

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).

1. Choose the correct option for the following: $[7 \times 2 = 14]$

(i) The main function of a lintel is:

- (a) To support the arch
- (b) To support the wall above the opening
- (c) To prevent termite attack
- (d) To provide ventilation

(ii) The type of pile used to compact loose sandy soil is called:

- (a) Friction pile
- (b) End bearing pile
- (c) Compaction pile
- (d) Sheet pile

(iii) A vertical member placed at the ends of a flight to support the handrail is:

- (a) Baluster
- (b) Newel Post
- (c) Stringer
- (d) Soffit

(iv) Which of the following is NOT a type of rubble masonry?

- (a) Random Rubble
- (b) Ashlar Fine
- (c) Dry Rubble
- (d) Polygonal Rubble

(v) The projecting part of the tread beyond the riser is called:

- (a) Pitch
- (b) Nosing
- (c) Scotia
- (d) Going

(vi) Guniting is the application of mortar using:

- (a) Trowel
- (b) Floats
- (c) Pneumatic pressure
- (d) Brushes

(vii) DPC is usually laid at:

- (a) Plinth level
- (b) Sill level
- (c) Lintel level
- (d) Roof level

2.

- (a) Define Pile Foundation. Explain Friction Piles and Bearing Piles. [7 Marks]
- (b) Define Scaffolding. Explain the construction of Double Scaffolding with a neat sketch. [7 Marks]

3.

- (a) Draw the Plan and Elevation of a 1 1/2 Brick Wall in English Bond. [7 Marks]
- (b) What is Formwork? Discuss the removal time (stripping time) for Columns, Beams, and Slabs. [7 Marks]

4.

- (a) Explain the construction of a Dog-legged Staircase with a detailed plan and section. [7 Marks]
- (b) Explain the repair technique Guniting (Shotcrete). Where is it used? [7 Marks]

5.

- (a) Explain Ashlar Masonry and its types. How is it different from Rubble Masonry? [7 Marks]
- (b) Define Dampness. Explain the method of Waterproofing for a Flat Roof. [7 Marks]

6.

- (a) Explain Site Clearance and Job Layout (Setting out of building plan). [7 Marks]
- (b) What is a Lintel? How is it different from an Arch? Explain the functions of a lintel. [7 Marks]

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

- (a) Flat Roof vs. Pitched Roof
- (b) Vacuum Dewatered Flooring (VDF)
- (c) Distempering vs. White Washing
- (d) Explosives (Precautions in handling)
- (e) False Ceiling

SET 03 – Answer Key

- **1(i):** (b) To support the wall above the opening
- **1(ii):** (c) Compaction pile
- **1(iii):** (b) Newel Post
- **1(iv):** (b) Ashlar Fine (It is a type of Ashlar, not Rubble)
- **1(v):** (b) Nosing
- **1(vi):** (c) Pneumatic pressure
- **1(vii):** (a) Plinth level