code & Name: MA201BS: Mathematics - II**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C121 [1]	Identify whether the given differential equation of first order is exact or not.
C121 [2]	Solve higher differential equation and apply the concept of differential equation to real world problems
C121 [3]	Evaluate the multiple integrals and apply the concept to find areas, volumes, centre of mass and Gravity for cubes, sphere and rectangular parallelepiped.

C121 [4]	Evaluate the line, surface and volume integrals and converting them from one to another
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**Course Code & Name: CH202BS: Chemistry**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C122 [1]	The knowledge of atomic, molecular and electronic changes, band theory related to conductivity.
C122 [2]	The required principles and concepts of electrochemistry, corrosion and in understanding the problem of water and its treatments.
C122 [3]	The required skills to get clear concepts on basic spectroscopy and application to medical and other fields.
C122 [4]	The knowledge of configurational and conformational analysis of molecules and reaction mechanisms.

**Course Code & Name: ME203ES: Engineering Mechanics**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C123 [1]	Determine resultant of forces acting on a body and analyse equilibrium of a body subjected to a system of forces
C123 [2]	Solve problem of bodies subjected to friction
C123 [3]	Find the location of centroid and calculate moment of inertia of a given section
C123 [4]	Understand the kinetics and kinematics of a body undergoing rectilinear, curvilinear, rotatory motion and rigid body motion
C123 [5]	Solve problems using work energy equations for translation, fixed axis rotation and plane motion and solve problems of vibration

**Course Code & Name: ME205ES: Engineering Workshop**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C124 [1]	Study and practice on machine tools and their operations
C124 [2]	Practice on manufacturing of components using workshop trades including plumbing, fitting, carpentry, foundry, house wiring and welding.
C124 [3]	Identify and apply suitable tools for different trades of Engineering processes including drilling, material removing, measuring, chiseling.
C124[4]	Apply basic electrical engineering knowledge for house wiring practice.

**Course Code & Name: EN205HS: English**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C125 [1]	Use English Language effectively in spoken and written forms .
C125 [2]	Comprehend the given texts and respond appropriately.
C125 [3]	Communicate confidently in various contexts and different cultures.
C125 [4]	Acquire basic proficiency in English including reading and listening comprehension, writing and speaking skills.

**Course Code & Name: CH206BS: Engineering Chemistry Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C126 [1]	Determination of parameters like hardness and chloride content in water.
C126 [2]	Estimation of rate constant of a reaction from concentration – time relationships.
C126 [3]	Determination of physical properties like adsorption and viscosity.
C126 [4]	Calculation of R <sub>f</sub> values of some organic molecules by TLC technique

**Course Code & Name: EN207HS: English Language And Communication Skills Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C127 [1]	Better understanding of nuances of English language through audio-visual experience and group activities
C127[2]	Neutralization of accent for intelligibility
C127 [3]	Speaking skills with clarity and confidence which in turn enhances their employability skills

**II YEAR CE SEMESTER-I (REGULATION –R18)****ACADEMIC YEAR: 2019-2020****Course Code & Name: CE301PC: Surveying And Geomatics**

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C211 [1]	Apply the knowledge to calculate angles, distances and levels
C211 [2]	Identify data collection methods and prepare field notes
C211 [3]	Understand the working principles of survey instruments, measurement errors and corrective measures
C211 [4]	Interpret survey data and compute areas and volumes, levels by different type of equipment and relate the knowledge to the modern equipment and methodologies

**Course Code & Name: CE302PC: Engineering Geology**

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C212 [1]	Site characterization and how to collect, analyze, and report geologic data using standards in engineering practice
C212 [2]	The fundamentals of the engineering properties of Earth materials and fluids
C212 [3]	Rock mass characterization and the mechanics of planar rock slides and topples

**Course Code & Name: CE303PC: Strength Of Materials - I**

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C213 [1]	Describe the concepts and principles, understand the theory of elasticity including strain/displacement and Hooke's law relationships; and perform calculations, related to the strength of structured and mechanical component.
C213 [2]	Recognize various types loads applied on structural components of simple framing geometries and understand the nature of internal stresses that will develop within the components.
C213 [3]	To evaluate the strains and deformation that will result due to the elastic stresses developed within the materials for simple types of loading
C213 [4]	Analyze various situations involving structural members subjected to plane stresses by application of Mohr's circle of stress
C213 [5]	Frame an idea to design a system, component, or process

**Course Code & Name: MA304BS: Probability And Statistics**

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C214 [1]	Formulate and solve problems involving random variables and apply statistical methods for analysing experimental data.

**Course Code & Name: CE305PC: Fluid Mechanics**

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C215 [1]	Understand the broad principles of fluid statics, kinematics and dynamics
C215 [2]	Understand definitions of the basic terms used in fluid mechanics and characteristics of fluids and its flow
C215 [3]	Understand classifications of fluid flow
C215 [4]	Be able to apply the continuity, momentum and energy principles

**Course Code & Name: CE306PC: Surveying Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C216 [1]	Apply the principle of surveying for civil Engineering Applications
C216 [2]	Calculation of areas, Drawing plans and contour maps using different measuring equipment at field level
C216 [3]	Write a technical laboratory report

**Course Code & Name: CE307PC: Strength of Materials Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C217 [1]	Configure & Operate a data acquisition system using various testing machines of solid materials
C217 [2]	Compute and Analyze engineering values (e.g. stress or strain) from laboratory Measurements
C217 [3]	Write a technical laboratory report

**Course Code & Name: CE308PC: Engineering Geology Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
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C218 [1]	Understands the method and ways of investigations required for Civil Engg projects
C218 [2]	Identify the various rocks, minerals depending on geological classifications
C218 [3]	Will able to learn to couple geologic expertise with the engineering properties of rock and unconsolidated materials in the characterization of geologic sites for civil work projects and the quantification of processes such as rock slides and settlement
C218 [4]	Write a technical laboratory report

**Course Code & Name: \*MC309: Constitution of India**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C219 [1]	The Constitution of India is the supreme law of India
C219 [2]	Understand Social, political and economic perspectives of the Indian Society

**II YEAR CE SEMESTER-II (REGULATION –R18)**

**ACADEMIC YEAR: 2019-2020**

**Course Code & Name EE401ES: Basic Electrical And Electronics Engineering**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C221 [1]	To analyze and solve electrical circuits using network laws and theorems
C221 [2]	To understand and analyze basic Electric and Magnetic circuits
C221 [3]	To study the working principles of Electrical Machines
C221 [4]	To introduce components of Low Voltage Electrical Installations
C221 [5]	To identify and characterize diodes and various types of transistors

**Course Code & Name: CE402ES: Basic Mechanical Engineering For Civil Engineers**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
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C222 [1]	To understand the mechanical equipment for the usage at civil engineering systems,
C222 [2]	To familiarize with the general principles and requirement for refrigeration, manufacturing,
C222 [3]	To realize the techniques employed to construct civil engineering systems

**Course Code & Name: CE403PC: Building Materials, Construction And Planning**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C223 [1]	Define the Basic terminology that is used in the industry
C223 [2]	Categorize different building materials, properties and their uses
C223 [3]	Understand the Prevention of damage measures and good workmanship
C223 [4]	Explain different building services

**Course Code & Name: CE404PC: Strength Of Materials - II**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C224 [1]	Describe the concepts and principles, understand the theory of elasticity, and perform calculations, relative to the strength of structures and mechanical components in particular to torsion and direct compression
C224 [2]	To evaluate the strains and deformation that will result due to the elastic stresses developed within the materials for simple types of loading
C224 [3]	Analyze strength and stability of structural members subjected to Direct, and Direct and Bending stresses
C224 [4]	Understand and evaluate the shear centre and unsymmetrical bending
C224 [5]	Frame an idea to design a system, component, or process

**Course Code & Name: CE405PC: Hydraulics and Hydraulic Machinery**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C225 [1]	Apply their knowledge of fluid mechanics in addressing problems in open channels and hydraulic machinery.

C225 [2]	Understand and solve problems in uniform, gradually and rapidly varied flows in open channel in steady state conditions
C225 [3]	Apply dimensional analysis and to differentiate the model, prototype and similitude conditions for practical problems
C225 [4]	Get the knowledge on different hydraulic machinery devices and its principles that will be utilized in hydropower development and for other practical usages

**Course Code & Name: CE406PC: Structural Analysis - I**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C226 [1]	An ability to apply knowledge of mathematics, science, and engineering
C226 [2]	Analyse the statically indeterminate bars and continuous beams
C226 [3]	Draw strength behaviour of members for static and dynamic loading
C226 [4]	Calculate the stiffness parameters in beams and pin jointed trusses.
C226 [5]	Understand the indeterminacy aspects to consider for a total structural system
C226 [6]	Identify, formulate, and solve engineering problems with real time loading

**Course Code & Name: CE407PC: Computer Aided Civil Engineering Drawing**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C227 [1]	Use the Autocad commands for drawing 2D & 3D building drawings required for different civil engineering applications.
C227 [2]	Plan and draw Civil Engineering Buildings as per aspect and orientation
C227 [3]	Presenting drawings as per user requirements and preparation of technical report

**Course Code & Name: EE409ES: Basic Electrical And Electronics Engineering Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C228 [1]	To analyze and solve electrical circuits using network laws and theorems.
C228 [2]	To understand and analyze basic Electric and Magnetic circuits

C228 [3]	To study the working principles of Electrical Machines
C228 [4]	To introduce components of Low Voltage Electrical Installations
C228 [5]	To identify and characterize diodes and various types of transistors

**Course Code & Name: CE409PC: Hydraulics And Hydraulic Machinery Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C229 [1]	Describe the basic measurement techniques of fluid mechanics and its appropriate application
C229 [2]	Interpret the results obtained in the laboratory for various experiments
C229 [3]	Discover the practical working of Hydraulic machines- different types of Turbines, Pumps, and other miscellaneous hydraulics machines
C229 [4]	Compare the results of analytical models introduced in lecture to the actual behavior of real fluid flows and draw correct and sustainable conclusions
C229 [5]	Write a technical laboratory report

**Course Code & Name: \*MC409: Gender Sensitization Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C2210 [1]	Students will have developed a better understanding of important issues related to gender in contemporary India
C2210 [2]	Students will be sensitized to basic dimensions of the biological, sociological, psychological and legal aspects of gender. This will be achieved through discussion of materials derived from research, facts, everyday life, literature and film.
C2210 [3]	Students will attain a finer grasp of how gender discrimination works in our society and how to counter it.
C2210 [4]	Students will acquire insight into the gendered division of labour and its relation to politics and economics.
C2210 [5]	Men and women students and professionals will be better equipped to work and live together as equals.
C2210 [6]	Students will develop a sense of appreciation of women in all walks of life.

C2210 [7]	Through providing accounts of studies and movements as well as the new laws that provide protection and relief to women, the textbook will empower students to understand and respond to gender violence.
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### **III YEAR CE SEMESTER-I (REGULATION –R16)**

**ACADEMIC YEAR: 2019-2020**

**Course Code & Name: CE501PC: Concrete Technology**

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C311 [1]	Identify Quality Control tests on concrete making materials
C311 [2]	Understand the behavior of fresh and hardened concrete
C311 [3]	Design concrete mixes as per IS and ACI codes
C311 [4]	Understand the durability requirements of concrete
C311 [5]	Understand the need for special concretes

**Course Code & Name: CE502PC Design Of Reinforced Concrete Structures**

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C312 [1]	Design RC Structural elements
C312 [2]	Design the Reinforced Concrete beams using limit state Design
C312[3]	Design Reinforced Concrete slabs
C312[4]	Design the Reinforced Concrete Columns and footings
C312[5]	Design structures for serviceability
C312[6]	Design staircases, canopy

**Course Code & Name: CE503PC: Water Resources Engineering**

Upon the completion of the course, students will be able to:

Course Name	Course outcomes
C313 [1]	Analyze hydro-meteorological data
C313 [2]	Estimate abstractions from precipitation
C313 [3]	Compute yield from surface and subsurface basin
C313 [4]	Develop rainfall-runoff models

C312[5]	Formulate and solve hydrologic flood routing models
C313 [6]	Estimate runoff, design discharge from catchment

**Course Code & Name: SM504MS Fundamentals Of Management**

Upon Completion of the course, the students will be able to:

Course Name	Course outcomes
C314 [1]	To understand the Management Concepts in their Profession.
C314 [2]	The students can learn various Management Functions like planning, organizing, staffing, leading, Motivation and control.
C314 [3]	The students can explore the Management Practices in their domain area.

**Course Code & Name: CE505PC: Concrete Technology Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C315 [1]	Understand properties of concrete material
C315 [2]	Behavior of concrete & properties of fresh & hardened concrete

**Course Code & Name: CE506PC: Geographical Information Systems Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C316 [1]	At the end of the course, the student is exposed to spatial technologies
C316 [2]	Mapping the field problems and solution convergence through GIS

**Course Code & Name: CE507PC: Hydraulics And Hydraulic Machinery Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C317 [1]	Compute drag coefficients
C317 [2]	Test the performance of pumps and turbines

C317[3]	Determine Manning's and Chezy's coefficients for smooth and rough channels
C317[4]	Determine Energy loss in Hydraulic jump and Calibrate standing wave flume

**Course Code & Name: MC500HS: Professional Ethics**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C318 [1]	The students will understand the importance of Values and Ethics in their personal lives and professional careers.
C318 [2]	The students will learn the rights and responsibilities as an employee, team member and a global citizen

**III YEAR CE SEMESTER-II (REGULATION –R16)**

**ACADEMIC YEAR: 2019-2020**

**Course Code & Name: CE601PC: Design of Steel Structures**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C321 [1]	Design tension and compression members
C321 [2]	Design beams and beam columns
C321 [3]	Design bolt and weld connections
C321 [4]	Design built up members and Column base
C321 [5]	Design of plate girders and Roof Trusses

**Course Code & Name: CE602PC: Environmental Engineering**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C322 [1]	Analyze characteristics of water and wastewater
C322 [2]	Estimate the quantity of drinking water and domestic wastewater generated

C322 [3]	Design components of water supply systems Design sewerage system
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**Course Code & Name: CE603PC: Soil Mechanics**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C323 [1]	Understand the mechanism Behavior of Soil for different loads
C323 [2]	and from Soil Condition will be able to determine properties of soil

**Course Code & Name: CE612PE Advanced Structural Analysis (Professional Elective-I)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C324 [1]	To understand the influence line concepts for indeterminate structures
C324 [2]	To understand the methods of analysis of intermediate trusses for external loads, lack of fit and thermal effect
C324 [3]	To study behavior of arches and their methods of analysis
C324 [4]	To know the concept and analysis of cable stayed bridge
C324 [5]	To study the multi storey frames subjected to gravity loads and lateral loads

**Course Code & Name: CE604PC Soil Mechanics Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C325 [1]	At the end of the course, the student will be able to Classify and evaluate the behavior of the soils subjected to various loads.

**Course Code & Name: CE605PC Computer Aided Drafting – II Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
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C326 [1]	Detailing of reinforcement in Cantilever, Simply supported and Continuous Beams (Both Singly & Doubly Reinforced Beams)
C326 [2]	Detailing of reinforcement in canopy & columns (both uniaxial & biaxial)
C326 [3]	Detailing of reinforcement in RC isolated footings square, rectangular, circular and combined footings.
C326 [4]	Detailing of reinforcement in RC one-way, two-way slabs and dog-legged staircases.
C326 [5]	Drawing of Steel bolted and welded connections
C326 [6]	Drawing of steel compression and tension members
C326 [7]	Drafting of steel beams-built-up sections
C326 [8]	Drafting of steel plate girder
C326 [9]	Drafting of steel roof truss

**Course Code & Name: EN606HS Advanced English Communication Skills (AECS) Lab**

Upon completion of the course, students will be able to:

Course Name	Course outcomes
C327 [1]	Acquire vocabulary and use it contextually
C327 [2]	Listen and speak effectively
C327 [3]	Develop proficiency in academic reading and writing
C327 [4]	Increase possibilities of job prospects
C327 [5]	Communicate confidently in formal and informal contexts

**IV YEAR CE SEMESTER-I (REGULATION –R16)**

**ACADEMIC YEAR: 2019-2020**

**Course Code & Name: CE701PC: Transportation Engineering**

Upon completion of the course, students will be able to:

Course Name	Course outcomes
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C411 [1]	Understand Plan highway networks
C411 [2]	Design highway geometrics.
C411 [3]	Design Intersections and prepare traffic management plans
C411 [4]	Design flexible and rigid pavements.

**Course Code & Name: CE702PC Estimation, Quantity Surveying and Valuation**

Upon completion of the course, Students will be able to:

Course Name	Course outcomes
C412 [1]	Do estimation of Buildings, Roads and Canals.
C412 [2]	Understand contracts and specification

**Course Code & Name: CE724PE: Rehabilitation And Retrofitting Of Structures (Professional Elective-II)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C413 [1]	Develop various maintenance and repair strategies.
C413 [2]	Evaluate the existing buildings through field investigations.
C413 [3]	Understand and use the different techniques for structural retrofitting

**Course Code & Name: CE731PE: Watershed Management (Professional Elective - III)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C414 [1]	Identify causes of soil erosion
C414 [2]	Plan and design soil conservation measures in a watershed
C414 [3]	Plan and design water harvesting and groundwater recharge structures
C414 [4]	Plan measures for reclamation of saline soils

**Code & Name: CE744PE: Irrigation And Hydraulic Structures (Professional Elective - IV)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C415 [1]	Plan an Irrigation System
C415 [2]	Design irrigation canals and canal network
C415 [3]	Plan and design diversion head works
C415 [4]	Design irrigation canal structures
C415 [5]	Analyze gravity and earth dams
C415 [6]	Design spillways and energy dissipations works
C415 [7]	Analyze and design gravity dams

**Code & Name: CE703PC Transportation Engineering Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C416 [1]	Highway At the end of the course, the student will be able to Asses for highway construction properties of materials.

**Code & Name: CE704PC Environmental Engineering Lab**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C417 [1]	Students will able to find various properties of water

**IV YEAR CE SEMESTER-II (REGULATION –R16)**

**ACADEMIC YEAR: 2019-2020**

**Course Code & Name: ME831OE: Total Quality Management (Open Elective - II)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C421 [1]	To realize the importance of significance of quality
C421 [2]	Manage quality improvement teams
C421 [3]	Identify requirements of quality improvement programs

**Course Code & Name: CE851PE: Waste Management (Professional Elective - V)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C422 [1]	Identify the physical and chemical composition of wastes
C422 [2]	Analyze the functional elements for solid waste management.
C422 [3]	Analyze the functional elements for liquid waste management.
C422 [4]	To Understand the effluent treatment Plants and its disposal

**Course Code & Name: CE864PE: Industrial Waste Water Treatment (Professional Elective - VI)**

Upon the completion of the course, Students will be able to:

Course Name	Course outcomes
C423 [1]	Identify the characteristics of industrial wastewaters
C423 [2]	Describe pollution effects of disposal of industrial effluent
C423 [3]	Identify and design treatment options for industrial wastewater
C423 [4]	Formulate environmental management plan