

BUILDING PLANNING AND DESIGN

Course Code: 13CE1109

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Course Educational Objectives:

- ❖ The student shall understand the climatic design, principles of planning, and building byelaws of residential building.
- ❖ To impart requisite skills to design different types of buildings.

Course Outcome:

- ❖ Student will be able to draw plan, section and elevation of dwelling units which are functional and climatically comfortable.

UNIT-I

(10 Lectures)

RESIDENTIAL BUILDINGS :

Different types – Selection of site – Brief information about housing colonies for HIG, MIG, LIG and EWS in India – Sizes of plots – Public spaces – Evolutionary housing concept.

UNIT-II

(12 Lectures)

CLIMATOLOGY:

ELEMENTS OF CLIMATES:

SUN, WIND, Relative Humidity, Temperature effects, Comfort conditions for a house, Macroclimatic zones. Design of houses and layouts with reference to climate, Orientation of buildings. Solar charts, Ventilation wind rose, Principles of planning of a house such as 1) Aspects 2) Prospect 3) Privacy 4) Grouping 5) Roominess 6) Furniture requirements 7) Flexibility 8) Circulation 9) Sanitation 10) Practical considerations 11) Elegance 12) Economy – Anthropometric data.

UNIT-III

(10 Lectures)

Design of House: Design of Individual rooms with the particular attention to functional and furniture requirements. Building regulations and byelaws of residences including National Building code rules.

UNIT-IV**(20 Lectures)**

Practice Drawing: (Copying exercises)

- a) Conventional signs of materials, various equipment used in residences relevant I.S.Codes.
- b) Plan, Section and Elevation of a small house comprising of one room and verandah (load bearing structure).
- c) Plan, Section and Elevation of two or three bed room house.
- d) Plan, Section, and Elevation of a two or three bed roomed house in hot and arid zone.
- e) Plan, Section, and Elevation of a two or three bed roomed house in hot and humid zone.
- f) Plan, Section, and Elevation of a two or three bed roomed house in cold zone.
- g) Plan, Section and Elevation of a duplex house in hot and humid zone.
- h) Plan of one apartment floor comprising of at least four dwelling units (not included for examination purpose)

UNIT-V**(10 Lectures)**

Drawing of plan section and elevation of houses with given functional requirements and climatic data (on drawing sheets and in AutoCAD). Emphasis shall be given to hot and humid zones.

TEXT BOOK:

N. Kumara Swamy and. A. Kameswara Rao, “*Building Planning and Drawing*”, 8th Edition, Charotar Publications, 2010.

REFERENCE:

Gurucharan Singh, “*Building Planning, Scheduling and Design*”, 2nd Edition, Khanna Publishers, 2010.

