

**SAMPLE PAPERS**  
**DIPLOMA THIRD SEMESTER EXAMINATION 2025 (JUT)**  
**BUILDING DRAWING USING CAD**  
*DIPLOMA WALLAH*

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Full Marks: 70 marks | Time: 3 Hours

**Instructions:**

- Question No. 1 is compulsory.
  - Answer any **FOUR** questions from the remaining (Q.2 to Q. 7 marks ).
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**Q.1 Multiple Choice Questions (Compulsory)**

1. The file extension used for an AutoCAD template file is:
  - a) .dwg
  - b) .dwt
  - c) .dxf
  - d) .bak
2. As per NBC, the minimum width of a staircase for a residential building should be:
  - a) 0.75 m
  - b) 0.90 m
  - c) 1.0 m
  - d) 1.2 m
3. In a plumbing system, the 'P-Trap' is primarily used to:
  - a) Increase water flow
  - b) Prevent the entry of foul gases
  - c) Join two pipes
  - d) Measure water pressure
4. Which AutoCAD command creates a copy of an object at a specified distance?
  - a) COPY
  - b) MIRROR
  - c) OFFSET
  - d) MOVE

5. The term 'F.A.R.' stands for:
- a) Floor Area Rate
  - b) Floor Area Ratio
  - c) Front Area Ratio
  - d) Fixed Area Ratio
6. A 'Setback' is defined as:
- a) The height of the building
  - b) The open space left around the building
  - c) The foundation depth
  - d) The thickness of walls
7. The shortcut key to toggle 'Ortho Mode' in AutoCAD is:
- a) F3
  - b) F7
  - c) F8
  - d) F9

Q.2

(A) Define Building Bye-Laws. Explain the necessity and objectives of bye-laws for a civil engineer. (7 Marks)

(B) Explain the following terms with sketches: (i) Floor Space Index (FSI) (ii) Built-up Area vs. Carpet Area. (7 Marks)

Q.3

(A) What are the various factors to be considered while selecting a site for a Residential Building? (7 Marks)

(B) Explain the Principles of Planning regarding: (i) Aspect & Prospect (ii) Privacy. (7 Marks)

Q.4

(A) Explain the function and step-by-step procedure for the following AutoCAD commands: (i) TRIM (ii) MIRROR (iii) FILLET. (7 Marks)

(B) What is a Layer in AutoCAD? Explain the steps to create a new layer and assign color and line weight to it. (7 Marks)

Q.5

(A) Describe the step-by-step procedure to prepare a Water Supply Layout for a residential building. (7 Marks)

(B) Differentiate between One-Pipe System and Two-Pipe System of plumbing with a neat sketch. (7 Marks)

Q.6

(A) Explain the general principles for preparing an Electrification Plan. List the standard symbols for Fan, Light, Socket, and Fuse. (7 Marks)

(B) What is Rain Water Harvesting? Draw a neat sketch of a recharge pit and explain its components. (7 Marks)

Q.7 Write Short Notes on (Any 4):

(4 × 3.5 Marks = 14 Marks)

- (A) Sun Path Diagram
- (B) Septic Tank & Soak Pit
- (C) Site Plan vs. Line Plan
- (D) Object Snap (OSNAP)
- (E) Fire Safety in Buildings



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✓ **SOLUTIONS (Paper 1)**

- **MCQ Key:** 1.(b), 2.(c), 3.(b), 4.(c), 5.(b), 6.(b), 7.(c)
- **Q2(A):** Focus on safety, health, and orderly development.
- **Q5(B):** One pipe = single stack for waste/soil. Two pipe = separate stacks.