

01CI0302: Building Planning and Drawing
Objective of the Course

Objectives of introducing this subject at second year level in civil branches are:

- To understand the fundamental principles and concepts of planning and architecture for buildings.
- To study about different views of layout.
- To learn the development controls covered by building bye laws and national building code for buildings.

Credits Earned: 4

Students Learning Outcomes

After studying this subject students will be able to:

- Comprehend local building bye-laws and provisions of National Building Code in respect of building and town planning.
- Discuss various aspects of principles of planning and architecture in planning building and mass composition.
- Explain the principles of planning and design considerations to construct earthquake resistant building.
- Prepare working drawings, foundation plans and other executable drawings with proper details for residential buildings.

Teaching and Examination Scheme

Subject Name	Teaching Scheme (Hours)			Credits	Theory Marks			Tutorial/ Practical Marks		Total Marks
	Theory	Tutorial	Practical		ESE (E)	Mid Sem (M)	Internal (I)	Viva (V)	Term Work (TW)	
Building Planning & Drawing	3	0	2	4	-	-	10	30	60	100

Detailed Syllabus

Sr. No.	Topic Name	Hours
PART A: BUILDING PLANNING		24
1	Introduction:	2
	1.1 Basics of Building, major components and building types. 1.2 Preliminary planning concepts of building planning and architectural considerations.	
2	Principles of planning:	6
	2.1 Requirements of a good building planning.	
	2.2 Factors affecting building planning.	
	2.3 Detail study on elements of building planning.	
	2.4 Sun and building relationship. 2.5 Types of basic services in buildings: Brief introduction	
3	Building Bye-laws:	6
	3.1 Role, need and importance of building bye-laws.	
	3.2 Structuring of bye-laws: Inclusion of National Building code and legal aspects.	
	3.3 Scope of bye-laws and 3.3 Case study of bye-laws of a local authority.	
4	Planning of buildings:	10
	4.1 Functions of building according to types.	
	4.2 Planning aspects of a residential building.	
	4.2.1 List of components and functions of a residential building.	
	4.2.1 Area requirements and arrangement for various components.	
	4.2.2 Minimum dimensions and standards as per bye-laws.	
	4.3 Introduction to plans and sketches of building components. 4.4 Case studies of planning of Commercial buildings, Hospitals and Educational buildings.	
PART B: BUILDING DRAWING		18
1	Building Drawings:	9
	1.1 Meaning, need and importance of building drawings.	
	1.2 Types of building drawings, standard sizes, scales, formats, line types and hatching.	
	1.3 Information to be included in a typical building drawing.	
	1.4 List of common types of standard symbols. 1.5 Case study of a typical standard residential building drawing: list of drawings, detailing requirements, importance of a particular types and interpretation of drawing on site.	
2	Developing the building drawing (Drawing exercises)	9
	2.1 Drawing exercise of a scaled residential building: Plans, Elevations and Sections in standard formats.	
	2.2 Perspective, Isometric and orthographic drawing of a building	
Total		42

Laboratory Work Contents

Sr. No.	Topic Name	Hours
1	Signs and Symbols:	6
	2.1 Symbols for Materials of Construction 2.2 Symbols for Sanitation and Water Supply Installation 2.3 Symbols for types of Shutters of Doors 2.4 Symbols for Furniture 2.5 Symbols for Electric Fitting 2.6 Miscellaneous Symbols	
2	Building Bye Laws:	2
	2.1 Objectives, Scope and Applicability as per Local (GDCR) and National authority (NBC).	
3	Application - Principles of planning:	4
	3.1 Aspect, Prospect, Privacy, Circulation, Roominess 3.2 Grouping, Elegance, Sanitation, Flexibility, Economy.	
4	Perspective Drawing:	2
	4.1 Staircase 4.2 Security Cabin	
5	Components of Building:	2
	5.1 Components of Hospital Buildings 5.2 Components of Post Office Buildings	
6	Practicing for Different drawings – Manual Drawing and Software Application	12
	6.1 Residential plan 6.2 shopping or commercial center 6.3 Educational building plan or Institutional building plan	
TOTAL		28

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve effective teaching-learning process

Distribution of Theory for course delivery and evaluation					
Remember	Understand	Apply	Analyze	Evaluate	Create
5%	50%	40%	5%	00%	00%

List of Experiment & Projects

- Individually students have to maintain a sketch book.
- Students have to maintain soft copy of different plans individually, and final plan needs to be submitted in hard copy group wise.
- Under the Practice plan, 2 hours will be allocated for planning and remaining time will be allocated for application of software.

Drawing Sheets (A1 Size)

1. Residential Planning: Two storied Building: Plans, elevation, section, lay-out plan, key plan, site plan, area table, schedule of opening. Scale-1:100. (Furniture plan, Drainage lay out, Toilet Detail, Wood work detail, Kitchen detail, Electrical plan etc).
2. Public Building: Ground Floor plan, typical floor plan, elevation, section, lay-out plan, key plan, site plan, area table, schedule of opening.
3. Perspective Drawing: Two point perspective drawing.

Assignments

1. Assignment -1: Principles of planning.
2. Assignment -2: National building code and local bye-laws.
3. Assignment -3: Building drawings.

Instructional Method and Pedagogy

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Lectures will be also conducted with the aid of multi-media projector, green board, drawing halls.
3. Attendance is compulsory in lectures and laboratory which carries a 10% component of the overall evaluation.
4. Minimum two internal exams will be conducted and average of two will be considered as a part of 10% overall evaluation.
5. Assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval. It carries a weightage of 10%.
6. The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.
7. Minimum 3 drawing exercises shall be there in the laboratory related to course contents.
8. Minimum 3 assignment or tutorials which include solution of minimum 5 numerical based under each head.

Recommended Study Material

1. Planning, designing building by Y. S. Sane, Allies Book Stall
2. Building Drawing by M. G. Shah, C. M. Kale and S. Y. Patki, Tata Mc Graw Hill, New Delhi
3. Building Planning, Designing and scheduling by Gurucharan Singh, Standard Book House, New Delhi National Building Code-2005, New Delhi Ss
4. National Building Code-2005, New Delhi
5. GDCR: General Development control regulations published by RMC and RUDA.
6. General Development Control Regulations published by AUDA and GICEA