

# 17308

**14115**

**3 Hours / 100 Marks**

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.  
(2) Answer each next main Question on a new page.  
(3) Illustrate your answers with neat sketches wherever necessary.  
(4) Figures to the right indicate full marks.  
(5) Assume suitable data, if necessary.  
(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. a) Attempt any **SIX** of the following: **12**
- (i) Define foundation. Give one purpose of it.
  - (ii) State the importance of frog.
  - (iii) Give four components of door frame.
  - (iv) List any four component parts of a staircase.
  - (v) State the suitability of escalator and ramp.
  - (vi) Define Neeru finishing?
  - (vii) Enlist any two uses of crack fills.
  - (viii) List any four accessories required for pre-stressing work.

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b) **Attempt any TWO of the following:****08**

- (i) List any four components of super structure with their function.
- (ii) Give eight precautions you will take while marking (setting out) for foundation of residential building.
- (iii) Explain timbering and strutting in excavation.

2. **Attempt any FOUR of the following:****16**

- a) Draw a neat sketch of section of load bearing wall from foundation to parapet. Label its components.
- b) Differentiate between load bearing structure and framed structure (any four points).
- c) What is meant by site clearance and give any four points to be considered while preparing job-layout.
- d) Differentiate isolated column footing and combined column footing.
- e) State situations where you would recommend the following type of foundations with reason:
  - (i) well foundation
  - (ii) stepped foundation
  - (iii) raft foundation
  - (iv) pile foundation.
- f) Define the following:
  - (i) facing
  - (ii) backing
  - (iii) hearting
  - (iv) through stone, with sketch.

**3. Attempt any FOUR of the following:****16**

- a) As a Civil Engineer what you will observe in the construction of brick masonry work (eight points).
- b) Mention four types of doors and draw a sketch of it (any two).
- c) Suggest a type of window with reason for the following buildings:
  - (i) residential bungalow
  - (ii) cinema hall
  - (iii) school
  - (iv) enclosed R.C.C. staircase.
- d) Draw a neat sketch showing plan and elevation of spiral staircase.
- e) Explain the terms:
  - (i) skirting
  - (ii) dado
  - (iii) mezzanine floor
  - (iv) pitched roof.
- f) Explain king post truss and queen post truss with its suitability of each.

- 4. Attempt any FOUR of the following:** **16**
- a) Mention where the following are used as floor finish:
    - (i) Shahabad tiles
    - (ii) Granite
    - (iii) Vitrified tiles
    - (iv) Interlocking blocks.
  - b) What is pointing? Explain procedure of pointing.
  - c) Explain the procedure of plastering a brick wall with cement mortar.
  - d) Describe method of application of point on new-wooden surface.
  - e) Draw the form work sketches for column and beam.
  - f) Describe any two causes of formation of cracks and measures adopted to prevent them.
- 5. Attempt any FOUR of the following:** **16**
- a) State the various remedial measures for uneven settlement of a structure.
  - b) State four uses of wiremesh and geosynthetics.
  - c) Differentiate between shallow and deep foundations.
  - d) Define 'Ready Mix Concrete' and enlist any four equipments for RMC.
  - e) Distinguish between roller compacted concrete and high impact resisting concrete (any four points).
  - f) Write the procedure of vacuum dewatering concreting for construction of floors.
- 6. Attempt any TWO of the following:** **16**
- a) Explain in detail any four methods of dewatering.
  - b) Make the comparison between stone masonry and brick masonry (eight points).
  - c) Explain pre-tensioning and post-tensioning prestressed concrete.
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