

**BHARATHIYAR INSTITUTE OF ENGINEERING FOR WOMEN
DEVIYAKURICHI, THALAIVASAL TK, SALEM DT-636112
DEPARTMENT OF CIVIL
REGULATION 2017**

PROGRAM OUTCOMES(POs)

Engineering Graduates will be able to:

PO1: Engineering knowledge: Apply the knowledge, of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex Engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4: Conduct investigations of complex problems: Use research-based knowledge and Research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7: Environment and sustainability: Understand the impact of the professional engineering solutions in society and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

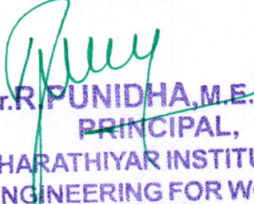
PO8: Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11: Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader of a team, to manage projects and in multidisciplinary environments.

PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

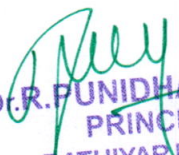

**Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112,
THALAIVASAL (TK), SALEM (D.T).**

PROGRAM SPECIFIC OUTCOMES (PSOs)

The student will be -

PSO1: Able to apply the engineering fundamentals to analyze and design the various structural components.

PSO2: Able to cater to the changing industrial needs and capable of developing green concepts for different applications.


D. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVYAKURICH! - 636 112.
THALAVASAL (TK), SALEM (DT).

CE 8301- STRENGTH OF MATERIALS I

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

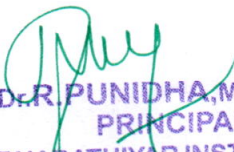
C202.1	Apply the concepts of stress strain and deformation of solids.
C202.2	Analyze the complex two dimensional stresses analytically and graphically.
C202.3	Determine shear force and bending moment in beams and understand concept of theory of simple bending.
C202.4	Calculate the deflection of beams by different methods and selection of method for determining slope or deflection.
C202.5	Apply basic equation of torsion in design of circular shafts and helical springs.
C202.6	Analyze the pin jointed plane and space trusses.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C202.1	3	3	3	2	-	-	-	-	1	-	1	1
C202.2	3	3	3	2	-	-	-	-	-	-	-	1
C202.3	3	3	3	2	-	-	-	1	1	-	1	1
C202.4	3	3	3	2	-	-	-	1	1	-	1	-
C202.5	3	3	3	2	-	-	-	1	1	-	1	1
C202.6	3	3	3	2	-	-	-	1	-	-	1	1
C202	3	3	3	2	-	-	-	1	1	-	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C202.1	3	-
C202.2	3	-
C202.3	3	-
C202.4	3	-
C202.5	3	-
C202.6	3	-
C202	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE 8302 - FLUID MECHANICS

COURSE OUTCOME: The students will be able to

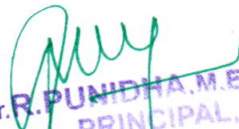
C203.1	Apply their knowledge of Engineering mechanics in addressing problems of Fluid Statics.
C203.2	Apply the concept of motion and forces causing motion in Fluid kinematics & Dynamics
C203.3	Apply and analyze the concept of Dimensional Analysis in real life situations.
C203.4	Apply the model analysis study to various machines and structures.
C203.5	Analyze the flow through pipes using the Concept of Darcy Weisbach equation and Hagen Poiseuille equation.
C203.6	Apply the concept of boundary layer to practical situations

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C203.1	3	3	3	2	-	-	2	2	1	-	-	-
C203.2	3	3	3	2	-	-	2	2	1	1	1	-
C203.3	3	3	3	2	-	-	2	2	1	1	1	-
C203.4	3	3	3	2	-	-	2	2	1	1	1	-
C203.5	3	3	3	2	-	-	2	2	1	-	-	-
C203.6	3	3	3	2	-	-	2	2	1	1	-	-
C203	3	3	3	2	-	-	2	2	1	1	1	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C203.1	2	1
C203.2	2	-
C203.3	2	-
C203.4	2	-
C203.5	2	1
C203.6	2	1
C203	2	1


 Dr. R. PUNIDHA, M.E., Ph.D.,
 PRINCIPAL,
 BHARATHIYAN INSTITUTE OF
 ENGINEERING FOR WOMEN,
 DEVIYAKURICH! - 636 112,
 THALAIVASAL (TK), SALEM (DT).

CE8351 – SURVEYING

COURSE OUTCOME : The students completing the course will have

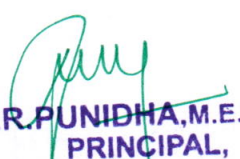
C204.1	The use of various surveying instruments and mapping
C204.2	Measuring Horizontal angle and vertical angle using different instruments
C204.3	Methods of Leveling and setting Levels with different instruments
C204.4	Concepts of astronomical surveying and methods to determine time, longitude, latitude and azimuth
C204.5	Concept and principle of modern surveying
C204.6	Work with advance methods of surveying like aerial photographs, cadastral surveying and cartographic surveying

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C204.1	3	3	3	2	-	-	-	2	2	1	1	1
C204.2	3	3	3	2	-	-	-	2	2	1	1	1
C204.3	3	3	3	2	-	-	-	2	2	1	1	1
C204.4	3	3	3	2	-	-	-	2	2	1	1	1
C204.5	3	3	3	2	-	-	-	2	2	1	1	1
C204.6	3	3	3	2	-	-	-	2	2	1	1	1
C204	3	3	3	2	-	-	-	2	2	1	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C204.1	2	-
C204.2	2	-
C204.3	2	-
C204.4	2	-
C204.5	2	-
C204.6	2	-
C204	2	-


 Dr. R. PUNIDHA, M.E., Ph.D.,
 PRINCIPAL,
 BHARATHIYAR INSTITUTE OF
 ENGINEERING FOR WOMEN,
 DEVIYAKURICHY - 636 012
 THALAIYASAL (TK), SALEM (DT).

CE 8391 - CONSTRUCTION MATERIALS

COURSE OUTCOME :


C205.1	Ability to compare the properties of stones, bricks and concrete blocks.
C205.2	Apply the typical and potential applications of lime, cement and aggregates.
C205.3	Ability to understand the relationship between material properties and design a concrete mix
C205.4	Ability to compare the properties of timber and other construction materials.
C205.5	Ability to compare the properties of most common and advanced building materials.
C205.6	Apply the important features of material selection for construction.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C205.1	3	2	2	2	-	-	2	2	2	2	1	1
C205.2	3	2	2	2	-	-	2	2	2	2	1	1
C205.3	3	2	2	2	-	-	2	2	2	2	1	1
C205.4	3	2	2	2	-	-	2	2	2	2	1	1
C205.5	3	2	2	2	-	-	2	2	2	2	1	1
C205.6	3	2	2	2	-	-	2	2	2	2	1	1
C205	3	2	2	2	-	-	2	2	2	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C205.1	3	-
C205.2	3	-
C205.3	3	-
C205.4	3	-
C205.5	3	-
C205.6	3	-
C205	3	-


Dr. R. PUNDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112.
THALAIVASAL (TK), SALEM (DT).

CE 8392 - ENGINEERING GEOLOGY

COURSE OUTCOMES


C206.1	Address the importance of geological knowledge such as earth, earthquake, weathering action of various geological agencies.
C206.2	Apply knowledge about minerals and its properties in the civil engineering application.
C206.3	Apply the knowledge about occurrence and engineering properties of various rocks in the construction which is more suitable.
C206.4	To know the concept of geological structure and their bearing capacity on engineering construction.
C206.5	Apply the knowledge of geological consideration in projects such as dams, tunnels, bridges, roads, airport and harbor.
C206.6	Students can address the types of geological rocks and stones used for a foundation which is adaptable and other related aspects.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C206.1	3	3	2	2	2	-	2	2	2	1	1	-
C206.2	3	3	2	2	2	-	2	2	2	1	1	-
C206.3	3	3	2	2	2	-	2	2	2	1	1	-
C206.4	3	3	2	2	2	-	2	2	2	1	1	-
C206.5	3	3	2	2	2	-	2	2	2	1	1	-
C206.6	3	3	2	2	2	-	2	2	2	1	1	-
C206	3	3	2	2	2	-	2	2	2	1	1	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C206.1	2	-
C206.2	2	-
C206.3	2	-
C206.4	2	-
C206.5	2	-
C206.6	2	-
C206	2	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112.
THALAIVASAL (TK), SALEM (DT).

CE8311- CONSTRUCTION MATERIALS LABORATORY

COURSE OUTCOMES

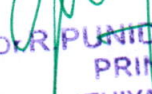
C207.1	Get a basic knowledge on tests on fresh concrete
C207.2	Gain the knowledge on tests on hardened concrete
C207.3	Get a basic knowledge on tests on aggregates
C207.4	Gain the knowledge on tests on bricks
C207.5	Gain the knowledge on tests on blocks
C207.6	Get a basic knowledge on tests on tiles

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C207.1	3	3	3	3	-	-	-	2	2	2	1	1
C207.2	3	3	3	3	-	-	-	2	2	2	1	1
C207.3	3	3	3	3	-	-	-	2	2	2	1	1
C207.4	3	3	3	3	-	-	-	2	2	2	1	1
C207.5	3	3	3	3	-	-	-	2	2	2	1	1
C207.6	3	3	3	3	-	-	-	2	2	2	1	1
C207.	3	3	3	3	-	-	-	2	2	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C207.1	3	-
C207.2	3	-
C207.3	3	-
C207.4	3	-
C207.5	3	-
C207.6	3	-
C207	3	-


D.R. PUNITHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE 8361 SURVEYING LABORATORY

COURSE OUTCOME: The students will be able to


C208.1	Measure linear measurements using chain
C208.2	Obtain angular measurements using compass surveying
C208.3	Determine the reduced levels of earth surface using various leveling methods
C208.4	Determine the horizontal and vertical distances and angles using Theodolite.
C208.5	Determine tacheometric constants using Theodolite.
C208.6	Determine distances and difference in elevation using Total Station

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C208.1	3	3	3	2	-	-	-	2	2	2	2	1
C208.2	3	3	3	2	-	-	-	2	2	2	2	1
C208.3	3	3	3	2	-	-	-	2	2	2	2	1
C208.4	3	3	3	2	-	-	-	2	2	2	2	1
C208.5	3	3	3	2	-	-	-	2	2	2	2	1
C208.6	3	3	3	2	-	-	-	2	2	2	2	1
C208	3	3	3	2	-	-	-	2	2	2	2	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C208.1	2	-
C208.2	2	-
C208.3	2	-
C208.4	2	-
C208.5	2	-
C208.6	2	-
C208	2	-


Dr. R. PUNDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE 8401 - CONSTRUCTION TECHNIQUES & PRACTICES

COURSE OUTCOME : Student will be able to


C210.1	know the different construction techniques and structural systems
C210.2	Apply various techniques and practices on masonry construction, flooring, and roofing.
C210.3	Plan the requirements for substructure construction.
C210.4	Know the methods and techniques involved in the construction of various types of super structures
C210.5	Select, maintain and operate hand and power tools and equipment used in the building construction sites.
C210.6	Know about various construction procedures from foundation to super structure.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C210.1	3	2	2	2	-	2	2	2	-	1	1	1
C210.2	3	2	2	2	-	2	2	2	-	1	1	1
C210.3	3	2	2	2	-	2	2	2	-	1	1	1
C210.4	3	2	2	2	-	2	2	2	-	1	1	1
C210.5	3	2	2	2	-	2	2	2	-	1	1	1
C210.6	3	2	2	2	-	2	2	2	-	1	1	1
C210	3	2	2	2	-	2	2	2	-	1	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C210.1	3	-
C210.2	3	-
C210.3	3	-
C210.4	3	-
C210.5	3	-
C210.6	3	-
C210	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8404 CONCRETE TECHNOLOGY

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


C214.1	Study the properties of concrete and the role of ingredients like cement, aggregate, admixtures in concrete.
C214.2	Gain knowledge about the chemical and mineral admixtures.
C214.3	Proportion the concrete using various mix design concepts.
C214.4	Apply the testing procedures for workability and strength for fresh concrete
C214.5	Apply the testing procedures for strength and durability for hardened concrete
C214.6	Select appropriate type of concrete for specific requirements.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C214.1	2	2	2	2	2	2	2	-	-	2	1	1
C214.2	2	2	2	2	2	2	2	-	-	2	1	1
C214.3	2	2	2	2	2	2	2	-	-	2	1	1
C214.4	2	2	2	2	2	2	2	-	-	2	1	1
C214.5	2	2	2	2	2	2	2	-	-	2	1	1
C214.6	2	2	2	2	2	2	2	-	-	2	1	1
C214	2	2	2	2	2	2	2	-	-	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C214.1	3	1
C214.2	3	1
C214.3	3	1
C214.4	3	1
C214.5	3	1
C214.6	3	1
C214	3	1


Dr. R. PUNDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112.
THALAIVASAL (TK), SALEM (DT).

CE 8402 - STRENGTH OF MATERIALS II

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


C212.1	Determine the strain energy and compute the deflection of determinate beams, frames and trusses using energy principles.
C212.2	Analyse propped cantilever, fixed beams for external loadings and support settlements.
C212.3	Analyse continuous beams using theorem of three moment equation for external loadings and support settlements
C212.4	Find the load carrying capacity of columns and stresses induced in columns and cylinders
C212.5	Determine principal stresses and planes for an element in three dimensional state of stress and study various theories of failure
C212.6	Determine the stresses due to Unsymmetrical bending of beams, locate the shear centre, and find the stresses in curved beams.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C212.1	3	3	3	3	-	-	-	2	2	2	-	1
C212.2	3	3	3	3	-	-	-	2	2	2	-	1
C212.3	3	3	3	3	-	-	-	2	2	2	-	1
C212.4	3	3	3	3	-	-	-	2	2	2	-	1
C212.5	3	3	3	3	-	-	-	2	2	2	-	1
C212.6	3	3	3	3	-	-	-	2	2	2	-	1
C212	3	3	3	3	-	-	-	2	2	2	-	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PSO1	PSO2
C212.1	3	-
C212.2	3	-
C212.3	3	-
C212.4	3	-
C212.5	3	-
C212.6	3	-
C212	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8491 SOIL MECHANICS

COURSE OUTCOME: Students will be able to


C215.1	Classify the soil and assess the engineering properties based on index properties
C215.2	Apply the stress concepts in soils
C215.3	Analyze and identify the settlement in soils
C215.4	Determine the shear strength of soil
C215.5	Analyze finite slopes and slope protection measures
C215.6	Analyze infinite slopes and slope protection measures

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C215.1	3	3	3	3	-	-	-	2	-	2	2	1
C215.2	3	3	3	3	-	-	-	2	-	2	2	1
C215.3	3	3	3	3	-	-	-	2	-	2	2	1
C215.4	3	3	3	3	-	-	-	2	-	2	2	1
C215.5	3	3	3	3	-	-	-	2	-	2	2	1
C215.6	3	3	3	3	-	-	-	2	-	2	2	1
C215	3	3	3	3	-	-	-	2	-	2	2	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PSO1	PSO2
C215.1	2	2
C215.2	2	2
C215.3	2	2
C215.4	2	2
C215.5	2	2
C215.6	2	2
C215	2	2


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8403 - APPLIED HYDRAULIC ENGINEERING

COURSE OUTCOME: Students will be able to


C213.1	Design best hydraulic sections in uniform flow
C213.2	Identify different surface profiles.
C213.3	Solve problems in uniform gradually varied flows in steady state conditions.
C213.4	Solve problems in rapidly varied flows in steady state conditions
C213.5	Design different turbines
C213.6	Design different pumps.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C213.1	3	3	2	2	2	2	-	2	2	2	1	1
C213.2	3	3	2	2	2	2	-	2	2	2	1	1
C213.3	3	3	2	2	2	2	-	2	2	2	1	1
C213.4	3	3	2	2	2	2	-	2	2	2	1	1
C213.5	3	3	2	2	2	2	-	2	2	2	1	1
C213.6	3	3	2	2	2	2	-	2	2	2	1	1
C213	3	3	2	2	2	2	-	2	2	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PSO1	PSO2
C213.1	2	2
C213.2	2	2
C213.3	2	2
C213.4	2	2
C213.5	3	2
C213.6	2	2
C213	2	2


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8481 STRENGTH OF MATERIALS LABORATORY

COURSE OUTCOME: Students will be able to


C216.1	Determine the strength of materials under externally applied loads.
C216.2	Have a clear understanding of the design for strength and stiffness.
C216.3	Learn fundamental concepts of Stress, Strain and deformation of solids with applications to bars and beams.
C216.4	S know the mechanism of load transfer in beams, the induced stress resultants and Deformations
C216.5	Possess the ability to understand the effect of torsion on shafts
C216.6	They will understand the properties of cement

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C216.1	3	2	2	2	-	2	-	2	2	2	2	2
C216.2	3	2	2	2	-	-	-	2	2	2	2	2
C216.3	3	2	2	2	-	-	-	2	2	2	2	2
C216.4	3	2	2	2	-	2	-	2	2	2	2	2
C216.5	3	2	2	2	-	-	-	2	2	2	2	2
C216.6	3	2	2	2	-	-	-	2	2	2	2	2
C216	3	2	2	2	-	2	-	2	2	2	2	2

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C216.1	2	-
C216.2	2	
C216.3	2	-
C216.4	2	
C216.5	2	-
C216.6	2	
C216	2	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8461 HYDRAULIC ENGINEERING LABORATORY

Course Outcome:

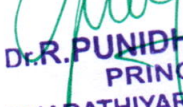
C217.1	The students will be able to measure flow (Discharge) in pipes
C217.2	The students will be able to measure flow (Discharge) in open channel
C217.3	The students will be able to verify the energy equation.
C217.4	The students will be able to determine energy loss due to friction and fittings
C217.5	The students will be able to study performance of pumps and its characteristic curve.
C217.6	The students will be able to study performance of pumps and its characteristic curve.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C217.1	3	3	3	3	-	2	-	2	2	1	1	1
C217.2	3	3	3	3	-	2	-	2	2	1	1	1
C217.3	3	3	3	3	-	2	-	2	2	1	1	1
C217.4	3	3	3	3	-	2	-	2	2	1	1	1
C217.5	3	3	3	3	-	2	-	2	2	1	1	1
C217.6	3	3	3	3	-	2	-	2	2	1	1	1
C217	3	3	3	3	-	2	-	2	2	1	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C217.1	1	-
C217.2	1	-
C217.3	1	-
C217.4	1	-
C217.5	1	-
C217.6	1	-
C217	1	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8501- DESIGN OF REINFORCED CEMENT CONCRETE ELEMENTS

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


C301.1	Know the various design methodologies for the design of RC elements
C301.2	Know the analysis and design of flanged beams by limit state method and
C301.3	Know the design of beams for shear, bond and torsion.
C301.4	Design the various types of slabs and staircase by limit state method.
C301.5	Design columns for axial, uniaxial, biaxially eccentric loadings using Limit State Method as per codal requirements.
C301.6	Design of footing by limit state method.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C301.1	3	3	3	2	-	-	-	1	-	-	-	-
C301.2	3	3	3	2	-	-	-	1	1	-	-	-
C301.3	3	3	3	2	-	-	-	1	1	-	-	-
C301.4	3	3	3	2	-	-	-	1	1	-	-	-
C301.5	3	3	3	2	-	-	-	1	1	-	-	-
C301.6	3	3	3	2	-	-	-	1	1	-	-	-
C301	3	3	3	2	-	-	-	1	1	-	-	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C301.1	3	-
C301.2	3	-
C301.3	3	-
C301.4	3	-
C301.5	3	-
C301.6	3	-
C301	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8502 - STRUCTURAL ANALYSIS I

Course Outcome:


C302.1	Analyze the indeterminate frames using energy method
C302.2	Analyze the indeterminate structures using Slope deflection method
C302.3	Analyze the indeterminate structures using Moment distribution method
C302.4	Explain the concept of flexibility method and apply it for analysis of statically indeterminate Structures
C302.5	Explain the concept of stiffness methods and apply it for analysis of statically indeterminate Structures Apply various basic
C302.6	Analyze the indeterminate frames using energy method

Mapping of Course Outcome (CO) with Programme Outcome (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C302.1	3	3	3	3	2	2	-	2	2	2	-	1
C302.2	3	3	3	3	2	2	-	2	2	2	-	1
C302.3	3	3	3	3	2	2	-	2	2	2	-	1
C302.4	3	3	3	3	2	2	-	2	2	2	-	1
C302.5	3	3	3	3	2	2	-	2	2	2	-	1
C302.6	3	3	3	3	2	2	-	2	2	2	-	1
C302	3	3	3	3	2	2	-	2	2	2	-	1

Mapping of Course Outcome (CO) with Programme Specific Outcome (PSO)

CO	PSO1	PSO2
C302.1	2	-
C302.2	2	-
C302.3	2	-
C302.4	2	-
C302.5	2	-
C302.6	2	-
C302	2	-


Dr. R. PUNIDHA, M.E., Ph.D.,
 PRINCIPAL,
 BHARATHIYAR INSTITUTE OF
 ENGINEERING FOR WOMEN,
 DEVIYAKURICH! - 636 112,
 THALAVASAL (TK), SALEM (DT).

CE 8591 - FOUNDATION ENGINEERING

COURSE OUTCOME : The students will be able to

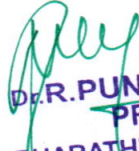
C304.1	Suggest various methods involved in sub soil exploration, Sampler and Sampling Techniques
C304.2	Design the foundation based on the bearing capacity of soil
C304.3	Carry out various test involved in settlement of foundation
C304.4	Identify the suitable type of footing for different loading conditions.
C304.5	Design pile foundations and determine their settlement for different soil conditions
C304.6	Analyze various pressure acting on retaining walls

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C304.1	3	3	3	3	-	2	-	2	2	2	1	-
C304.2	3	3	3	3	-	2	-	2	2	2	1	1
C304.3	3	3	3	3	-	2	-	2	2	2	1	1
C304.4	3	3	3	3	-	2	-	2	2	2	1	-
C304.5	3	3	3	3	-	2	-	2	2	2	1	1
C304.6	3	3	3	3	-	2	-	2	2	2	1	-
C304	3	3	3	3	-	2	-	2	2	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C304.1	2	1
C304.2	2	1
C304.3	2	1
C304.4	2	1
C304.5	2	1
C304.6	2	1
C304	2	1


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

EN8491 - WATER SUPPLY ENGINEERING

COURSE OUTCOME : The students will be able to

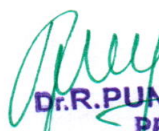
C303.1	Insight into the structure of drinking water supply systems, including water transport, treatment and distribution
C303.2	Acquire knowledge in various unit operations and processes in water treatment
C303.3	Design the various functional units in water treatment
C303.4	Apply the water quality criteria and standards, and their relation to public health
C303.5	Design and evaluate water supply project alternatives on basis of chosen criteria
C303.6	Optimize the design of distribution system for water based on the real time requirement considering the operation and maintenance requirement.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C303.1	3	3	3	2	-	-	3	1	-	-	1	-
C303.2	3	3	3	2	-	-	3	1	1	-	1	-
C303.3	3	3	3	2	-	-	3	1	1	-	1	-
C303.4	3	3	3	2	-	-	3	1	1	-	-	1
C303.5	3	3	3	2	-	-	3	1	1	-	-	1
C303.6	3	3	3	2	-	-	3	1	1	-	-	1
C303	3	3	3	2	-	-	3	1	1	-	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C303.1	3	-
C303.2	3	-
C303.3	3	-
C303.4	3	-
C303.5	3	-
C303.6	3	-
C303	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVYAKURICH - 636 002
THALAIVASAL (TK), SALEM (DT).

CE8511: SOIL MECHANICS LABORATORY

COURSE OUTCOME: Students will be able to


C307.1	Classify the soil and assess the engineering properties based on index properties
C307.2	Apply the stress concepts in soils
C307.3	Apply and identify the settlement in soils
C307.4	Determine the shear strength of soil
CE307.5	Analyse both finite and infinite slopes and slope protection measures

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C307.1	3	3	3	3	2	2	2	2	1	1	1	1
C307.2	3	3	3	3	2	2	2	2	1	1	1	1
C307.3	3	3	3	3	2	2	2	2	1	1	1	1
C307.4	3	3	3	3	2	2	2	2	1	1	1	1
C307.5	3	3	3	3	2	2	2	2	1	1	1	1
C307	3	3	3	3	2	2	2	2	1	1	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C307.1	3	-
C307.2	3	-
C307.3	3	-
C307.4	3	-
C307.5	3	-
C307	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8512 : WATER AND WASTEWATER ANALYSIS LABORATORY

COURSE OUTCOME: The Students on completing the course will have


C308.1	Ability to estimate sewage generation and design sewer system including sewage pumping stations
C308.2	Required understanding on the characteristics and composition of sewage, self purification of streams
C308.3	Ability to perform basic design of the unit operations and processes that are used in sewage treatment
C308.4	Apply the standard methods for disposal of sewage.
C308.5	Gain knowledge on sludge treatment and disposal.
C308.6	Knowledge on construction and operation & maintenance of sewage treatment plants.

Mapping of Course Outcome (CO) with Programme Outcome (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C308.1	3	3	3	3	3	2	2	2	2	1	1	1
C308.2	3	3	3	3	3	2	2	2	2	1	1	1
C308.3	3	3	3	3	3	2	2	2	2	1	1	1
C308.4	3	3	3	3	3	2	2	2	2	1	1	1
C308.5	3	3	3	3	3	2	2	2	2	1	1	1
C308.6	3	3	3	3	3	2	2	2	2	1	1	1
C308	3	3	3	3	3	2	2	2	2	1	1	1

Mapping of Course Outcome (CO) with Programme Specific Outcome (PSO)

CO	PSO1	PSO2
C308.1	3	-
C308.2	3	-
C308.3	3	-
C308.4	3	-
C308.5	3	-
C308.6	3	-
C308	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8601 - DESIGN OF STEEL STRUCTURAL ELEMENTS

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

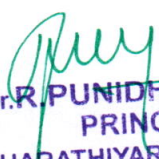
C310.1	Analyze the technical competence in the design of steel building
C310.2	Analyze the concepts of working stress and limit state design philosophies
C310.3	Design common bolted and welded connections for steel structures
C310.4	Design tension members and understand the effect of shear lag.
C310.5	Apply the design concept of axially loaded columns and column
C310.6	Apply specific problems related to the design of laterally restrained and unrestrained steel beams

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C310.1	3	3	3	2	-	-	-	2	1	-	-	-
C310.2	3	3	3	2	-	-	-	2	1	-	-	-
C310.3	3	3	3	2	-	-	-	2	1	-	-	-
C310.4	3	3	3	2	-	-	-	2	1	-	-	-
C310.5	3	3	3	2	-	-	-	2	1	-	-	-
C310.6	3	3	3	2	-	-	-	2	1	-	-	-
C310	3	3	3	2	-	-	-	2	1	-	-	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C310.1	3	-
C310.2	3	-
C310.3	3	-
C310.4	3	-
C310.5	3	-
C310.6	3	-
C310	3	-


Dr. R. PUNDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8602 - STRUCTURAL ANALYSIS II

COURSE OUTCOME: The students will be able to


C311.1	Analyze the structure with moving loads using Influence line diagram method
C311.2	Analyze the indeterminate structure using Influence line diagram
C311.3	Analyze the arch structures
C311.4	Analyze the space and cable structures.
C311.5	Solve indeterminate beams and frames using plastic analysis method
C311.6	Apply various Advanced methods in the analysis of structural elements

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C311.1	3	3	2	2	-	-	2	-	2	-	2	-
C311.2	3	3	2	2	-	-	2	-	2	-	2	-
C311.3	3	3	2	2	-	-	2	-	2	-	2	-
C311.4	3	3	2	2	-	-	2	-	2	-	2	-
C311.5	3	3	2	2	-	-	2	-	2	-	2	-
C311.6	3	3	2	2	-	-	2	-	2	-	2	-
C311	3	3	2	2	-	-	2	-	2	-	2	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C311.1	3	-
C311.2	3	-
C311.3	3	-
C311.4	3	-
C311.5	3	-
C311.6	3	-
C311	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8603 - IRRIGATION ENGINEERING

COURSE OUTCOME : The students will be able to


C312.1	Have knowledge and skills on crop water requirements.
C312.2	Apply the methods and management of irrigation.
C312.3	Gain knowledge on types of Impounding structures
C312.4	Understand methods of irrigation including canal irrigation.
C312.5	Get knowledge on water management on optimization of water use.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C312.1	3	3	3	2	2	-	-	1	-	-	-	1
C312.2	3	3	3	2	2	-	-	1	1	-	-	1
C312.3	3	3	3	2	2	-	-	1	1	-	-	1
C312.4	3	3	3	2	2	-	-	1	1	-	-	1
C312.5	3	3	3	2	2	-	-	1	1	-	-	1
C312	3	3	3	2	2	-	-	1	1	-	-	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C312.1	3	-
C312.2	3	-
C312.3	3	-
C312.4	3	-
C312.5	3	-
C312	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

EN8592 - WASTE WATER ENGINEERING

COURSE OUTCOME: The Students on completing the course will have


C314.1	Ability to estimate sewage generation and design sewer system including sewage pumping stations
C314.2	Required understanding on the characteristics and composition of sewage, self-purification of streams
C314.3	Ability to perform basic design of the unit operations and processes that are used in sewage treatment
C314.4	Apply the standard methods for disposal of sewage.
C314.5	Gain knowledge on sludge treatment and disposal.
C314.6	Knowledge on construction and operation & maintenance of sewage treatment plants.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C314.1	3	3	3	2	2	-	-	1	1	-	-	-
C314.2	3	3	3	2	2	-	-	1	1	-	-	-
C314.3	3	3	3	2	2	-	-	1	1	-	-	-
C314.4	3	3	3	2	2	-	-	1	1	-	-	-
C314.5	3	3	3	2	2	-	-	1	1	-	-	-
C314.6	3	3	3	2	2	-	-	1	1	-	-	-
C314	3	3	3	2	2	-	-	1	1	-	-	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C314.1	3	-
C314.2	3	-
C314.3	3	-
C314.4	3	-
C314.5	3	-
C314.6	3	-
C314	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8604 - HIGHWAY ENGINEERING

COURSE OUTCOME: Students will be able to know

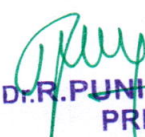
C313.1	Planning, design for the construction of road structures
C313.2	Design of aligning a new roadway
C313.3	Design flexible and rigid pavement as per IRC standards and other methods
C313.4	Knowledge about standard tests of highway materials and the methodology of road construction practice
C313.5	Maintenance of highways as per IRC standards and other specifications.
C313.6	Brief knowledge about flexible pavement, rigid pavement, highways construction and maintenance as per IRC standards and other methods

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C313.1	3	3	3	3	-	-	2	-	-	-	-	1
C313.2	3	3	3	3	-	-	2	2	-	-	2	1
C313.3	3	3	3	3	-	-	2	2	-	-	2	1
C313.4	3	3	3	3	-	-	2	2	-	-	2	1
C313.5	3	3	3	3	-	-	2	2	-	-	2	1
C313.6	3	3	3	3	-	-	2	-	-	-	2	1
C313	3	3	3	3	-	-	2	2	-	-	2	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C313.1	1	1
C313.2	1	-
C313.3	1	-
C313.4	-	-
C313.5	-	1
C313.6	-	1
C313	1	1


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112.
THALAIVASAL (TK), SALEM (DT).

CE8005 - AIR POLLUTION AND CONTROL ENGINEERING

COURSE OUTCOME : The students completing the course will have


C305.1	Knowledge of the nature and characteristics of the air pollutants.
C305.2	Knowledge on basic concepts of air quality management and ability to identify the various types of plume dispersion
C305.3	Ability to select appropriate equipments and models to control the pollutants
C305.4	Capability to monitor the air quality standards for gaseous contaminants.
C305.5	The Competence to identify, control and prevent noise pollution.
C305.6	Ability to design stacks and particulate air pollution control devices to meet applicable standards

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAM OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C305.1	3	3	3	3	3	-	3	2	-	2	1	-
C305.2	3	3	3	3	3	-	3	2	-	2	1	-
C305.3	3	3	3	3	3	-	3	2	-	2	1	-
C305.4	3	3	3	3	3	-	3	2	-	2	1	-
C305.5	3	3	3	3	3	-	3	2	-	2	1	-
C305.6	3	3	3	3	3	-	3	2	-	2	1	-
C305	3	3	3	3	3	-	3	2	-	2	1	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAM SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C305.1	3	1
C305.2	3	1
C305.3	3	1
C305.4	3	1
C305.5	3	1
C305.6	3	1
C305	3	1


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICHI - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8611 – HIGHWAY ENGINEERING LABORATORY

COURSE OUTCOME: The Students on completing the course will have

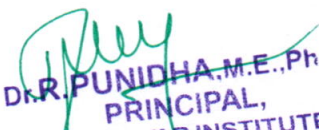
C317.1	Get a basic knowledge on tests on fresh concrete
C317.2	Gain the knowledge on tests on hardened concrete
C317.3	Get a basic knowledge on tests on aggregates
C317.4	Gain the knowledge on tests on bricks
C317.5	Knowledge about standard tests of highway materials and the methodology of road construction practice
C317.6	Maintenance of highways as per IRC standards and other specifications.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C317.1	3	3	3	3	3	2	2	2	2	2	1	1
C317.2	3	3	3	3	3	2	2	2	2	2	1	1
C317.3	3	3	3	3	3	2	2	2	2	2	1	1
C317.4	3	3	3	3	3	2	2	2	2	2	1	1
C317.5	3	3	3	3	3	2	2	2	2	2	1	1
C317.6	3	3	3	3	3	2	2	2	2	2	1	1
C317	3	3	3	3	3	2	2	2	2	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C317.1	3	-
C317.2	3	-
C317.3	3	-
C317.4	3	-
C317.5	3	-
C317.6	3	-
C317	3	-


D.R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8701 - ESTIMATION, COSTING AND VALUATION ENGINEERING

COURSE OUTCOME:


C401.1	Estimate of quantities of items for different types of buildings by various methods.
C401.2	Prepare rate Analysis for all Building works, canals, roads and Cost Estimate.
C401.3	Knowledge on types of specifications, principles for report preparation and tender notices.
C401.4	Gaining knowledge about type of contracts and drafting of contract documents.
C401.5	Prepare a value estimate and fixing the rent for different properties
C401.6	Prepare the reports for different civil engineering projects

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C401.1	3	3	3	2	-	-	2	2	-	-	2	1
C401.2	3	3	3	2	-	-	-	2	-	-	2	1
C401.3	3	3	3	2	-	-	2	2	-	-	2	1
C401.4	3	3	3	2	-	-	2	2	-	-	2	1
C401.5	3	3	3	2	-	-	2	2	-	-	2	1
C401.6	3	3	3	2	-	-	-	2	-	2	2	1
C401	3	3	3	2	-	-	2	2	-	2	2	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C401.1	2	-
C401.2	2	-
C401.3	2	-
C401.4	2	-
C401.5	2	-
C401.6	2	-
C401	2	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8702 - RAILWAY, AIRPORT & HARBOUR ENGINEERING

COURSE OUTCOME : The students will be able to


C402.1	Apply the history of Indian railways, components of track and geometric design of railway track
C402.2	Apply the concept of drainage, earthwork, tunneling, and modern methods of track maintenance, urban rail, Metro and underground railways.
C402.3	Develop knowledge on airport planning and to acquire knowledge on site investigation for location and design considerations on runway and taxiways.
C402.4	Gain knowledge on airport buildings, motor vehicle parking, lightings and air traffic control systems.
C402.5	Acquaint knowledge on harbor engineering, classification of harbours.
C402.6	Gain knowledge on Coastal Structures like Piers, Break waters, Wharves, Jetties, Quays, Spring Fenders and will have awareness about coastal erosion.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C402.1	3	3	3	3	1	-	-	1	-	-	-	-
C402.2	3	3	3	3	1	-	1	1	-	-	-	-
C402.3	3	3	3	3	1	-	1	1	-	-	-	-
C402.4	3	3	3	3	1	-	1	1	-	-	-	-
C402.5	3	3	3	3	1	-	1	1	-	-	-	-
C402.6	3	3	3	3	1	-	1	-	-	-	-	-
C402	3	3	3	3	1	-	1	1	-	-	-	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C402.1	3	1
C402.2	3	1
C402.3	3	1
C402.4	3	1
C402.5	3	1
C402.6	3	1
C402	3	1


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112,
THALAIVASAL (TK), SALEM (DT).

CE8703 - STRUCTURAL DESIGN AND DRAWING

COURSE OUTCOME : The students will be able to


C403.1	Design and draw reinforced concrete Cantilever and Counterfort Retaining Walls
C403.2	Design and draw flat slab as per code provision
C403.3	Design and draw reinforced concrete and steel bridge
C403.4	Design and draw reinforced concrete and steel water tanks
C403.5	Design and detail the various steel trusses
C403.6	Design and detail the various types of girders.

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C403.1	3	3	3	-	-	-	-	2	2	2	1	1
C403.2	3	3	3	-	-	-	-	2	2	2	1	1
C403.3	3	3	3	-	-	-	-	2	2	2	1	1
C403.4	3	3	3	-	-	-	-	2	2	2	1	1
C403.5	3	3	3	-	-	-	-	2	2	2	1	1
C403.6	3	3	3	-	-	-	-	2	2	2	1	1
C403	3	3	3	-	-	-	-	2	2	2	1	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C403.1	3	-
C403.2	3	-
C403.3	3	-
C403.4	3	-
C403.5	3	-
C403.6	3	-
C403	3	-


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
 DEVIKAVURICHY
 THALAIYADAL (V), DISTRICT

EN8591 MUNICIPAL SOLID WASTE MANAGEMENT

COURSE OUTCOME:The Student will be able to...

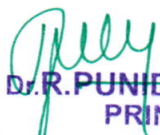
C404.1	Apply of the nature, characteristics and ill effects of municipal solid
C404.2	Regulate requirements regarding municipal solid waste management.
C404.3	Suggest various storage and processing methods and ability to select appropriate method for a specific scenario
C404.4	Suggest various collection methods and routes of solid wastes
C404.5	Apply various disposal methods and post disposal effects of Municipal Solid Wastes.
C404.6	Ability to plan waste minimisation and design storage, collection, transport, processing and disposal of municipal solid waste

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C404.1	3	2	2	-	2	2	2	2	-	1	1	-
C404.2	3	2	-	-	2	2	2	2	-	1	1	-
C404.3	3	2	-	-	2	2	2	2	-	1	1	-
C404.4	3	2	-	-	2	2	2	2	-	1	1	-
C404.5	3	2	-	-	2	2	2	2	-	1	1	-
C404.6	3	2	-	-	2	2	2	2	-	1	1	-
C404	3	2	2	-	2	2	2	2	-	1	1	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C404.1	3	1
C404.2	3	1
C404.3	3	1
C404.4	3	1
C404.5	3	1
C404.6	3	1
C404	3	1


D. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH - 631
THALAIVASAL (TK), S...

GE8076 - PROFESSIONAL ETHICS IN ENGINEERING

COURSE OUTCOME: Student will be able to


C409.1	Know the essence of Ethics
C409.2	Apply about various morals and values for professional excellence
C409.3	Know the different ideas of Engineering Ethics
C409.4	Stand on the point of safety, responsibility and rights in society
C409.5	Aware about global issues of ethics and its applicability
C409.6	Feel the overall discipline and moral principles being professional

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12
C409.1	3	3	2	2	2	2	2	2	2	2	2	1
C409.2	3	3	2	2	2	2	2	2	2	2	2	1
C409.3	3	3	2	2	2	2	2	2	2	2	2	1
C409.4	3	3	2	2	2	2	2	2	2	2	2	1
C409.5	3	3	2	2	2	2	2	2	2	2	2	1
C409.6	3	3	2	2	2	2	2	2	2	2	2	1
C409	3	3	2	2	2	2	2	2	2	2	2	1

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C409.1	3	1
C409.2	3	1
C409.3	3	1
C409.4	3	1
C409.5	3	1
C409.6	3	1
C409	3	1


Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVYAKURICH! - 636 112
THALAVASAL (TK), SALEM (DT).

CE8020 MAINTENANCE, REPAIR AND REHABILITATION OF STRUCTURES

COURSE OUTCOMES:The students will be able to...

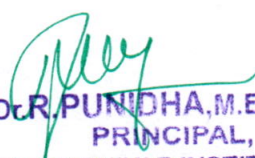
C410.1	Find out causes of deterioration.
C410.2	Apply various durability parameters suitably
C410.3	Use different type of material used for repair
C410.4	Choose among different techniques of repair
C410.5	Implement various methods of demolition practices
C410.6	Identify the cracks due to structural deficiency


MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME OUTCOME (PO)

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
C410.1	3	3	3	3	-	-	3	3	-	-	2	-
C410.2	3	3	3	3	2	-	3	3	-	-	2	-
C410.3	3	3	3	3	-	-	3	3	-	-	2	-
C410.4	3	3	3	3	2	-	3	3	-	-	2	-
C410.5	3	3	3	3	-	-	3	3	-	-	2	-
C410.6	3	3	3	3	-	1	3	3	-	-	2	-
C410	3	3	3	3	2	1	3	3	-	-	2	-

MAPPING OF COURSE OUTCOME (CO) WITH PROGRAMME SPECIFIC OUTCOME (PSO)

CO	PSO1	PSO2
C410.1	2	-
C410.2	2	-
C410.3	2	-
C410.4	2	-
C410.5	2	-
C410.6	2	-
C410	2	-


Dr. R. PUNDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH - 636 02
THIRUVARUR (TK), SALEM (DT).



Dr. R. PUNIDHA, M.E., Ph.D.,
PRINCIPAL,
BHARATHIYAR INSTITUTE OF
ENGINEERING FOR WOMEN,
DEVIYAKURICH! - 636 112
THALAIVASAL (TK), SALEM