

17308

21819

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 :

6 × 2 = 12

- (a) Give four components of Superstructure.
- (b) What is timbering and strutting for foundation trench ?
- (c) State any four points considered while preparing job layout for building work.
- (d) State the purpose of foundation.
- (e) List any four component parts of stair case.
- (f) Enlist four causes of cracks.
- (g) State two advantages of prestressed concrete.
- (h) Write any four components of door.

(B) Attempt any TWO of the following :

2 × 4 = 8

- (a) State four types of tools used for excavation with sketch of each.
- (b) Distinguish between framed & load bearing structure with any eight parameters.
- (c) Write the procedure of vacuum dewatering concreting for construction of floors.

2. Attempt any FOUR of the following :

4 × 4 = 16

- (a) Explain general design principles of earthquake resisting structure.
- (b) Draw a neat sketch of section of load bearing wall from foundation to parapet.
- (c) State the types of bond in brick masonry and describe any one.
- (d) Draw a labelled sketch of (i) Combined footing, (ii) Raft footing.
- (e) Draw a labelled sketch of Queen post truss.
- (f) Define scaffoldings. State any two types of it with their function.

3. Attempt any FOUR of the following :

4 × 4 = 16

- (a) Define prefabricated structure. Enlist any four advantages and disadvantages.
- (b) Mention four types of doors and draw a sketch of any one.
- (c) Explain doglegged stair with its neat sketch.
- (d) Define skirting and dado with its suitability.

- (e) Suggest a type of window for following building :
- (i) Residential bungalow
 - (ii) Cinema hall
 - (iii) Enclosed RCC staircase
 - (iv) School
- (f) Explain the process of surface preparation and painting a wall.

4. Attempt any FOUR of the following :

4 × 4 = 16

- (a) Suggest the suitability of Shahabad, Kota, Marble and Granite flooring.
- (b) Explain pointing with its necessities.
- (c) Draw a neat sketch of formwork for beam and column.
- (d) Explain termite proofing with its necessity and importance.
- (e) Explain the process of Grouting and Guniting, to repair concrete work.
- (f) Suggest the suitable and economic foundation for 2 m depth of black cotton soil with neat sketch.

5. Attempt any FOUR of the following :

4 × 4 = 16

- (a) State any four causes of settlement of structure and remedial measures for it.
- (b) Define RMC and enlist and four equipments used for RMC.
- (c) Explain Tremie method of underwater concreting.
- (d) Explain any four defects observed in plastering.
- (e) What is meant by composite masonry ? State its different types.
- (f) State any four types of stone masonry. Explain Ashlar chamfered masonry with sketch.

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6. Attempt any TWO of the following :

2 × 8 = 16

- (a) (i) Explain pile foundation and well foundation with neat sketches.
 - (ii) Distinguish between stone masonry and brick masonry.
 - (b) Explain in details “prestressed concreting methods”.
 - (c) Explain soil reinforcing techniques with its four necessities and strengthening of embankment.
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