

## HISTORY OF ARCHITECTURE – I

CODE AR 201

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### RATIONALE

India has a vast variety of architecture. The evaluation, development and growth of architecture in India play very important role. The student must be acquainted with the history of Indian Architecture. After study of the subject; the students will have a wide scope of development in this field.

### CONTENTS

#### 1. Temple Architecture in India :- Emphasis on evolution, siting concept plans, elevation, sections, materials and construction :

- 1.1 Dravidian style
  - 1.1.1 Pallavas
  - 1.1.2 Cholas
  - 1.1.3 Pandyas
  - 1.1.4 Vijaynagar
  - 1.1.5 Madurai
- 1.2 Indo – Aryan Style
  - 2.1.1 Khajuraho
  - 2.1.2 Orrissa
- 1.3 Chalukyan Styles
  - 1.3.1 Aihole
  - 1.3.2 Badami
  - 1.3.3 Pattadakal

#### REFERENCE BOOKS :

- |   |                 |
|---|-----------------|
| 1. Changing ideals of modern Architecture         | Peter Collins   |
| 2. Modern movement in Architecture                | Rovner Benham   |
| 3. Towards a new Architecture                     | Walter Gropious |
| 4. History of Architecture (Indian)               | Percy Brown     |
| 5. History of Indian and for Eastern Architecture | Rergersam       |
| 6. Indian Architecture                            | Havet           |
| 7. History of Architecture                        | B. Fletcher     |
| 8. City in History                                | Lewis Mumford   |

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## MECHANICS OF STRUCTURES

CODE AR 202

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### RATIONALE

In Engineering every structure or machine element is designed for a particular application. Then it is tested. A Diploma holder should be capable of designing the various elements for particular requirements. For this he must be able to calculate the stresses in an elements and their nature.

### CONTENTS

#### 1. Simple Stress and Strain :

- 1.1 Various mechanical properties
  - 1.1.1 Elasticity
  - 1.1.2 Plasticity
  - 1.1.3 Ductility
  - 1.1.4 Brittleness
  - 1.1.5 Toughness
  - 1.1.6 Hardness
- 1.2 Concept of stress and strain
  - 1.2.1 Type of force - Direct, shear
  - 1.2.2 Stress - Tensile, compressive, shear
- 1.3 Hook's law
  - 1.3.1 Statement of Hook's law
  - 1.3.2 Young's modulus of elasticity
  - 1.3.3 Tensile test diagram
    - 1.3.3.1 Gauge length
    - 1.3.3.2 Limit of proportionality
    - 1.3.3.3 Elastic limit
    - 1.3.3.4 Yield point, Yield strength
    - 1.3.3.5 Ultimate stress
    - 1.3.3.6 Rupture strength
    - 1.3.3.7 Nominal stress
    - 1.3.3.8 Proof stress
- 1.4 Working stress and factor of safety
- 1.5 Stress and strain calculations
  - 1.5.1 Principle of superposition
  - 1.5.2 Bar of homogeneous section
    - 1.5.2.1 Bar of uniform cross-section
    - 1.5.2.2 Bar of steeped cross-section
  - 1.5.3 Bar of composite section
- 1.6 Temperature stresses
  - 1.6.1 Homogeneous section
  - 1.6.2 Composite section

- 1.7 Shear stresses
  - 1.7.1 Modulus of rigidity
  - 1.7.2 Complementary shear stress
  - 1.7.3 Concept of single shear and double shear
  - 1.7.4 Shear strain
- 1.8 Poisson's ratio and volumetric strain
  - 1.8.1 Lateral strain
  - 1.8.2 Longitudinal strain
  - 1.8.3 Volumetric strain
  - 1.8.4 Bulk modulus

## 2. Bending Moments and Shear Force :

- 2.1 Basic concept
  - 2.1.1 Types of support
    - 2.1.1.1 Movable hinge support (roller)
    - 2.1.1.2 Immovable hinge support
    - 2.1.1.3 Fixed support
  - 2.1.2 Types of beam
    - 2.1.2.1 Cantilever beam
    - 2.1.2.2 Simply supported beam
    - 2.1.2.3 Fixed beam
    - 2.1.2.4 Continuous beam
    - 2.1.2.5 Overhanging beam
  - 2.1.3 Types of load
    - 2.1.3.1 Point load
    - 2.1.3.2 Distributed load - uniformly and non uniformly
- 2.2 Shear force and bending moment
  - 2.2.1 Concept and calculation of shear force and bending moment
  - 2.2.2 Sign convention for shear force and bending moment
- 2.3 Bending moment and shear force diagrams (for point loads, U.D.L. and their combinations)
  - 2.3.1 Cantilever beam
  - 2.3.2 Simply supported beam
  - 2.3.3 Simply supported beam with over hang

## 3. Moment of Inertia :

- 3.1 Concept of moment of Inertia
- 3.2 Radius of gyration
  - 3.2.1 Parallel axis theorem
  - 3.2.2 Perpendicular axis theorem
- 3.3 Moment of Inertia of various section
  - 3.3.1 Rectangle
  - 3.3.2 Triangle
  - 3.3.3 Circle
- 3.4 Moment of inertia of unsymmetrical section like : T-section, channel section, L-section etc.

**4. Bending Stresses in Beams :**

- 4.1 Concept of bending stress
- 4.2 Theory of simple bending
  - 4.2.1 Assumptions in theory of simple bending
  - 4.2.2 Use of equation  $\frac{M}{I} = \frac{f}{y} = \frac{E}{R}$  (without proof)
- 4.3 Design criterion and section modulus
  - 4.3.1 Section modulus
  - 4.3.2 Calculation of max bending stress in beams of rectangular, circular, I and T section

**5. Shear Stress in Beams :**

- 5.1 Concept
- 5.2 Use of equation  $q = \frac{F}{Ib} (\bar{A}\bar{y})$  (without proof)
- 5.3 Shear stress distribution diagram of various sections
  - 5.3.1 Rectangle
  - 5.3.2 I section
  - 5.3.3 T section
  - 5.3.4 Channel section
  - 5.3.5 H section
  - 5.3.6 + section
  - 5.3.7 Circular section

**6. Columns and Struts :**

- 6.1 Concept of column and struts
- 6.2 Modes of failure
- 6.3 Types of column; long and short
- 6.4 Buckling loads
- 6.5 Slenderness ratio
- 6.6 Euler's formula (without proof)
  - 6.6.1 Both ends hinged
  - 6.6.2 One end fixed and other end free
  - 6.6.3 Both ends fixed
  - 6.6.4 One end fixed and other end hinged
  - 6.6.5 Limitations of Euler's Formula
  - 6.6.6 Equivalent length
- 6.7 Rankine's formula

**7. Frames :**

- 7.1 Different types of frames
- 7.2 Calculation of forces in the members of determinate frames
  - 7.2.1 Method of Joints
  - 7.2.2 Method of section
  - 7.2.3 Graphical method

**REFERENCE BOOKS :**

- |   |                 |
|---|-----------------|
| 1. Strength of Materials &<br>Theory of Structures (vol. I) | B.C.Punmia      |
| 2. Strength of Materials                                    | Ramamurtham     |
| 3. Strength of Materials                                    | Junarkar        |
| 4. Strength of Materials                                    | R.S. Khurmi     |
| 5. Strength of Materials (Hindi)                            | Gurcharan singh |

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**GRAPHICAL PRESENTATION - I**

CODE AR 203

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**RATIONALE**

Graphical Presentation forms a core subject for developing the presentation skill graphically. During the course the students must develop the skill of rendering in various mediums i.e. pencil, colours etc.

The student must be skillful in free hand sketching.

**CONTENTS**

1. Introduction to drawing equipments and drafting standards used for graphical presentation.
2. Effect of lines by intensity variation and different mediums i.e. pen ink etc.
3. Methods of subdivision of lines
4. Isometric view of simple geometrical forms
  - 4.1 Isometric of cube
  - 4.2 Isometric of cylinder
  - 4.3 Isometric of cone
  - 4.4 Isometric of pyramid.
5. Isometric view of complex geometrical forms
6. Axanometric view of simple geometrical forms
  - 6.1 cube
  - 6.2 cylinder
  - 6.3 cone
  - 6.4 pyramid
7. Introduction of free hand sketching as a regular exercise of landscape, trees, street views etc (A regular record of free hand sketching in the sketch book is to be maintained by the students)
8. **Free hand sketching : Free hand Sketching of simple geometrical surfaces and free hand sketching of three dimensional geometrical objects :**
  - 8.1 Free hand sketching of Cube
  - 8.2 Free hand sketching of Cone
  - 8.3 Free hand sketching of Prism
  - 8.4 Free hand sketching of Cylinder
  - 8.5 Free hand sketching of Sphere
  - 8.6 Free hand sketching of Building
  - 8.7 Free hand sketching of landscape

**9. Colouring and Rendering :- Definition and perception of colour and colour materials :**

- 9.1 Hue, value and intensity scale
- 9.2 Colour wheel
- 9.3 Warm and cool colour

**10. Introduction to :**

- 10.1 Mural
- 10.2 Collage
- 10.3 Sculpture
- 10.4 Painting

**PRACTICALS**

- |     |   |          |
|-----|---|----------|
| 1.  | Line drawing in pencil showing intensity variations   | 1 sheet  |
| 2.  | Line drawing in ink showing intensity variations  | 1 sheet  |
| 3.  | Subdivision of lines  | 1 sheet  |
| 4.  | Isometric view of simple geometrical forms  | 3 sheets |
| 5.  | Axonometric view of simple geometrical forms  | 2 sheets |
| 6.  | Isometric view of complex geometrical forms   | 2 sheets |
| 7.  | Freehand sketching : Minimum three sketches per week  |          |
| 8.  | Free hand sketching in sketchbook - Minimum three sketches per week. The students are required to maintain a sketchbook |          |
| 9.  | Free hand drawing of three-dimensional geometrical objects.<br>viz. cube, cone, prism , cylinder                        | 2 sheets |
| 10. | Free hand sketching of complex geometrical forms  | 2 sheets |
| 11. | Exercise on mural design  | 1 sheet  |
| 12. | Exercise on collage design  | 1 sheet  |

**REFERENCE BOOKS :**

- |    |                            |                  |
|----|----------------------------|------------------|
| 1. | Rendering with pen and ink |                  |
| 2. | Architectural rendering    | Albert Halse     |
| 3. | Graphic Arts.              | Earm A dennis.   |
| 4. | Engineering drawing        | Gurucharan Singh |

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**ARCHITECTURE DESIGN – I**

CODE AR 204

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**RATIONALE**

Large percentage of diploma holders in Architecture find employment with Private Architects and also majority of them go for self employment therefore diploma holder are required to design small residential and public buildings. These course aims at providing practical exercises in designing so as to develop appropriate knowledge and skills in building design.

Teachers are expected to show various types of designs of small to medium residential building to develop an appreciation of different designs. Teachers should also motivate student to maintain their sketchbook in which they draw line and sketch of different architectural styles

## CONTENTS

### 1. Composition :

1.1	Composition with lines	1 sheet
1.2	Composition with flat surfaces in different tones and textures	2 sheets
1.3	Composition with dimensional forms	1 sheet

(Note :- All above problems are to be tackled in different medium)

### 2. Design Problem :

2.1	Design of single living unit in relation to orientation and furniture layout. All Studies to be made through Plans :	2 sheets
2.2	Assembly of group of such units under one roof and keeping the circulation space minimum and with respect to orientation.	
2.2.1	Plans	1 sheet
2.2.2	Elevations	1 sheet
2.2.3	Sections	1 sheet
2.3	Design of one room house with kitchen and toilet.	
2.3.1	Plans	1 sheet
2.3.2	Sections	1 sheet
2.3.3	Elevations	1 sheet

### 3. Design of three bedroom house 4 sheets

### 4. Design of small public buildings 4 sheets

- 4.1 Nursery School
- 4.2 Children `s Library
- 4.3 Neighborhood Bank
- 4.4 Small post office

(Name of the building is only meant to give idea, size and scope of design)

### 5. Study report: Case study of existing building type-

- 5.1 Space analysis
- 5.2 Site analysis
- 5.3 On site observation

### REFERENCE BOOKS :

1. National Building code of India 1983
2. Neufert Architect Data. M.G. Shah
3. Building Drawing Kale and Patki
4. Time Saver Standards (Building Type )
5. Architectural Magazines published time to time

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**C. A .D. IN ARCHITECTURE – I**

CODE AR 205

L T P  
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In the 21<sup>st</sup> century, CAD has become an indispensable tool in many architectural offices. CAD has become a quicker and pragmatic solution to drafting and drawing problems. Hence it becomes necessary for the students of Architecture to have the knowledge and understanding of the concepts of C. A. D.

**CONTENTS****1. Draw Commands:**

- 1.1 Line
- 1.2 Ray
- 1.3 Construction line
- 1.4 Polyline
- 1.5 Polygon
- 1.6 Rectangle
- 1.7 Arc
- 1.8 Circle
- 1.9 Donut
- 1.10 Spline
- 1.11 Ellipse
- 1.12 Block
- 1.13 Paint
- 1.14 Text

**2 Modify :**

- 2.1 Erase
- 2.2 Copy
- 2.3 Mirror
- 2.4 Offset
- 2.5 Array
- 2.6 Move
- 2.7 Rotate
- 2.8 Scale
- 2.9 Stretch
- 2.10 Lengthen
- 2.11 Trim
- 2.12 Extend
- 2.13 Break
- 2.14 Chamfer
- 2.15 Fillet

**3. View :**

- 3.1 Zoom
- 3.2 Pan
- 3.3 Layers

**4. Change in properties****5. Hatch****6. Attributes****7. Block****8. W. Block****9. Layers****10. Dimensioning**

**PRACTICALS**

1. Construction of Line's, Triangle, Rectangles and Arc.
2. Construction of Arc, Circle, Polygon, Ellipse, Donut
3. Construction of Blocks
4. Construction of Single room unit: - Showing Doors, Walls, and Windows.
5. Drafting of drawing of the previous design problem
  - 5.1 Plan
  - 5.2 Elevation
  - 5.3 Section

**REFERENCE BOOKS :**

1. AutoCAD 2008 user `s manual

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**BUILDING MATERIALS**

CODE AR 206

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**RATIONALE**

Knowledge, of various building material in term of their availability, size, types and uses in the utmost importance for Architecture student (without manufacturing Process). The subject of Construction Materials imparts knowledge of students and enables them to explain different material to the maximum.

**CONTENTS**

1. **Stone :**
  - 1.1 Characteristics and identification and quality of good building stone.
  - 1.2 Description of granites, basalt, sand stone, lime stone, marble slate.
2. **Bricks :**
  - 2.1 Classification of bricks (Manufacturing Process not required)
  - 2.2 Composition
3. **Lime:**
  - 3.1 Types of lime
  - 3.2 Uses of lime
4. **Cement :**
  - 4.1 Types of cement
  - 4.2 Properties and uses of cement
5. **Paints :**
  - 5.1 Water based Paints
  - 5.2 Cement Paints, Emulsion, Dry distemper
  - 5.3 Oil paints
  - 5.4 Varnishes, Enamels, Lacquer, and Stucco.
6. **Floor Tiles :**
  - 6.1 Different types of tiles and its classification
  - 6.2 Sizes of tiles
  - 6.3 Uses of tiles
7. **Glass :**
  - 7.1 Types of glass
  - 7.2 Thickness of glass and their uses

- 8. Building Hardware :**
  - 8.1 Various hardware
  - 8.2 Specification of various hardware
  - 8.3 Uses of various hardware
  
- 9. Wood :**
  - 9.1 Classification of wood
  - 9.2 Defects in wood
  - 9.3 Uses of wood

**REFERENCE BOOKS :**

1. Building Materials Sushil Kumar

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**THEORY OF DESIGN**

CODE AR 207

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**RATIONALE**

Students of Architecture at diploma level are supposed to understand basic principles of theory of design while designing some building. All students should know the balance, light and shadow, shapes, plan, volume, line, Proportions, rhythm, emphasis, contrast, colour and other related elements.

Therefore, The subject of theory of design is very important for students undergoing diploma course in Architecture because it is the basis of Architecture designing.

Teachers while imparting instruction are expected to teach various elements used in building design. Teachers may make use of models and audio- Visual aids to clarify the concepts. Group discussions and seminars may also be organized to discuss various concepts the principals involved in the design. It is recommended that teachers may organize visits to historical buildings, and selected modern building highlighting the concepts of Architecture design.

**CONTENTS**

Definition examples and applications of the following:

- 1. Primary Elements of Design:**
  - 1.1 Point
  - 1.2 Line
  - 1.3 Plane
  - 1.4 Volume
  
- 2. Design Elements :**
  - 2.1 Composition :
    - 2.1.1 Shape
    - 2.1.2 Size
    - 2.1.3 Form
    - 2.1.4 Function
  
  - 2.2 Balance :
    - 2.2.1 Symmetry and stability
    - 2.2.2 Formal Balance and Informal Balance

- 2.3 Texture :
  - 2.3.1 Surface Quality
  - 2.3.2 Light and Structure
- 2.4 Pattern
- 2.5 Contrast :
  - 2.5.1 Light and shade
  - 2.5.2 Nature and man made
- 2.6 Scale :
  - 2.6.1 Monumental scale
  - 2.6.2 Human scale
  - 2.6.3 Intimate scale
- 2.7 Colour :
  - 2.7.1 Effect of colour
  - 2.7.2 Colour chart
- 2.8 Circulation: - Vertical circulation and Horizontal circulation in public buildings, B.S.I. standard on circulation for residential, commercials and institutional buildings.

**REFERENCE BOOKS :**

- |                                   |                    |
|-----------------------------------|--------------------|
| 1. Architecture – Space and Order | Francis, D.K.Ching |
| 2. Design                         | Philip Rawson      |
| 3. Abstract Concepts of Drawing   | Robert Paterson    |
| 4. National Building Code         |                    |

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**SURVEYING AND LEVELLING**

CODE AR 208

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**RATIONALE**

The important function of diploma student includes deal with various surveying instruments and their use in field of Architecture, such as chain surveying, levelling, contouring, so it is required to study for Architecture diploma students of surveying and levelling

**CONTENTS****1. Introduction :**

- 1.1 Plane Surveying and geodetic surveying
- 1.2 Use of surveying in engineering
- 1.3 Principle of surveying

**2. Chain Surveying :**

- 2.1 Different types of chains
  - 2.1.1 Metric chain
  - 2.1.3 Engineers chain
  - 2.1.4 Guntour's chain
  - 2.1.5 Revenue chain

- 2.2 Types of tapes
  - 2.2.1 Linen tape
  - 2.2.2 Metallic tape
  - 2.2.3 Invar tape
  - 2.2.4 Steel Bard tape
- 2.3 Ranging rod
- 2.4 Off set rod
- 2.5 Line ranger
- 2.6 Cross staff
- 2.7 Optical square
- 2.8 Arrow
- 2.9 Folding, unfolding of chains
- 2.10 Testing and adjusting of chain
- 2.11 Ranging
  - 2.11.1 Direct ranging
  - 2.11.2 Indirect ranging
- 2.12 Chaining on plane ground
- 2.13 Conventional signs in surveying
- 2.14 Recording in field book
- 2.15 Chaining on sloping ground
- 2.16 Common errors and precautions
- 2.17 Traversing
- 2.18 Fixing and marking stations
- 2.19 Common obstacles in chaining

### 3. **LEVELLING :**

- 3.1 Definitions
- 3.2 Names and function of different parts of
  - 3.2.1 Dumpy level
  - 3.2.2 Tilting level
- 3.3 Temporary adjustment of dumpy and tilting level
- 3.4 Levelling staff
  - 3.4.1 Self reading
  - 3.4.2 Telescopic staff
  - 3.4.3 Target staff
- 3.5 Levelling with dumpy and tilting level
- 3.6 Calculation of R.L.
  - 3.6.1 H.I. method
  - 3.6.2 Rise and fall method
  - 3.6.3 Arithmetic check
- 3.7 Different type of levelling
- 3.8 Effect of curvature and refraction

### 4. **Contours :**

- 4.1 Concept
- 4.2 Purpose of contouring
- 4.3 Factor affecting contour interval

- 4.4 Characteristics of contour
- 4.5 Use of contour map
- 4.6 Drawing cross- section from contour maps

### 5. Plane Table Surveying :

- 5.1 Description and uses of plane table
- 5.2 Advantage of plane table
- 5.3 Centering, levelling and orientation of plane table
- 5.4 Radiation
- 5.5 Intersection
- 5.6 Traversing

### PRACTICALS

- 1. Study of different chain and tape
- 2. Use of chain
- 3. Chain surveying of small areas
- 4. Exercise on simple and differential levelling
- 5. Preparation of a plan of an area by plane table
- 6. Drawing of x-section of given contour maps
- 7. Preparation of a contoured plan with the level

### REFERENCE BOOKS :

- |              |             |
|--------------|-------------|
| 1. Surveying | B.C. Punmia |
| 2. Surveying | G.C. Singh  |
| 3. Surveying | K.R. Arora  |

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## BUILDING CONSTRUCTION - I

CODE AR 209

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### RATIONALE

Architectural design after this conceptual stage under goes working stage, for thorough knowledge of building components and their detailing is essential for a student, therefor of building construction subject is must for any architectural students.

Teachers while imparting instructions are expected to show various components of building under construction, make use of models or other audio – visual to clarity the concepts while preparing drawings. Teacher should lay considerable stress on proportioning, dimensioning, specification writing, and printing and composition of drawing work.

### CONTENTS

#### 1. Brick Work and Stone Work :

- 1.1 Definition and terms
- 1.2 Masonry classification
- 1.3 General principles in brick construction
- 1.4 Bonds in brick masonry
- 1.5 Brick jallies
- 1.6 Dressings of stone
- 1.7 Stone claddings
- 1.8 Comparison between brick masonry and stone masonry

**2. Opening in Walls :**

## 2.1 Arches

2.1.1 Technical terms in arch work

2.1.2 Types of arches

2.1.3 Methods of construction (material used) of arch

## 2.2 Lintels

2.2.1 Classification of lintels of different material

2.2.2 Types of lintels

**3. Foundations:**

## 3.1 Types of foundations (Method of construction and merit, demerits)

3.1.1 Open foundations/ Shallow foundations

3.1.2 Raft foundation

3.1.3 Deep foundation

**4. Damp Proof course:**

4.1 Source of dampness

4.2 Effects of dampness

4.3 Techniques and methods of damp prevention

4.4 Materials used for damp proofing course (D.P.C.)

4.5 Damp proof treatment in buildings

4.6 Treatment of Dampness.

**5. Timber Joints:**

5.1 Difference in carpentry and joinery

5.2 Technical terms of joinery

5.3 General principles of construction joints

5.4 Types of joints

5.5 Fastenings- their types, basic objects, important features

**6. Wooden Doors and Windows :**

6.1 General terms and definition

6.2 Definition of technical terms

6.3 Definition of Doors, Windows and Ventilators and their purpose

6.4 Location of Doors, Windows and Ventilators

6.5 Type of Doors

6.6 Type of Windows and Ventilators and their functional use

**7. Stairs:**

7.1 General terms used in stairs

7.2 Types of stairs adopted in modern practice

7.3 Requirement of stairs.

7.4 Arrangement of dog - legged stairs and open well stairs

**8. Passengers Lifts :**

8.1 Necessity

8.2 Location

8.3 Operation of Lifts

**9. Escalators :**

9.1 Elementary knowledge of working of escalators

**PRACTICALS**

1.	Brick types, Brick bond, jalli and stone masonry.	6 sheets
2.	Reinforced brickwork	1 sheet
3.	Drawing of lintels and arches in various materials	2 sheets
4.	Drawing of spread foundation and application of DPC on spread foundation and basements	2 sheets
5.	Timber joints	2 sheets
6.	Wooden Doors	4 sheets
7.	Wooden Windows and Ventilators	3 sheets
8.	Stairs- different types of stairs	2 sheets
9.	Details of dog- legged stairs	1 sheet
10.	Standard diagram of Lift	1 sheet

**REFERENCE BOOKS:**

1.	Building Construction	B.C. Punmia
2.	Building Construction	Sushil kumar
3.	Building construction	Arora & Bindra
4.	Building construction (Hindi)	Gurcharan Singh
4.	Building Construction (Vol. I – V)	W. B. Mackey
5.	Best of Architects Working Detail 1 and 2	Colin Boyne & Lanes Wrikhs

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**TOWN PLANNING AND LANDSCAPING**

CODE AR 210

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**RATIONALE**

The course is only intended to give general information on the scope of work involved in the field of Town Planning as well as in its related subject of sociology.

**CONTENTS****1. Town Planning:**

- 1.1 Introduction
- 1.2 Definition and aim
- 1.3 Objects of town planning
- 1.4 Necessity of town planning

**2. Forms of Planning: in general term**

- 2.1 Master planning
- 2.2 Regional planning
- 2.3 National planning
- 2.4 Site for an Ideal town
- 2.5 Requirements of new towns

**3. Principles of Town Planning:**

- 3.1 Origin and growth of town
  - 3.1.1 Growth according to origin
  - 3.1.2 Growth according to direction
- 3.2 Industrialization and its impact on modern town planning
- 3.3 Surveys : general
  - 3.3.1 Necessity of surveys
  - 3.3.2 Collection of data

- 3.3.3 Types of surveys
- 3.3.4 Uses of surveys

#### 4. Zoning:

- 4.1 Term (definition) and objects of zoning
  - 4.1.1 Principles and advantages of zoning
  - 4.1.2 Importance and aspects of zoning
- 4.2 Traffic management
  - 4.2.1 General and objects
  - 4.2.2 Traffic congestion, control
- 4.3 Road planning
  - 4.3.1 Road junctions
  - 4.3.2 Road traffic problems and accidents

#### 5. Types of Town Developments:

- 5.1 Suburbs
- 5.2 Dormitory town
- 5.3 Satellites
- 5.4 Garden cities
- 5.5 Ribbon development
- 5.6 Grid iron patterns
- 5.7 Rad burn layout
- 5.8 Neighbour hood planning

#### 6. Housing:

- 6.1 Housing
  - 6.1.1 Housing problems in India
  - 6.1.2 Demand for houses
  - 6.1.3 Factors affecting housing problems
- 6.2 Rural housings
  - 6.2.1 Aspects of rural housing
  - 6.2.2 Typical rural house
  - 6.2.3 Hurdles in rural housing
- 6.3 Legislation and its need in the field of town planning
  - 6.3.1 Powers required to enforce town planning schemes

#### 7. Factors for the Growth of a Town:

- 7.1 Site selection for an ideal town
- 7.2 Requirements of new town
- 7.3 Designing / planning aspects for a town layout

#### 8. Landscape Design :

- 8.1 Salient features of landscape architecture

#### REFERENCE BOOKS:

- 1. Town Planning
- 2. City Planning According to Artistic Principles
- 3. Town & Country Planning
- 4. Town Planning

Dr. Rame Gowda.  
Comillositte.  
A.P.R.R.  
Rangwala.

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