

GUJARAT TECHNOLOGICAL UNIVERSITY

DI -1 SEMESTER – OLD PAPER – S22 TO W24 – QUESTION BANK(English)

Subject Name & Code:

Civil Engineering Drawing- 4320601

Unit I - Introduction to Civil Engineering Drawing

Repeated Questions:

1. **Draw symbols for various building components and materials.**
 - **Appeared in:** SUM 22 (Q1b, Marks 04), SUM 23 (Q1a, Marks 03), SUM 24 (Q1b, Marks 04), WIN 22 (Q2a, Marks 03), WIN 23 (Q2a, Marks 03), WIN 24 (Q1b, Marks 04), WIN 24 DI (Q1b, Marks 04)
2. **Give the full form of various technical abbreviations used in civil engineering.**
 - **Appeared in:** SUM 22 (Q1b), SUM 23 (Q1a), SUM 24 (Q1b, Marks 04), WIN 22 (Q1a, Marks 03), WIN 23 (Q1a, Marks 03), WIN 24 (Q1a, Marks 03), WIN 24 DI (Q1a, Marks 03)
3. **List the various types of civil engineering drawings and explain any one / give their uses and recommended scales.**
 - **Appeared in:** SUM 24 (Q2b, Marks 04), WIN 23 (Q2a, Marks 03), WIN 24 DI (Q1c, Marks 07)

Other Important Questions:

- Explain the importance of civil engineering drawing. (SUM 22 - Q1a, 03 Marks)
- Write the scales used for: (i) Key plan (ii) Enlarged drawing (iii) Layout plan (iv) Working drawing. (SUM 23 - Q1b, 04 Marks)
- Compare first angle projection and combination of first and third angle projection. (SUM 24 - Q1a, 03 Marks)
- Explain Floor Space Index. (WIN 22 - Q1b, 04 Marks)
- Define: (1) Built up area (2) Carpet Area (3) Building Line (4) Control line (WIN 22 - Q2b, 04 Marks)
- Define: (1) Mezzanine floor (2) Carpet Area (3) Plinth area (4) Control line (WIN 23 - Q2b, 04 Marks)
- Define: (1) Carpet Area (2) Building line (3) Control Line (WIN 24 - Q5a, 03 Marks)
- Define (i) FSI (ii) Built-up area (iii) Building line. (WIN 24 DI - Q2a, 03 Marks)
- Define (i) Carpet area (ii) Plinth area (iii) Setback line. (WIN 24 DI - Q2a, 03 Marks OR)
- Explain types of orthographic projections. (WIN 24 DI - Q1c, 07 Marks OR)

Unit II - Principles of Planning, Building Byelaws and Regulation

Repeated Questions:

1. **Explain the principles of planning in detail.**
 - **Appeared in:** SUM 22 (Q1c, 07 Marks OR), WIN 22 (Q1c, 07 Marks), WIN 23 (Q1c, 07 Marks OR)
2. **Explain/Write the importance and purposes of Building Bye-Laws.**
 - **Appeared in:** SUM 22 (Q1c, 07 Marks OR), WIN 22 (Q1c, 07 Marks OR), WIN 24 (Q2b, 04 Marks)
3. **Draw an "Aspect Diagram" and explain the importance of 'Aspect' in the principles of planning for a residential building.**
 - **Appeared in:** WIN 22 (Q2b, 04 Marks), WIN 24 DI (Q2c, 07 Marks), SUM 23 (Q2c, 07 Marks)
4. **Explain Floor Space Index (FSI) / Floor Area Ratio (FAR).**
 - **Appeared in:** WIN 22 (Q1b, 04 Marks), WIN 24 (Q2b, 04 Marks), SUM 24 (Q4b, 04 Marks)

Other Important Questions:

- Enlist Principles of Planning. Explain: Privacy for residential building. (WIN 24 - Q1c, 07 Marks)
- Explain Prospect and Roominess with neat sketches in principles of planning for residential building. (WIN 24 - Q1c, 07 Marks OR)
- Explain importance of 'Roominess' in principles of planning for residential building. (SUM 23 - Q2b, 04 Marks)
- Explain importance of 'Grouping' in principles of planning for residential building. (SUM 23 - Q2b, 04 Marks OR)
- Explain importance of 'Elegance' in principles of planning for residential building. (WIN 24 DI - Q2b, 04 Marks)
- Explain evaluation system of GRIHA and IGBC. (WIN 24 DI - Q2b, 04 Marks), SUM 24 (Q2b, 04 Marks)
- Explain the procedure of approval with respect to building bye laws. (SUM 24 - Q2a, 03 Marks)
- A bungalow is to be constructed on a plot size 32m×55m with G+1 storeys permissible F.S.I is 1.2 and front margin is 4m and side margins are 3m each side. If maximum construction is to be made on the ground floor. Calculate the area that can be constructed on the first floor. (SUM 22 - Q2b, 04 Marks)
- How can we incorporate a green building concept into our home? (SUM 22 - Q2b, 04 Marks)
- State the minimum width, height, and area by I.S. for the following (1) Drawing room. (2) Kitchen. (3) Bed room. (SUM 22 - Q2a, 03 Marks)

- State the minimum water requirement per person per day as per I.S. for the following (1) Cinema hall (2) Residential building (3) College. (SUM 24 - Q2a, 03 Marks)
- Enlist principal of planning. Explain aspect diagram with sketch and grouping. (SUM 22 - Q4d, 07 Marks)
- Enlist principal of planning. Explain aspect diagram with sketch and Privacy. (SUM 24 - Q5c, 07 Marks)
- Explain with sketch orientation and set back. (SUM 24 - Q5c, 07 Marks OR)
- Explain Orientation with a neat sketch. (WIN 23 - Q1b, 04 Marks)
- Explain Setback with a detailed sketch. (WIN 23 - Q2b, 04 Marks)
- State points to be considered in mind while planning on a sloping ground. (SUM 22 - Q4b, 04 Marks), SUM 24 (Q5a, 03 Marks OR)
- Describe 'Green Building'. (WIN 24 - Q5a, 03 Marks OR)

Unit III - Planning of Buildings

Repeated Questions:

1. **Draw a line plan for a Primary School.**
 - **Appeared in:** WIN 22 (Q3a, 03 Marks), WIN 23 (Q3a, 03 Marks), WIN 24 (Q2a, 03 Marks)
2. **Draw a line plan for a Bank.**
 - **Appeared in:** SUM 23 (Q1c, 07 Marks), WIN 23 (Q5b, 04 Marks), WIN 24 (Q2a, 03 Marks OR)
3. **Draw a line plan for a Post Office.**
 - **Appeared in:** SUM 23 (Q1c, 07 Marks OR), SUM 24 (Q3c, 07 Marks)
4. **Prepare a detailed ground floor plan for a Residential Building from given data (Plot size, rooms, etc.).**
 - **Appeared in:** SUM 22 (Q1c, 07 Marks), SUM 24 (Q1c, 07 Marks & OR), WIN 22 (Q5c, 07 Marks & OR), WIN 23 (Q5c, 07 Marks & OR), WIN 24 (Q2c, 07 Marks)

Other Important Questions:

- Draw a line plan for a shopping center. (WIN 22 - Q5b, 04 Marks)
- Prepare a line plan for any industrial building / industrial shed. (WIN 22 - Q3b, 04 Marks), WIN 23 (Q3b, 04 Marks)
- Discuss the basic requirement for planning of a school building. (SUM 22 - Q3c, 07 Marks), SUM 24 (Q3c, 07 Marks OR)
- Write the rules for planning of a post office. (SUM 22 - Q3c, 07 Marks OR), SUM 24 (Q3c, 07 Marks)
- Write the Requirements in planning of a Hospital. (WIN 24 - Q3b, 04 Marks OR)
- Sketching the rooms to be provided in a hospital with indoor facility. (SUM 24 - Q5b, 04 Marks OR)
- Describe site, layout and other details of an industrial building. (WIN 24 - Q5b, 04 Marks)
- Draw elevation and section for the plan you have drawn in Q.1(c) / Q.2(c). (SUM 22 - Q2c, 07 Marks), SUM 24 (Q2c, 07 Marks), WIN 24 (Q2c, 07 Marks OR)
- Prepare a schedule of doors and windows for the plan prepared in Q.1(c). (SUM 22 - Q2c, 07 Marks OR), SUM 24 (Q2c, 07 Marks OR), WIN 24 (Q4c, 07 Marks OR)
- Draw a neat sketch of furniture arrangement of the drawing room / bed room for the plan you have drawn. (SUM 22 - Q2c, 07 Marks OR), SUM 24 (Q2c, 07 Marks OR)

- Prepare a list of furniture normally provided in bed room and drawing room. (WIN 24 - Q4c, 07 Marks OR)
- Draw Wall plan for the plan you have drawn. (WIN 22 - Q5b, 04 Marks OR), WIN 23 (Q5b, 04 Marks OR)
- Draw section and elevation for the plan you have drawn. (WIN 22 - Q5c, 07 Marks OR), WIN 23 (Q5c, 07 Marks OR)
- List out furniture arrangement in bed room. (WIN 24 DI - Q4a, 03 Marks OR)
- Draw sketch for furniture arrangement for drawing room. (WIN 24 DI - Q3b, 04 Marks OR)

Unit IV - Perspective Drawings and Modelling

Repeated Questions:

1. **Draw a perspective view of a single room with given dimensions (e.g., 4m x 6m, 5m x 8m).**
 - **Appeared in:** WIN 22 (Q4c, 07 Marks), WIN 23 (Q4c, 07 Marks OR), SUM 24 (Q4c, 07 Marks)
2. **Draw a perspective view of three steps with given dimensions (Riser=15cm, Tread=30cm).**
 - **Appeared in:** SUM 22 (Q5d, 07 Marks), WIN 22 (Q4c, 07 Marks OR), SUM 24 (Q4c, 07 Marks OR)
3. **Compare a perspective view with an isometric view.**
 - **Appeared in:** SUM 22 (Q5b, 04 Marks), WIN 22 (Q4b, 04 Marks), WIN 23 (Q4b, 04 Marks), SUM 24 (Q4a, 03 Marks OR), WIN 24 DI (Q4b, 04 Marks OR)
4. **State the advantages and disadvantages of a perspective view.**
 - **Appeared in:** WIN 22 (Q4a, 03 Marks OR), WIN 23 (Q4a, 03 Marks OR), WIN 24 DI (Q4b, 04 Marks)

Other Important Questions:

- Define the following terms: (1) Picture plane (2) Vanishing point (3) Line of sight / Station Point / Horizon, etc.
 - **Appeared in:** SUM 22 (Q5a, 03 Marks), WIN 22 (Q3c, 07 Marks OR), WIN 23 (Q3c, 07 Marks OR), SUM 24 (Q4b, 04 Marks)
- Explain the importance of perspective drawing. (WIN 24 - Q4a, 03 Marks), SUM 24 (Q5b, 04 Marks)
- Explain the method of drawing a perspective view. (WIN 22 - Q3c, 07 Marks)
- Draw a Two-Point Perspective of a stair with three steps. (WIN 24 - Q3c, 07 Marks)
- Draw a Two-Point Perspective of a room with a given size (e.g., 6m x 5m). (WIN 24 - Q3c, 07 Marks OR)
- Draw the perspective view of a single room of size 6m x 8m with wall thickness, door, and window details. (WIN 23 - Q4c, 07 Marks)
- Define the Following for a stair case: (1) Riser (2) Flight (3) Landing. (WIN 24 DI - Q4a, 03 Marks)
- List the characteristics of one-point and two-point perspective. (WIN 24 - Q4a, 03 Marks OR)
- Explain the necessity of preparing a model of a building. (WIN 23 - Q3c, 07 Marks)
- List materials used for preparing a small building model. (SUM 22 - Q5a, 03 Marks OR)

Unit V - Constructional Details Drawing of Buildings

Repeated Questions:

1. **Draw a detailed sketch of a cross-section of a 20 cm and 30 cm thick brick masonry wall.**
 - **Appeared in:** WIN 22 (Q2c, 07 Marks), WIN 23 (Q2c, 07 Marks), SUM 24 (Q3b, 04 Marks)
2. **Draw a neat sketch of an R.C.C. lintel with a chhajja.**
 - **Appeared in:** SUM 22 (Q3b, 04 Marks OR), WIN 23 (Q3b, 04 Marks OR)
3. **Draw a neat sketch of a King Post Truss.**
 - **Appeared in:** WIN 22 (Q3a, 03 Marks OR), WIN 24 (Q5c, 07 Marks OR)
4. **Draw a neat sketch of a Lean-to Roof.**
 - **Appeared in:** WIN 24 (Q5c, 07 Marks OR), WIN 24 DI (Q5c, 07 Marks OR)
5. **Enlist/Discuss fire safety measures for a (high-rise) building.**
 - **Appeared in:** SUM 22 (Q4A, 03 Marks), WIN 22 (Q5a, 03 Marks), WIN 23 (Q4a, 03 Marks), SUM 24 (Q3a, 03 Marks OR)
6. **State safety measures for a lift.**
 - **Appeared in:** SUM 22 (Q4a, 03 Marks OR), WIN 22 (Q4a, 03 Marks), SUM 24 (Q3a, 03 Marks), WIN 24 DI (Q5a, 03 Marks OR)

Other Important Questions:

- Draw a detailed sketch with labels of a Dog-legged stair. (SUM 22 - Q3b, 04 Marks)
- Draw a sketch of a staircase with all its components. (WIN 22 - Q2c, 07 Marks OR), WIN 23 (Q2c, 07 Marks)
- Draw a neat sketch of a Paneled door. (WIN 23 - Q4b, 04 Marks OR)
- Draw a neat sketch of a Ledge and Battened door. (WIN 22 - Q4b, 04 Marks OR)
- Draw elevation and cross-section of a panelled door for a residential building. (SUM 23 - Q3c, 07 Marks)
- Draw a neat C/S sketch of a tiled floor. (WIN 23 - Q3a, 03 Marks OR)
- Draw a neat sketch of a mosaic tiled flooring. (SUM 24 - Q4a, 03 Marks)
- Draw sketches of wall footing for 20 cm and 30 cm thick brick masonry wall. (WIN 23 - Q2c, 07 Marks OR)
- Enlist any six services provided in a building. (WIN 23 - Q5a, 03 Marks), WIN 24 DI (Q5a, 03 Marks)
- Enlist types of building services. (SUM 22 - Q3a, 03 Marks)
- List components of an air conditioner. (SUM 22 - Q3a, 03 Marks OR)
- Draw a line plan of a building with important service lines like water supply, drainage, and electrical symbols. (WIN 24 - Q5c, 07 Marks)
- Write a color code for: (1) Proposed work (2) Drainage line (3) Water supply and sewage work. (SUM 24 - Q5a, 03 Marks)
- What is a measured drawing? Why is it required? (SUM 22 - Q4b, 04 Marks OR)
- Define measured drawing and write its importance. (WIN 24 DI - Q3a, 03 Marks OR)
- Give importance and purpose of a foundation plan and site plan. (WIN 24 - Q3b, 04 Marks)
- Write details to be shown in plan and section. (WIN 24 DI - Q5b, 04 Marks OR)
- State the details to be shown in the "Site plan" as per IS 1256. (WIN 22 - Q2a, 03 Marks OR)
- Enlist documents required for obtaining construction permission. (WIN 23 - Q1c, 07 Marks)
