12223

4 Hours / 70 Marks   Seat No.

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) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. **Attempt any THREE of the following :**   **3 × 4 = 12**

   (a) (i) Define circulation and privacy.

       (ii) Draw neat sketches for Hidden line and Section line.

   (b) Draw graphical symbols for :

       (i) UCR   (ii) Brickwork

       (iii) Wood   (iv) Glass

   (c) Explain the importance of North line and suggest suitable scales for Developed Plan and Elevation in Civil Engineering Drawing.

   (d) Explain the purpose of measured drawing.

   (e) Explain the terms :

       (i) Picture plane

       (ii) Vanishing point

2. Draw line plan of a Primary Health Centre to a suitable scale. Show various units along with their sizes and position of doors and windows.   **1 × 10 = 10**

3. Figures 1 shows line plan of a residential building. Draw the Developed Plan to a suitable scale. Use the following data : **1 × 12 = 12**
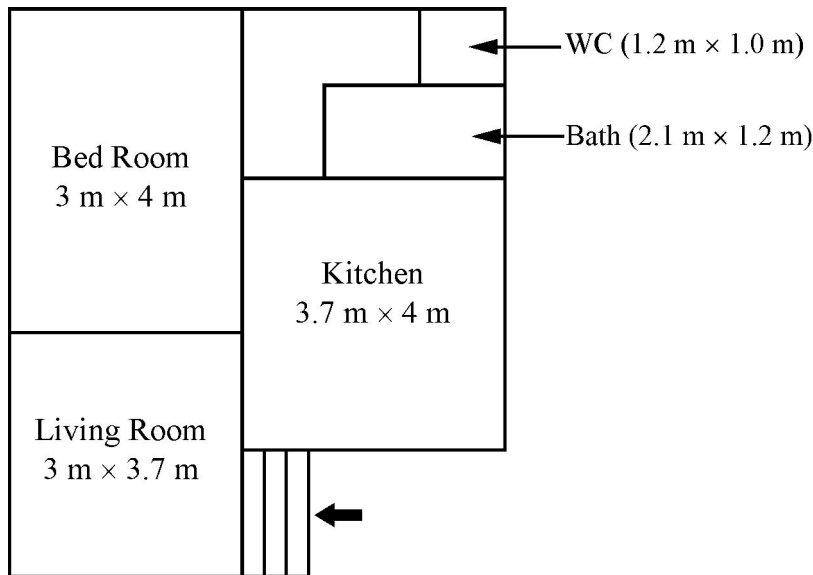

Figure – 1

Figure is for Representation Purpose and Not to Scale

(a) The given structure is Load Bearing structure.

(b) Superstructure consists of BBM with external walls 230 mm thick and internal walls 100 mm thick.

(c) Assume chajja projection as 450 mm.

(d) Plinth height is 600 mm.

(e) Roof projection – 150 mm.

(f) Assume any other data suitably.

4. **Attempt any TWO of the following :** **2 × 6 = 12**

(a) Explain any two purposes each of site plan and foundation plan.

(b) Draw detailed plan and section of RCC column and column footing with the following data :

    (i) Size of the column – 250 mm × 250 mm.

    (ii) Size of the footing – 1100 mm × 1100 mm.

(c) Prepare schedule of opening in the standard format and area statement for developed plan in Q. No. 3.

5. **Attempt any TWO of the following :** 2 × 6 = 12

 (a) Suggest various units for a hostel building for 100 students.

 (b) Define the following :

    (i) Built-up Area

    (ii) Plot Area

    (iii) Floor Area Ratio

    Also state the relationship between them.

 (c) Compare submission drawing and working drawing on any three points.

6. **Attempt any ONE of the following :** 1 × 12 = 12

 (a) Plan and side view of a simple stair is shown in Figure 2. Draw its two point perspective drawing to a suitable scale. Assume Eye level as 1.5 m. Retain all construction lines.
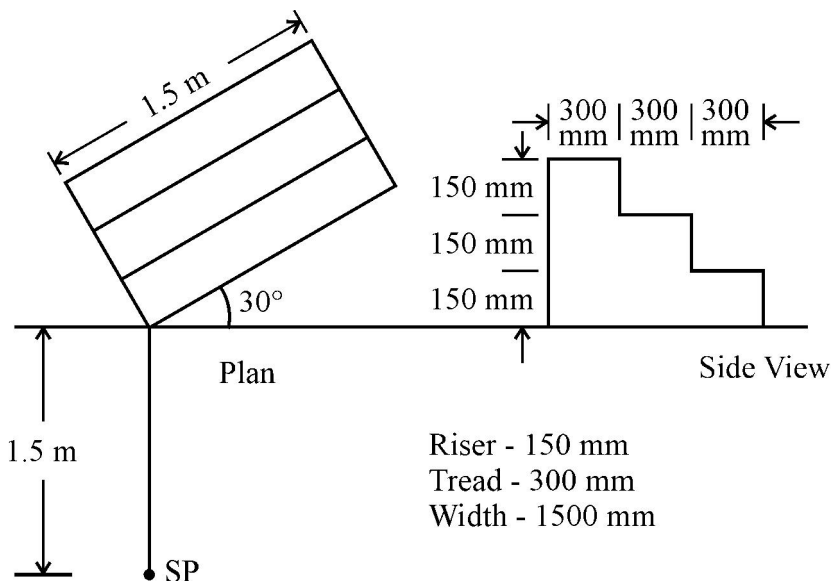

Riser - 150 mm
Tread - 300 mm
Width - 1500 mm

Figure – 2

Figure is for Representation Purpose and Not to Scale

(b) Draw a plan and section of a single flight of a RCC staircase from the following data :

Number of Risers – 10 of 150 mm height.

Number of Treads – 9 of 250 mm width

Width of staircase is 1000 mm

Landing at top is 1000 × 1000 mm

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