



C16-C-306

6227

BOARD DIPLOMA EXAMINATION, (C-16)

OCT/NOV—2018

DCE—THIRD SEMESTER EXAMINATION

CIVIL ENGINEERING DRAWING—I

Time : 3 hours]

[Total Marks : 60

PART—A

4×5=20

Instructions : (1) Answer **all** questions.

(2) Each question carries **four** marks.

(3) Any missing data may be assumed suitably.

1. Draw the conventional signs for the following materials in sectional elevation :

(a) Stone

(b) Concrete

(c) Ball

(d) Indian type water closet

2. Draw the working drawing for excavation of foundation of wall for given plan showing the inner dimensions of rooms. The width of foundation is 600 mm and wall thickness is 200 mm.

4 m × 3 m

3.5 m × 3 m

3. Draw the line diagram of king post truss and name all the parts.

4. State the best locations of the following rooms as per building bye-laws :

(a) Puja room

(b) Kitchen

(c) Bedroom

(d) Dining room

5. Sketch the sectional elevation of a lift shaft for three floors.

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PART—B

25+15=40

Instructions : (1) Answer **all** questions.

(2) The drawing must be to the scale.

(3) Any missing data may be assumed suitably.

6. With the given line sketch and following specifications of a building, draw the following views to a suitable scale : 25

(a) Fully dimensional plan

(b) Section on R-R

Specifications :

(i) Foundations : All the main walls are taken to a depth of 1000 mm below the ground level and rest on CC bed (1 : 4 : 8) of 800 mm wide and 300 mm deep. The remaining portion consists of two footings with brick masonry in CM (1 : 4). The first footing is 500 mm wide and 400 mm deep, the width of second footing is 400 mm wide and 300 mm deep.

(ii) Basement : All walls are 300 mm wide and height is 600 mm above GL with brick work CM 1 : 5. A damp proof course in CM 1 : 3, 20 mm thick will be provided on all walls.

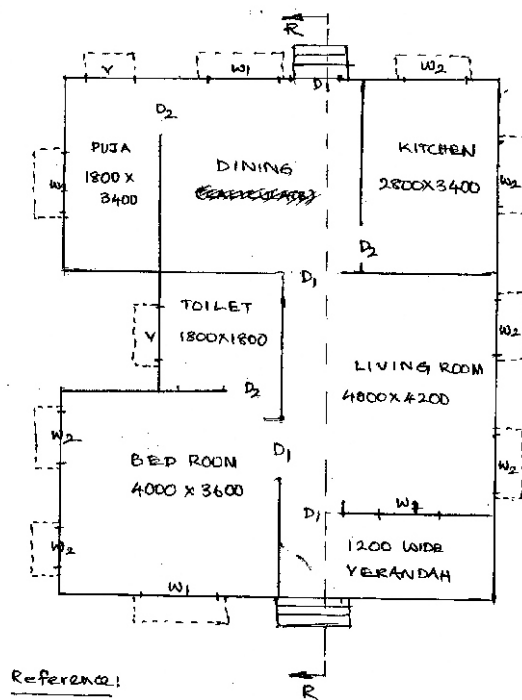
(iii) Steps : Steps of 1200 mm wide are provided with brick masonry in CM (1 : 6) on both front and front rear side and rest of CC bed (1 : 4 : 8) 150 mm thick and having offset on three sides equal to 100 mm. Tread of each step = 300 mm and rise = 150 mm.

(iv) Superstructure : All the walls are 200 mm thick except partition wall between the toilets which is constructed on the floor with a thickness of 100 mm. The height of wall is 3000 mm to the bottom of RCC roof slab.

(v) Lintels and sunshades : RCC (1 : 1.5 : 3) lintels are provided on all the openings with 150 mm thickness and same 150 mm bearing on either side of opening.

RCC sunshades are provided on all exterior doors, windows and ventilators with 90 mm thickness at wall face and 75 mm thickness at free end. The projections of sunshade beyond the wall surface are 700 mm.

- (vi) ^{*}Roofing : 120 mm thick RCC (1 : 1.5 : 3) slab is provided over the entire building.
- (vii) Parapet wall : Brick masonry parapet wall in CM (1 : 6) is of 100 mm thick and 700 mm height. A coping with 50 mm projection is provided at the top of the parapet wall.
- (viii) Flooring : Flooring consists of ceramic tiled flooring over 100 mm thick CC bed (1 : 4 : 8). The remaining depth of basement is filled with sand and gravel and thoroughly compacted.



Reference:

- D₁ DOOR : 1000 x 2100
- D₂ DOOR : 900 x 1800
- W₁ WINDOW : 1500 x 1200
- W₂ WINDOW : 1000 x 1200
- V VENTILATOR : 1000 x 600

7. Draw the diagram showing the functional requirements of a rural hospital building for 10 bed capacity. 15
