2/4 B.Tech. FOURTH SEMESTER

CE4T5 BUILDING PLANNING AND DRAWING Credits: 4

Lecture : 3 periods/week **Internal assessment: 30 marks**
Practice: 3 periods/week **Semester end examination: 70 marks**

Objectives:

- To visualize, sketch and accurately draw shapes and objects to communicate information to specific audiences
- To interpret, design, produce and evaluate a variety of graphical presentations using a range of manual based techniques
- To use graphical conventions, standards and procedures in the design.

Learning outcomes:

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

- Prepare working drawings for individual components like doors and windows etc.
- Draw line diagram, plan, elevation and sections.
- Hand drafting any parts of a building.

PART-A

UNIT – I
BASIC ARCHITECTURE OF BUILDINGS:
Aspect-Prospect - Privacy-Furniture requirement – Roominess – Grouping – Circulation – Sanitation -Lighting - Ventilation-Cleanliness-Flexibility-Elegance-Economy-Practical considerations

UNIT – II
BUILDING BYELAWS AND REGULATIONS:
Introduction – Terminology – Objectives of building byelaws – Floor Area Ratio (FAR) – Floor Space Index (FSI) – Principles underlying building byelaws – classification of buildings – Open space requirements – built up area limitations – Height of Buildings – Wall thickness – lighting and ventilation requirement.

UNIT – III
RESIDENTIAL BUILDINGS:
Minimum standards for various parts of buildings – requirements of different rooms and their grouping – characteristics of various types of residential buildings.

UNIT – IV
PUBLIC BUILDINGS:
Planning of Educational institutions, hospitals, dispensaries, Office buildings, banks, industrial buildings, hotels and motels, buildings for recreation.

PART-B

UNIT – V
SIGN CONVENTIONS AND BONDS:
Brick, Stone, Plaster, Sand filling, Concrete, Glass, Steel, Cast iron, Copper alloys, Aluminum alloys etc., Lead, Zinc, tin, 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.

UNIT - VI

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 – VII

PLANNING OF BUILDINGS:

Draw the line diagrams and plans for the following as per National Building Code.

a) Single storied residential building
b) Primary School Building
c) Primary Health Centre
d) Commercial Building

UNIT – VIII

BUILDING DRAWING:

Preparation of plan, elevation and section of residential buildings-single storey (load bearing structures), double storey (R.C.C.Framed structure) by using principles of planning and local building bye- laws.

FINAL EXAMINATION PATTERN:

The end examination paper should consist of Part A and Part B. Part A consist of five questions in planning portion out of which three questions are to be answered. Part B should consist of two questions from drawing part out of which one is to be answered in drawing sheet. Weight age for Part – A is 60% and Part- B is 40%.

Learning resources

Text books:

1. Building planning designing and scheduling, (5th Edition) by Gurucharan Singh and Jagadish Sing, Standard Publications Distributers, Delhi, 2010.
2. Building planning and drawing, (3rdedition) by Kumara Swami N., Anand Charotar Publishing House Pvt Ltd, 2010.
3. PERT and CPM, (4th edition) by Dr. Punmia, B.C. and Khandelwal, Laxmi Publications,2009.

Reference books:

1. Building byelaws by state and Central Governments and Municipal corporations, 2011.
2. 'A' Series & 'B' Series of JNTU Engineering College, Anantapur, 2012.