



c09-c-307

3223

**BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2015
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) Ashlar Masonry
- (b) Concrete
- (c) Ceramic tiles
- (d) Wood

2. Draw the plan of an isolated RCC column footing 1000 mm × 1000 mm with the following data :

- (a) Steel reinforcement 12 mm dia. rods at 150 mm c/c both ways
- (b) All round side cover 50 mm
- (c) Size of column 230 mm × 230 mm
- (d) Steel reinforcement 4 Nos of 12 mm dia
- (e) Lateral ties 6 mm dia. @ 200 mm
- (f) Provide dowel bars for anchorage

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1

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3. Draw the sectional elevation of a panelled door of size 1000 mm × 2000 mm with suitable panels.
4. Draw the line diagram of a king post truss and show all the component parts.
5. Draw the plan of a dog-legged staircase for a room of size 2·4 m × 4·5 m with width of stair 1·2 m.

PART—B

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 to a scale of 1:50 the following views : 25
 - (a) Fully dimensioned plan
 - (b) Section on A–A

Specifications :

- (i) Foundation : All the main walls are taken to depth of 100 mm below ground level and rest on c.c. (1:4:8) bed 800 mm wide and 300 mm deep. The remaining portion consists of two footings with brick masonry in c.m. (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 the walls are 300 mm wide and height is 600 mm above G.L.
- (iii) Steps : Steps of 1200 mm wide are provided with brick masonry in c.m. (1:6) on both front and rear side and rest on c.c. 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 walls is 3300 mm to the bottom of RCC roof slab.

(v) Lintels & sunshades : RCC (1:2:4) lintels are provided on all 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 projection of sunshades beyond the wall surface is 700 mm.

(vi) Front verandah : Front verandah is 1500 mm wide and a square brick pillar 200 mm× 200 mm is provided on right side corner. An RCC beam 200 mm× 250 mm is provided on both sides of verandah resting on brick pillar, the height being 2100 mm from floor level to the bottom of RCC beam. The remaining portion between top of beam and bottom of RCC slab is of brick masonry in c.m. (1:6). A continuous sunshade as given in item (v) provided in front side of building and on right side of the verandah extending from bottom of the RCC beam.

(vii) Roofing : 120 mm thick RCC (1:2:4) slab is provided over the entire building.

(viii) Parapet wall : Brick masonry parapet wall in c.m. (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.

(ix) Flooring : Flooring consists of Mosaic tiled flooring over 100 mm thick c.c. bed (1:4:8). The remaining depth of basement is filled with sand and gravel and thoroughly compacted.

7. Draw a line diagram for a proposed rural hospital building (primary health centre) for 10 beds (not to scale).

15


