



DEPARTMENT OF CIVIL ENGINEERING

SCHEME OF COURSE WORK

Course Details:

Course Title	: Building Planning and Services		
Course Code	: 20CE11Q1	L T P C	: 3 0 0 3
Program:	: B. Tech.		
Specialization:	: Civil Engineering		
Semester	: V		
Prerequisites	: Engineering Drawing, Building Materials, and Concrete Technology		
Courses to which it is a prerequisite	: Building Engineering ,Design of Structures		

Course Outcomes (COs):

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

1	Distinguish the different income groups in India and concept of climatology for housing requirements
2	Apply the concept of Building byelaws in planning of the House
3	Classify various types of plumbing and power supply systems
4	Discuss the maintenance of building and its various repairing techniques
5	Discuss fire safety requirement of a building

Program Outcomes (POs):

1. Graduates will be able to apply the knowledge of mathematics, science, engineering fundamentals to solve complex civil engineering problems.
2. Graduates will attain the capability to identify, formulate and analyse problems related to civil engineering and substantiate the conclusions
3. Graduates will be in a position to design solutions for civil engineering problems and design system components and processes that meet the specified needs with appropriate consideration to public health and safety.
4. Graduates will be able to perform analysis and interpretation of data by using research methods such as design of experiments to synthesize the information and to provide valid conclusions.
5. Graduates will be able to select and apply appropriate techniques from the available resources and modern civil engineering and software tools, and will be able to predict and model complex engineering activities with an understanding of the practical limitations.
6. Graduates will be able to carry out their professional practice in civil engineering by appropriately considering and weighing the issues related to society and culture and the consequent responsibilities.



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7. Graduates will be able to understand the impact of the professional engineering solutions on environmental safety and legal issues.
8. Graduates will transform into responsible citizens by resorting to professional ethics and norms of the engineering practice.
9. Graduates will be able to function effectively in individual capacity as well as a member in diverse teams and in multidisciplinary streams.
10. Graduates will be able to communicate fluently on complex engineering activities with the engineering community and society, and will be able to prepare reports and make presentations effectively.
11. Graduates will be able to demonstrate knowledge and understanding of the engineering and management principles and apply the same while managing projects in multidisciplinary environments.
12. Graduates will engage themselves in independent and life-long learning in the broadest context of technological change while continuing professional practice in their specialized areas of civil engineering.

Program Specific Outcomes (PSOs):

1. Collect, process and analyse the data from topographic surveys, remote sensing, hydrogeological investigations, geotechnical explorations, and integrate the data for planning of civil engineering infrastructure.
2. Analyse and design of substructures and superstructure for buildings, bridges, irrigation structures and pavements.
3. Estimate, cost evaluation, execution and management of civil engineering projects.

Course Outcome Vs Programme Specific Outcomes:

CO	PSO1	PSO2	PSO3
CO1	3	1	2
CO2	2	1	2
CO3	2		3

Mapping Levels:

1: Slight (Low), 2: Moderate (Medium), 3: Substantial (High), put -: No Correlation

Assessment Methods:	Assignment / Quiz / Seminar / Case Study / Mid-Test / End Exam			
	√	√	√	√
Marks	5	5	20	70



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Teaching-Learning and Evaluation

Week No.	TOPIC / CONTENTS	Course Outcomes	Sample questions	Teaching & Learning Strategy	Assessment Method & Schedule
1	Building Classification & Introduction on Duplex house, and Apartments	CO2 CO2	Explain the classification of buildings Discuss about the size of plot area required for different type of housing colonies meant for MIG,HIG,LIG and EWS group of people	Lecture/ Discussion Lecture/ Discussion	Assignment
2	Study on Climatology of Building Engineering in India (Principles of anthropometry)	CO1 CO1 CO1	Mention different climate zones in India Write the factors influence orientation of building Write the principles of anthropometry	Lecture & Discussion Lecture Discussion Lecture & Discussion	Assignment
3	Objectives of building laws, concept of building byelaws, minimum standard dimensions of building plot	CO2 CO2	Write about the objectives of building laws Define the terms Plinth area, Carpet area, FAR,FSI, etc	Lecture Lecture	Assignment
4	Provision of Lighting and Ventilation system in a building and parking	CO2	Write a short notes on different provisions used for lighting and ventilation systems	Lecture	Assignment
5	Principles of building planning Develop building plan for public and residential buildings	CO2 CO2	Draw the building plan for school and primary health centre.(Line plan) Draw the building plan for Post office and Function hall (Line plan)	Lecture Drawing Lecture Drawing	Assignment
6	Concept of Plumbing , Sanitary systems used in Building Engineering	CO3	Explain about different water supply systems used for public water distribution Discuss about the functionality of different plumbing fixtures used for sanitary systems	Lecture Practice & application Lecture Drawing	Assignment
7	Concept of RO water supply and sanitation systems	CO3	What is the advantage of RO water supply system	Lecture	Assignment



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8	Drawing related to plumbing and sanitary elements used in practice	CO3	Draw the line plan for provision of drinking water supply to a building	Lecture	Assignment
9					
10	Electrical maintenance of building, Concept of Earth wiring in building	CO3	Write the basic requirements of single phase and three phase power distribution system used in building. Mention the Indian standards for Earth wire provisions. Discuss about different provisions of Earth wiring systems used in Building construction	Lecture Lecture Lecture	Assignment
11	Solar power system, and concepts related to Transformer, and Power distribution system	CO3	Neatly sketch the layout of a Sub-station Write the basic elements of solar power system Explain the functionality of Transformer	Lecture Drawing Lecture Lecture	Assignment
12	Maintenance of damaged flooring, Repair of water storage tank	CO4	Explain different methods used for repairing of damaged floors in a building Explain different methods used for repairing of water storage tank	Lecture Lecture	Assignment
13	Termite treatment of a building, Repair of storage tanks, sumps	CO4	Explain the application of anti termite treatment and methods in a building How the repair of water storage tank proceed in a building	Lecture Lecture	Assignment
14	Concept of water proofing, grouting, and repair of joints	CO4	Explain different types of special materials used for water proofing Describe the procedure adopted for repairing of structural joints Explain different types of grouting techniques used in practice	Lecture Lecture Lecture	Assignment



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15	Rectification of leaks in RCC slab, expansion and contraction joints	CO4	Write different techniques used for repairing of cracks in slab Explain the use of different materials used for repairing	Lecture Lecture	Assignment
16	Concepts of fire and safety in a building	CO5	Explain the provision of fire safety requirements of a building as per NBC norms	Lecture	Assignment
17	Safety equipment used against fire accidents	CO5	Explain different types of safety equipment and device used for building fire safety. Discuss in detail	Lecture	
18	Planning considerations against fire safety of a building	CO5	What are the basic essentialities need to consider for fire safety of building during planning	Lecture	Assignment
19	Use of automatic sprinklers, Specific requirements for handicapped students	CO5	Where we provide fire sprinklers Write the specific provisions for save the handicapped people form fire accidents	Lecture	Assignment
20	MID TEST - II				
	END EXAM				