

## BUILDING DRAWING USING CAD

BRANCH:- CIVIL

SEMESTER – THIRD

*These important questions have been prepared using your previous exam papers (PYQs), verified concepts, and additional reference from trusted online academic sources. For deeper understanding, please refer to your class notes as well.*

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### 1 HIGH & LONG IMPORTANT QUESTIONS

1. Explain the necessity, objectives, and importance of building bye-laws for a civil engineer in detail.
2. **Explain the following technical terms with sketches (Any 4):**
  - Floor Space Index (FSI) / Floor Area Ratio (FAR)
  - Setbacks / Building Line / Control Line
  - Built-up Area vs. Carpet Area vs. Super Built-up Area
  - Lighting & Ventilation norms
  - Plinth Height & Parapet Wall
3. What are the various factors to be considered while selecting a site for a Residential Building? How does it differ from a Commercial site?
4. Principles of Planning: Explain the following principles of building planning in detail:
  - \* (a) Aspect & Prospect
  - \* (b) Privacy (Internal & External)
  - \* (c) Grouping & Circulation
  - \* (d) Roominess & Sanitation

5. Explain the function, shortcut key, and step-by-step procedure for the following AutoCAD commands:

\* Draw: LINE, POLYLINE, CIRCLE, ARC, HATCH.

\* Modify: TRIM, EXTEND, OFFSET, MIRROR, FILLET.

6. What is a Layer in AutoCAD? Explain the procedure to create a new layer, assign colors, and manage line weights for different building components (Walls, Doors, Text).

7. Describe the step-by-step procedure to prepare a Water Supply Layout and a Drainage Plan for a residential building. Explain the different types of pipes used.

8. Electrical Layout: Explain the general principles for preparing an Electrification Plan for a residential building. List the standard symbols used for fans, lights, sockets, and fuses.

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## 2 IMPORTANT & SHORT QUESTIONS

1. Differentiate between **Site Plan**, **Line Plan**, and **Detailed Plan**.
2. What is a **Sun Path Diagram**? Explain its importance in the orientation of a building.
3. What are the standard dimensions (Length x Width) and requirements for a **Kitchen**, **Bathroom**, and **Staircase** as per NBC?
4. Explain the difference between **One-Pipe System** and **Two-Pipe System** of plumbing.
5. What is **Rain Water Harvesting**? Draw a neat sketch of a recharge pit.
6. What is the difference between Absolute Coordinate System and Relative Coordinate System in AutoCAD?
7. Write the steps to Plot/Print a drawing in AutoCAD.
8. Explain the use of Object Snap (OSNAP) and Ortho Mode in drafting.

## Symbols & Conventions (Draw these)

9. Draw the conventional signs/symbols for:

\* Brickwork (Section)

\* Concrete / RCC

\* Glass / Wood

\* Single & Double Swing Door

\* Wash Basin / WC

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### 3 “AA BHI SAKTA HAI” QUESTIONS

(Low probability but smart picks from PYQ 2024 & New Syllabus)

These are "Ranker" questions—topics that filter the top students.

1. **Perspective Drawing Terms:** Define the following with a rough sketch:

- Picture Plane (PP)
- Station Point (SP)
- Vanishing Point (VP)
- Cone of Vision

(Note: This was asked in PYQ 2024)

2. **Building Automation:** What is a **Building Automation System (BAS)**?

Briefly explain its benefits in modern construction.

3. **Fire Safety:** What are the general requirements for **Fire Safety** in a multi-story building?

4. **Air Conditioning:** Differentiate between **Window AC** and **Split AC** systems regarding their installation in a building plan.

5. **Brick Bonds:** Draw the plan view of a **1½ Brick Thick Wall** in **English Bond**.

💡 **EXAM DAY STRATEGY**

- **For CAD Questions:** Always write the answer in this flow: **Command Name** → **Shortcut Key** → **Icon Description (Draw it)** → **Steps to Use**.
- **For Planning Questions:** Never write just text. If you explain "Aspect," draw a small diagram showing the sun and a window.
- **Symbols:** Review the **IS:962** code symbols for electrical and sanitary fittings; these often come as "Draw the symbol for..." questions.

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