

INDIRA TECHNICAL INSTITUTE EDUCATION SOCIETY NASHIK

CERTIFICATE COURSE CIVIL DRAUGHTSMAN [CD]

EXAM SCHEME: THEORY PAPER 100 MARKS – 3 HRS.

[CD – I / AD – I / DCES – I / ADCES – I]

THEORY SYLLABUS

1. Introduction to Building Construction.

- ❖ Classification of Structure.
- ❖ Components of a building.

2. Introduction to Engineering material.

- ❖ Lime, Sand, Cement and Mortors etc.

3. Brick Masonry.

- ❖ Definition of brick, size of bricks, manufacturing of bricks, characteristics of good bricks.
- ❖ Terms used in Brick masonry, Principles of construction in Brick masonry, Bonds – English band, Flemish bond.
- ❖ Scaffolding, Types of Scaffolding.

4. Stone Masonry

- ❖ Terms used in Stone Masonry.
- ❖ Principles of Construction in stone masonry.
- ❖ Types of Stone Masonry.
- ❖ Comparison between Stone Masonry and Brick Masonry.

5. Foundation

- ❖ Definition of Foundation, Purpose of Foundation, Causes of Failure of Foundation.
- ❖ Formula for determining width and depth of foundation.
- ❖ Types of Foundation.
- ❖ Examination of ground, General Inspection of Soil and methods.

6. Dampness and It's prevention

- ❖ Definition of Dampness, Causes of dampness.
- ❖ Prevention of Dampness, Material used for D.P.C.

7. Floors.

- ❖ Definition, Types of Floors, Construction of Different types of flooring, skirting & dado.

8. Arches and Lintels

- ❖ Definition of Arches, Terms used in Arches, Types of Arches.
- ❖ Definition of Lintels, Types of Lintels.

9. Roofs

- ❖ Definition, Types of Roofs – Pitched Roof & Flat Roofs.
- ❖ Terms used in Roof.
- ❖ Types of Pitched Roofs.
- ❖ Types of Roof covering.
- ❖ Flat Roof.

10. Stairs

- ❖ Definition, Terms used in Stair, Types of Stairs, Requirement of good stairs.

11. R.C.C.

- ❖ Definition, Material used in R.C.C.
- ❖ Grade of Concrete, Water cement Ratio.
- ❖ Working of Concrete – slump Test.
- ❖ Formwork.
- ❖ Reinforcement Detailing in R.C.C. work.

12. Structural Steel work

- ❖ Types of Rivets, Advantages and Disadvantages of Riveting and welding.
- ❖ Rolled steel sections.
- ❖ Steel column, girder and beams.
- ❖ Connection between columns and beams.

13. Domestic Services

- ❖ Plumbing, Definition of Plumbing, Tools in Plumbing.
- ❖ Sanitary Fittings.
- ❖ Terms used in House plumbing, water supply system, House drainage System.

14. Units and Measurement.

- ❖ Conversation of Units, Area & Volume (Rectangle, Square, Parallelogram, Rhombus, Triangle, Circle)

GUIDELINE FOR PAPER SETTER

CD – I / AD – I / DCES – I / ADCES - I

1. To set Q. 1 Compulsory Objective type – for 20 marks
2. To set Q. 2 to Q. 6 – Solve any four – for 80 marks



CIVIL DRAUGHTSMAN [CD]

EXAM SCHEME: DRAWING PAPER 100 MARKS – 4 HRS.

[CD – II / AD – II / DCES – II / ADCES – II]

DRAWING PAPER SYLLABUS

1. Engineering Drawing, Introduction, Drawing is the language of Engineers, Drawing Instruments, Equipments and Materials.
2. Lettering Technique, Lines Lettering & Dimensioning, Types of lettering, lines and Dimensioning.
3. Different scales used in drawing (Plain & Isometric), concept of Representative factor.
4. Orthographic projection, planes of projection, First angle projection & Third angle projection.
5. Projection of lines, points & planes. Points in different quadrants, Lines parallel to one or both planes, Lines perpendicular to planes, Traces of planes, Types of planes, perpendicular and oblique planes.
6. Isometric Projection, Isometric axes, lines & planes, Isometric Projection of planes, Prisms, pyramids, To draw Isometric object from given views.

7. General Civil conventions; Meaning of F.S.I., built up area, carpet area, Rules for selecting different types of rooms & their sizes & floor heights.
8. Doors, Windows, Ventilators, Types, Parts of D / Ws, Sizes, Fixtures & fastenings used for different D / Ws, Sketches of D / W & ventilators & drawing details.
9. Plumbing accessories, types, Fitments & Sanitary symbols, plumbing symbols.
10. Electrical symbols, system of wiring, Types of wiring, layout diagrams.
11. Structural steel work drawing, Drawing of slabs, beams, columns, R.C.C., foundations, stairs.
12. R.C.C. details of Frame structures, Form work for column, beams, stairs, bar bending schedule.
13. Definitions of important terms used in building construction.
14. To prepare plan, elevation & section from line drawing for single & double storeyed Residential building drawing, Concept of site plan layout plan etc.

DRAWING SHEETS :

SR. NO.	TOPICS	MIN. NO. OF SHEETS
1	Lines, Lettering, Dimensioning	2
2	Plain scales and Isometric scales	1
3	Orthographic Projection	3
4	Projection of Point and Line	2
5	Projection of Plane and Solid	2
6	Isometric Projection	3
7	R.C.C. Drawing of : 1. Column Footing 2. One way and Two way slab 3. Dog-legged Stair 4. Lintel and Chajja	1
8	Different types of Doors and Windows	2
9	Different types of Stair and Staircases	1
10	Line Plan of Plumbing work and Sanitary & Water supply work	1
11	Symbols of Materials, Sanitary and Water supply Symbols	1
12	Electrical symbols and Wiring layouts	2
13	Structural Steel Work : 1. King Roof Truss 2. Queen Roof Truss 3. lean to Roof	3
14	Complete set of Drawings for : 1. Small Office 2. Residential building 3. Residential and Double Storey building 4. Tracing of Drawings, Inking work and Ammonia Print-outs.	1 2 2 2
	Total	31

Note : Student should complete 8 sheets from point no. 1 to 6.
Student should complete 14 sheets from point no. 7 to 14.

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GUIDELINE FOR PAPER SETTER

CD – II / AD – II / DCES – II / ADCES - II

1. One problem compulsory to draw plan, elevation & section – for 40 marks.
2. From drawing list give small problems for Q.2 & Q.3 – for 60 marks.

SCHEME OF EXAMINATION : (CIVIL DRAUGHTSMAN)

Theory Paper – I	3 hours	100 Marks
Drawing Paper – II	4 hours	100 Marks
Sessional (Internal)		50 Marks
Total		<hr/> 250 Marks

