



CAYMET's
Siddhant College of Engineering
Savitribai Phule Pune University, Pune
Final Year Civil Engineering (2015 Course)

COURSE OBJECTIVE & OUTCOMES

SEM I

Subject Code & Name-401001 Environmental Engineering II

Course Objectives

1. To learn the basics of sewage composition and its characteristics
2. To depict the information about various sewage treatment processes
3. To provide the adequate information on various disposal standards for industrial effluents
4. To study the information about air pollution and its effects
5. To understand the knowledge about solid waste generation and disposal methods

Course Outcomes

1. On completion of the course, the students will be able to:
2. Determine the sewage characteristics and design various sewage treatment plants
3. Analyze the status of surface water and ground water quality and the remediation technologies
4. Carry out municipal water and wastewater treatment system design and operation
5. Manage hazardous wastes, risk assessment and treatment technologies
6. Apply environmental treatment technologies and design processes

Subject Code & Name – 401002 Transportation Engineering

Course Objectives

1. To understand the importance of transportation and characteristics of road transport
2. To know about the history of highway development, surveys and classification of roads
3. To study about the geometric design of highways
4. To study about traffic characteristics and design of intersections
5. To know about the pavement materials and design

Course Outcomes

1. Carry out surveys involved in planning and highway alignment
2. Design cross section elements, sight distance, horizontal and vertical alignment
3. Implement traffic studies, traffic regulations and control, and intersection design

4. Determine the characteristics of pavement materials
5. Design flexible and rigid pavements as per IRC

Subject Code &Name – 401003 Structural Design and Drawing III

Course Objectives

1. To learn the principles, materials, methods and systems of prestressing
2. To know the different types of losses and deflection of prestressed members
3. To learn the design of prestressed concrete beams for flexural, shear and tension and to calculate ultimate flexural strength of beam
4. To learn the design of anchorage zones, composite beams, analysis and design of continuous beam
5. To learn the design of water tanks

Course Outcomes

1. Design a prestressed concrete beam accounting for losses
2. Design the anchorage zone for post tensioned members
3. Design composite members
4. Design continuous beams
5. Design water tanks

Subject Code &Name – 401004 Elective I Advanced Concrete Technology

Course Outcomes

Student shall be able to

1. Identify Quality Control tests on concrete making materials
2. Understand the behavior of fresh and hardened concrete
3. Understand Mechanical properties of concrete
4. Use various additives & admixtures of concrete
5. Design concrete mixes as per IS and ACI codes
6. Understand the durability requirements of concrete

Subject Code &Name – 401005 Elective II Earthquake Engineering

Course Outcomes

Student shall be able to

1. Understand earth geology, movements of the plates, earthquakes
2. Calculate the magnitude & intensity of the earthquake

3. Understand the concept of Earthquake resistant design of structures
4. Perform the seismic analysis of multistoried building
5. Understand the impact of special aspects of building on seismic response
6. Understand the requirement of ductile detailing in frame members

SEM II

Subject Code &Name -401007 Dams and Hydraulic Structures

Course Objectives

1. To understand the basic types of irrigation, irrigation standards and crop water assessment
2. To study the different aspects of design of hydraulic structures
3. To provide knowledge on various hydraulic structures such as energy dissipaters, head and cross regulators, canal falls and structures involved in cross drainage works
4. To understand the analysis of seepage and hydraulic jump
5. To design different types of dams

Course Outcomes

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

1. Assess the irrigation needs of crops
2. Design weirs on pervious foundation
3. Design gravity dam and earthen dam
4. Design the canal systems
5. Select and design canal fall

Subject Code &Name -401008 Quantity Surveying, Contracts and

Tenders

Course Objectives

1. To know the importance of preparing the types of estimates under different conditions
2. To know about the rate analysis and bill preparations
3. To study about the specification writing
4. To understand the valuation of land and buildings

Course Outcomes

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

1. Apply different types of estimates in different situations
2. Carry out analysis of rates and bill preparation at different locations
3. Demonstrate the concepts of specification writing
4. Carry out valuation of assets

Subject Code &Name -401009 Elective III Air Pollution and control

Course Outcomes:

Student shall be able to

1. To explain air pollution sources, effects and control measures.
2. To define Environmental Impact Assessment, explain its methods and understand latest trend
3. Develop environmental awareness and various policies.
4. Suggest and implement various air pollution control techniques.

Subject Code &Name -401010 Elective IV Green Building Technology

Course Outcomes:

Student shall be able to

1. Gain a broad understanding & explain the basic concepts of Green Building
2. Identify, formulate & explore use various green construction materials, processes and systems
3. Apply knowledge of local, national and international rating systems while designing green buildings
4. Apply modern green engineering tools, techniques & skills necessary for engineering practice in energy efficiency concept during execution.
5. Use various methods of energy and water conservation for development of sustainable building.
6. Explain the contemporary issues and development associated with green building
