

SAMPLE PAPERS
DIPLOMA THIRD SEMESTER EXAMINATION 2025 (JUT)
CONSTRUCTION TECHNIQUES
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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1. Choose the correct option for the following: [7 × 2 = 14]

(i) The temporary structure used to support an unsafe wall is called:

- (a) Scaffolding
- (b) Shoring
- (c) Underpinning
- (d) Jacking

(ii) Which bond is generally considered the strongest in brick masonry?

- (a) Stretcher Bond
- (b) Flemish Bond
- (c) English Bond
- (d) Garden Wall Bond

(iii) The minimum width of a landing should be equal to the width of the:

- (a) Riser
- (b) Tread
- (c) Stair flight
- (d) Nosing

(iv) "Quick setting cement" is primarily used for:

- (a) Mass concreting
- (b) Under-water construction
- (c) Plastering
- (d) Flooring

(v) A "King Closer" is a term related to:

- (a) Doors
- (b) Windows
- (c) Brick Masonry
- (d) Arches

(vi) The frog of a brick is generally kept on the:

- (a) Bottom face
- (b) Top face
- (c) Side face
- (d) Header face

(vii) In a staircase, the vertical distance between two successive treads is called:

- (a) Going
- (b) Nosing
- (c) Riser
- (d) Flight

2.

(a) What is Site Exploration? Explain the various methods. Describe the Standard Penetration Test (SPT). [7 Marks]

(b) Distinguish between Single Scaffolding and Double Scaffolding. Explain when Cantilever Scaffolding is used. [7 Marks]

3.

(a) What is a Partition Wall? Explain the construction details of a Glass Partition and a Brick Partition Wall. [7 Marks]

(b) Define Foundation. Explain Raft Foundation and Grillage Foundation with suitable sketches. [7 Marks]

4.

(a) Define Staircase. Explain the requirements of a Good Staircase. Classify stairs based on shape (Spiral, Quarter Turn, etc.). [7 Marks]

(b) Explain the defects in concrete structures. Describe the process of Grouting as a repair technique. [7 Marks]

5.

(a) Define Bond. Compare English Bond and Flemish Bond. (List at least 4 differences). [7 Marks]

(b) Explain Dewatering. Describe the "Sumps and Ditches" and "Well Point System" methods. [7 Marks]

6.

(a) Explain the materials and methods used for Damp Proofing Course (DPC). What are the ill effects of dampness? [7 Marks]

(b) Describe Under-reamed Piles with a neat sketch. Why are they essential in expansive soils? [7 Marks]

7. Write Short Notes on (Any FOUR): [4 × 3.5 = 14]

(a) Plastering vs. Pointing

(b) Shoring vs. Underpinning

(c) Terrazzo Flooring

(d) Defects in Plastering (Blistering, Cracks)

(e) Anti-Termite Treatment



SET 02 – Answer Key

- **1(i):** (b) Shoring
- **1(ii):** (c) English Bond
- **1(iii):** (c) Stair flight
- **1(iv):** (b) Under-water construction
- **1(v):** (c) Brick Masonry
- **1(vi):** (b) Top face
- **1(vii):** (c) Riser