PSN COLLEGE OF ENGINEERING AND TECHNOLOGY
(An Autonomous Institution Affiliated to Anna University, Chennai)
Approved by AICTE and Recognized by UGC Under section 2 (f) & 12 (B)
An ISO 9001:2015 Certified Institution
Accredited By NBA and NAAC With B++
Melathediyoor, Palayamkottai,Tirunelveli- 627 152.
DEPARTMENT OF CIVIL ENGINEERING

REGULATION - 2018

COURSE OUTCOMES

501013 - BASIC ENGINEERING

Course Outcomes:

At the end of this course the students can able to,
CO1: Explain the usage of construction material and proper selection of construction materials and also measure distances and area by surveying.
CO2:Understand the basics of Energy Sources and Power Generation
CO3: Acquire the knowledge about various manufacturing processes.
CO4: Solve simple circuits and express the concept of fundamentals of circuits
CO5: Express the function of semiconductor devices and develop the truth tables of logic gates.

501014 - ENGINEERING MATHEMATICS III

Course Outcomes:

On successful completion on this course the student will be able to o

1. Apply Laplace transform in Engineering.
2. Evaluate the Fourier transform of continuous functions.
3. Solve difference equation by Z- Transform.
4. Apply PDE in Engineering.
5. Understand the concept of logics.

502001 - GEOLOGY & CONSTRUCTION MATERIALS

Course Outcomes:

After successful completion of this course, the students should be able to,
CO 1: Appreciate the importance of geological formation in causing earthquakes and landslides. Gain knowledge about types of rocks, their distribution and uses

CO 2: Undersatand the Structural Geology and Geophysical Methods

CO 3: Understand the application of geological investigation in projects such as dams, tunnels, bridges, roads, airport and harbor

CO 4: Make proper choice of materials ,testing methods and aware of various codes available for construction materials.

CO 5: Understand the importance of modern material for construction.

502002-CONCRETE TECHNOLOGY

Course Outcomes:

After successful completion of this course, the students should be able to,

CO1: Identify the materials used to make concrete; including their sources, production and properties.
CO2: Describe and carry out tests relevant to the use of fresh and hardened concrete.
CO3: Design the concrete mixes with and without admixtures
CO4: Identify the various concreting methods to place the concrete on site.
CO5: Classify the different types of concrete based on their applications and manufacturing.

502003-MECHANICS OF MATERIALS I

Course Outcomes:

After successful completion of this course, the students should be able to

CO 1 : Get a knowledge about stresses, strains and deformation of solid.
CO 2 : Acquire the knowledge in finding Shear force (SF) and Bending Moment (BM) of the beams for all types of loading and to draw SFD & BMD
CO 3 : Understand the deflection and compute the deflection of beams
CO 4 : Able to analyze bending stress and shear stress of the beams.
CO 5 : Understand the torsion of shafts and springs.

502004 -TRANSPORTATION ENGINEERING - I

Course Outcomes:

After successful completion of this course, the students should be able to,

CO 1 Prepare the plan for highways as per IRC standards.
CO 2 Perform geometric design of urban and rural roads
CO 3 Design flexible and rigid pavements using IRC methods
CO 4 Suggest modern materials and methods of highway construction.
CO 5 Evaluate, carry out maintenance and strengthening of existing pavements.

502005-ENGINEERING SURVEYING - I

Course Outcomes:

At the end of the course the student will be able to

CO 1: Conduct surveying using various conventional instruments like chain,tape.
CO2: Take an angular measurement and measure the area of traversing using compass and plane table surveying.

CO3: Find out the the distance and height measurement by using levelling instruments
CO4: Understand the theodolite surveying.
CO5: Study about the curves and setting out of curves.

502101 -ENGINEERING SURVEY PRACTICAL- I

Course Outcomes:
After successful completion of this course, the students should be able to

CO1: conduct surveying using various survey instruments in the field works.
CO2: set out curves and marking of buildings on the site
CO3: prepare LS , CS for the road works for the given area

502102-COMPUTER AIDED BUILDING DRAWING

Course Outcomes:
After successful completion of this course, the students should be able to

CO 1 Understanding the basic commands, principles and features behind AutoCAD.
CO 2 Utilize CAD software for scaled drawing.
CO 3 Students will acquire sufficient knowledge of AutoCAD to allow them to prepare drawing skills with the aid of the computer.

501109-CAREER SKILL DEVELOPMENT – I

Course Outcomes:
On successful completion on this course the student will be able to

- acquire knowledge on English Grammar, Analytical & Logical reasoning.
- facilitated to set their career goals.

502006- SOIL MECHANICS

Course Outcomes:

After successful completion of this course, the students should be able,
CO1: Understand the properties of soils such as phase relationships, unit weight, water content, grain size distribution, index properties, methods of soil classifications and compaction characteristics in soils
CO2 Understand the concepts of total, neutral and effective stress in soils, principles of Darcy's law, permeability and seepage in soils and their effects in engineering applications
CO3 : Understand the concepts of stress distribution under varying load conditions using Boussinesq's and Westergaard's theories.
CO4 : Understand the principles of Terzaghi's theory of primary consolidation, settlement in soils and associated properties
CO5 : Understand the shear stress and shear strength properties in soils, Mohr diagrams, and methods of finding the shear strength parameters of soils using direct shear test, unconfined compression test and tri-axial shear tests.

502007 -MECHANICS OF MATERIALS II

Course Outcomes:

After successful completion of this course, the students should be able to,

CO1: Understand the design concept of energy Principles.
CO2: Analyze the statically Indeterminate structures.
CO3: Apply the deformation and behaviour of Columns under loading conditions.
CO4: Understand the concept about Three Dimensional State of stress
CO5: Acquire the knowledge about curved beams.

502008- FLUID MECHANICS AND MACHINERY

Course Outcomes:

Students who successfully complete this course will be able to

CO1: Get a basic knowledge of fluids in static, kinematic and dynamic equilibrium.
CO2: Understand and solve the problems related to equation of motion.
CO3: Learn types of flow and losses of flow in pipes, Understand and solve the boundary layer problems. Gain knowledge about dimensional analysis.
CO4: Apply their knowledge of fluid mechanics in addressing problems in open channels.
CO5: Understand the principles, working and application of turbines and pumps.

502009 -ENGINEERING SURVEYING - II

Course Outcomes:

At the end of the course the student will be able to

CO1 :Interpret survey data and compute areas and volumes
CO2: Adjust the survey errors using various methods
CO3: Conduct astronomical survey
CO4: Conduct survey works using total station and GPS
CO5: Conduct hydrographicsurvey

502010-TRANSPORATATION ENGINEERING II

Course Outcomes:

Students who successfully complete this course will be able to

CO1: Apply the concepts of railway planning while designing the permanent way.
CO2: Understand the Construction techniques and Maintenance of Track laying and Railway stations.
CO3: Gain an insight on the planning and site selection of Airport Planning and design.
CO4: Analyze and design the elements for orientation of runways and passenger facility systems.

CO5: Understand the various features in Harbours and Ports, their construction, coastal protection works

502104 - FLUID MECHANICS AND MACHINERY LABORATORY

Course Outcomes:

After successful completion of this course, the students should be able to

CO1: Measure theoretical discharge in pipes, Venturimeter, orificemeter.
CO2: Demonstrate and conduct experiment to find characteristic curves of various pumps.
CO3: Demonstrate and conduct experiment to find characteristic curves of various turbines.

502105-STRENGTH OF MATERIALS LABORATORY

Course Outcomes:

After successful completion of this course, the students should be able,

CO 1 To acquire the knowledge about Mechanical properties of mild steel
CO 2 Understand the knowledge about properties of surfaces and solids.
CO 3 Able to calculate the deflection of springs and compressive strength of brick and concrete cube

502011-DESIGN OF RC ELEMENTS
(Use IS-875, IS 456, SP16)

Course Outcomes:

At the end of the course students will be able to

CO1 : Understand the various design methodologies for the design of RC elements
CO2 : Apply the principles, analysis and design of slabs & flanged beams by limit state method
CO3 : Identify the behavior of reinforced concrete members in bond, anchorage, shear and torsion
CO4 : Design columns and footings for axial, uniaxial and biaxial eccentric loadings
CO5 : Choose and design various types of staircase as per the site / building requirements and brick masonry

502012-STRUCTURAL ANALYSIS - I

Course Outcomes:

At the end of the course students will be able to

CO1 : Analyze statically indeterminate structures by energy method

CO2 : Gain Knowledge about the influence line diagram (ILD) for determinate and indeterminate structures

CO3 : Understand the structural form of arches and analyze three and two hinged arch Structures

CO4 : Analyze statically indeterminate structures by Slope deflection method

CO5 : Analyze statically indeterminate structures by Moment distribution method

502013-ENVIRONMENTAL ENGINEERING

Course Outcomes:

At the end of the course students will be able to

CO1 : Understand the structure of drinking water supply systems, including water transport, and distribution And also water quality criteria and standards, and their relation to public health

CO2 : Identify the appropriate treatment technology for water

CO3 : Learn the Laying, joining & testing of sewers, and also Design the sewerage system sewers

CO4 : Understand the treatment method of sewage

CO5 : Understand the Disposal Of Sewage

502014-CONSTRUCTION TECHNIQUES, EQUIPMENTS AND PRACTICE

Course Outcomes:

At the end of the course students will be able to

CO1 : Illustrate the various construction practices

CO2 : Describe the construction techniques used for underground structures

CO3 : Explain the various construction techniques involved in super structure

CO4 : Adopt the suitable equipment in the mechanized construction projects.

CO5 : Understand about the fabrication techniques

502015 - FOUNDATION ENGINEERING (Practical Component)

Course Outcomes:

At the end of the course students will be able to

CO1 : Select type of foundation required for the given soil condition

CO2 : Determine the settlements of the foundation on different types of soil

CO3 : Find the dimension of the foundation for isolated footing, combined footing and floating foundation.

CO4 : Analyze the group of piles for their load capacity

CO5 : Carry out stability analysis of retaining walls

502106-CONCRETE AND HIGHWAY ENGINEERING LAB

Course Outcomes:

At the end of the course students will be able to

CO1 : Prepare different concrete mixes and check the workability properties

CO2 : Diagnose the properties of aggregates with different testing methods

CO3 : Check the quality of existing bituminous roads and constituents

502107-SOIL MECHANICS LABORATORY

Course Outcomes:

At the end of the course students will be able to

CO1 : Determination of Index Properties

CO2 : Determination of In-situ Density and Compaction Characteristics

CO3 : Determination of Engineering Properties

502108-SURVEY CAMP

Course Outcomes:

At the end of the course students will be able to

CO1 : Acquire knowledge about field survey

CO2 : Perform earth work calculation

CO3 : Determine the various length and area measurement using modern Techniques

501115 - CAREER SKILL DEVELOPMENT TRAINING – III

Course Outcomes:

At the end of the course students will be able to

CO1 : understand the basics of civil engineering requirements
CO2 : describe the civil engineering basic material properties
CO3 : explain the procedure of structural analysis and design
CO4 : describe the fluid mechanics
CO5 : understand Surveying methods

502016- STRUCTURAL ANALYSIS II

Course Outcomes:

At the end of the course students will be able to

CO1 : Analyse the statically indeterminate structures using flexibility method
CO2 : Analyse the statically indeterminate structures using stiffness method
CO3 : Apply the finite element method to structural analysis
CO4 : Employ plastic analysis to calculate the collapse loads for beams and frames
CO5 : Determine the member forces in suspension bridges and space truss

502017-DESIGN OF STEEL STRUCTURES

Course Outcomes:

At the end of the course students will be able to

CO1 : Design common bolted and welded connections for steel structures
CO2 : Design tension members and understand the effect of shear lag
CO3 : Understand the design concept of axially loaded columns, column base connections
CO4 : Understand design the specific problems related to the design of laterally restrained and unrestrained steel beams
CO5 : Design a industrial structures using the IS800-2007 codal Provisions

502018-CONSTRUCTION PLANNING AND SCHEDULING

Course Outcomes:

At the end of the course students will be able to

CO1 : Understand the Activities to Planning construction projects
CO2 : Plan schedule the activities using network diagrams

CO3 : Determine the cost of the project, control the cost of the project by creating cash flows and budgeting and to use the project

CO4 : Understand the quality standards and requirement of construction materials

CO5 : Explain the role and significance of effective management information systems, and describe how they contribute to optimizing organizational performance

502019- POLLUTION CONTROL AND WASTE MANAGEMENT

Course Outcomes:

At the end of the course students will be able to

CO1 : Identify the various pollution and their prevention

CO2 : Exposed to the sources causes and effects of water pollution

CO3 : Develop of major problems in indoor air pollution and control, Regulations

CO4 : Know the methods of disposal of solid & hazardous wastes

CO5 : Create awareness about environmental impact assessment

502110 - ENVIRONMENTAL ENGINEERING LABORATORY

Course Outcomes:

At the end of the course students will be able to

CO1 : Test the water and wastewater and their different characteristics as per standards

CO2 : Recommend the degree of treatment required for the water and wastewater

CO3 : Apply the technical concepts and ways to solve engineering problems by conducting experiments

502111 ESTIMATION AND QUANTITY SURVEYING LABORATORY

Course Outcomes:

At the end of the course students will be able to

CO1 : estimate the material quantities of building

CO2 : estimate the material quantities of Road and other civil works

CO3 : Prepare civil work rate analysis, tender documents

CAREER SKILL DEVELOPMENT TRAINING – IV

Course Outcomes:

At the end of the course students will be able to

CO1 : understand the Environmental and irrigation engineering basics
CO2 : describe the procedure to handle the Sanitary and waste material management
CO3 : understand the basic National Building Code and software packages in civil engineering
CO4 : search the job opportunities and know about the Higher education system
CO5 : face Technical Interviews and Professional bodies in government and private jobs

502901- DISASTER MANAGEMENT

Course Outcomes:

At the end of the course students will be able to

CO1 : Increase the knowledge and understanding of the disaster phenomenon and, its factors
CO2 : Understand the relationship of hazard, risk and vulnerability
CO3 : Obtain the skills in role of education and training in disaster prevention
CO4 : Ensure skills in post disaster management activities
CO5 : Get the knowledge in understanding various prone zones in India

502902 - ENVIRONMENTAL IMPACT ASSESSMENT

Course Outcomes:

At the end of the course students will be able to

CO1 : State the environmental impact assessment for infrastructure concepts
CO2 : Explain different methodologies for environmental impact prediction and assessment
CO3 : Evaluate environmental impact assessment reports
CO4 : Estimate the environmental management plan
CO5 : Prepare a report on different case studies for various engineering projects

502903-INDUSTRIAL WASTE MANAGEMENT

Course Outcomes:

At the end of the course students will be able to

CO1 : Descript industrial pollution and Characteristics of industrial wastes
CO2 : Evaluate the different industries waste
CO3 : Identification to reduce waste discharge and Pre-treatment Methods
CO4 : Understand Hazardous waste management and handling Rules
CO5 : Apply Modern technologies treatment waste