15ACE15-BUILDING PLANNING AND DRAWING

L T P C 3 1 0 3

Objective: This subject provides the knowledge of building by laws, registration, planning of various types of buildings different sign convention of various Civil Engineering Materials, Doors, windows, tiles of roof, drawing of building plans etc.

PART-A

UNIT -I

Planing Of Buildings: Types of buildings, types of residential buildings, site selection for residential building, orientation of buildings; aspect; prospect; privacy; furniture requirement; grouping; circulation; sanitation; lighting; ventilation; cleanliness; flexibility; elegancy; Economy; practical considerations.

Building Byelaws And Regulations: Introduction- Terminology ;Objectives of building byelaws; Minimum plot sizes; Open space requirements ;Plinth area, floor area, carpet area; Floor area ratio (FAR), Floor space Index (FSI) ;areas for different units; Principles underlying building byelaws; built up area limitations – Height of Buildings ,Wall thickness, lighting and ventilation requirement, safety from fire, drainage and sanitation; applicability of the bye-laws.

UNIT -II

Planning Of Residential Buildings: Minimum standards for various parts of buildings – requirements of different rooms and their grouping – characteristics of various types of residential buildings

Planning Of Public Building: Planning of Educational institutions, Hospitals, Office buildings, Banks, Industrial buildings, Hotels and Motels, Hostels, Bus Station.

UNIT-III

Buildings: Safety And Comfort: aspects of safety-structural, health, fire and constructional safety. Components of building automation system - HVAC, electrical lighting, Security, fire-fighting, communication etc. design for thermal comfort, ventilation comfort, air conditioning comfort, lighting comfort, noise and acoustic comfort.

PART-B

UNIT-IV

Sign Conventions And Bonds: Brick, Stone, Plaster, Sand filling, Concrete, Glass, Steel, Cast iron, Copper alloys, Aluminum alloys etc., Lead, Zinc, tin, and white lead etc., Earth, Rock, Timber and Marble. English bond & Flemish bond; odd & even courses for one, one and half, two and two and half brick walls in thickness at the junction of a corner.

Grul.

Doors Windows, Ventilators And Roofs: Paneled Door – paneled and glazed door; glazed windows – paneled windows; Swing ventilator – Fixed ventilator; Couple roof – Collar roof; Kind Post truss – Queen post truss.

UNIT-V

Given line diagram with specification to draw plan, section and elevation of:

- 1. Residential Building
- 2. Hospital
- 3. Schools
- 4. Post office
- 5. Corporate Office Building
- 6. Hotels
- 7. Bank buildings
- 8. Bus stations
- 9. Industrial buildings

Final Examination Pattern: The end examination paper should consist of Part- A and Part-B. Part- A consists of three questions with either or choice from three units in planning portion. Each question carries 10 marks. Total marks for Part-A is 30 marks. Part- B consists of two questions with either or choice from drawing portion. Question from unit-IV carries 10 marks and question from unit-V carries 30 marks. Total marks for Part-B is 40 marks.

Text Books:

- 1. Planning and Designing and Scheduling Gurucharan Singh and Jagadish Singh- Standard publishers.
- 2. Building Planning and Design N.Kumara Swamy and A.Kameswara Rao. Charotar publications.

Reference:

- 1. Building by laws by state and Central Governments and Municipal corporations. National Building Code
- 2. Building drawing with an integrated approach to building environment-M.G.Saha, G.M.Kale, S.Y.patki-Tata Mc Graw Hill