

# 22304

11819

**3 Hours / 70 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. **Attempt any FIVE of the following:** **10**
- a) Define the terms substructure and superstructure used in building construction.
- b) State any two functions of foundation of a building.
- c) Enlist any four types of bonds used in stone masonry.
- d) Define the terms 'Landing and Pitch' used in stair.
- e) Enlist any four types of floor finishes.
- f) State two necessities of Demolition.
- g) Define 'Formwork' in building construction.

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- 2. Attempt any THREE of the following: 12**
- a) Classify the buildings as mentioned in National building code (2016) with examples of each.
  - b) Differentiate between 'End bearing Pile' and 'Friction Pile'.
  - c) Describe any four forms of 'Rubble Masonry' with sketches.
  - d) Discuss the provisions of doors in a structure with reference to the location and purpose.
- 3. Attempt any THREE of the following: 12**
- a) Explain the necessity of 'Scaffolding and Shoring'.
  - b) Suggest suitable type of window for the following:
    - (i) Cinema Hall
    - (ii) Residential House
    - (iii) Staircase
    - (iv) Library of Hostel
  - c) Explain the causes of non - structural cracks in building construction and remedial measures.
  - d) Describe the procedure for layout of load bearing structure by center - line method.
- 4. Attempt any THREE of the following: 12**
- a) Explain timbering and strutting with a neat sketch.
  - b) Explain the requirements of good formwork.
  - c) Enlist and draw various fixtures and fastenings for doors and windows.
  - d) Suggest the roofing material for various types of pitched roofs with justification.
  - e) Describe the procedure for carrying out the 'Plastering' in cement mortar in two coats.

- 5. Attempt any TWO of the following:** **12**
- a) Draw labelled sketch of partly panelled and partly glazed door with door frame for a opening size of 1200 mm × 2200 mm.
  - b) Define settlement of foundation and its types. Enlist various causes and suggest remedial measures for the same.
  - c) Compare stone masonry construction with brick masonry construction.
- 6. Attempt any TWO of the following:** **12**
- a) Draw a neat labelled sectional view showing different components of building from foundation to parapet, for a load bearing brick masonry wall.
  - b) As a ‘Supervisor’, state precautionary measures you will observe while constructing brick masonry, alongwith their reasons.
  - c) Draw neat sketches of any three shallow foundations and suggest suitability of them for different loading and soil conditions.
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