



c09-c-307

3223

BOARD DIPLOMA EXAMINATION, (C-09)

OCT/NOV—2016

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) Glass

(b) Wood

(c) Brick

(d) Sand

2. Draw the plans of one brick wall in English bond.

3. Draw the sectional elevation of a fully glazed window of size 1200 mm×1500 mm.

4. Draw the electrical symbols for—

(a) fluorescent (single);

(b) exhaust fan;

(c) ceiling fan;

(d) Two-way switch.

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5. Draw the marking plan of a single room building of size 5.0 m×3.5 m having a wall thickness 300 mm and width of foundation 1000 mm.

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 (in Page 4) 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 1000 mm below ground level and rest on CC (1 : 4 : 8) bed 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 the walls are 300 mm wide and height is 600 mm above GL.
- (iii) Steps : Steps of 1200 mm wide are provided with brick masonry in CM (1 : 6) on both front and rear side and rest on 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 walls which are constructed on the floor between the toilets with a thickness of 100 mm. The height of walls is 3300 mm to the bottom of RCC roof slab.

(v) Lintels and 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.

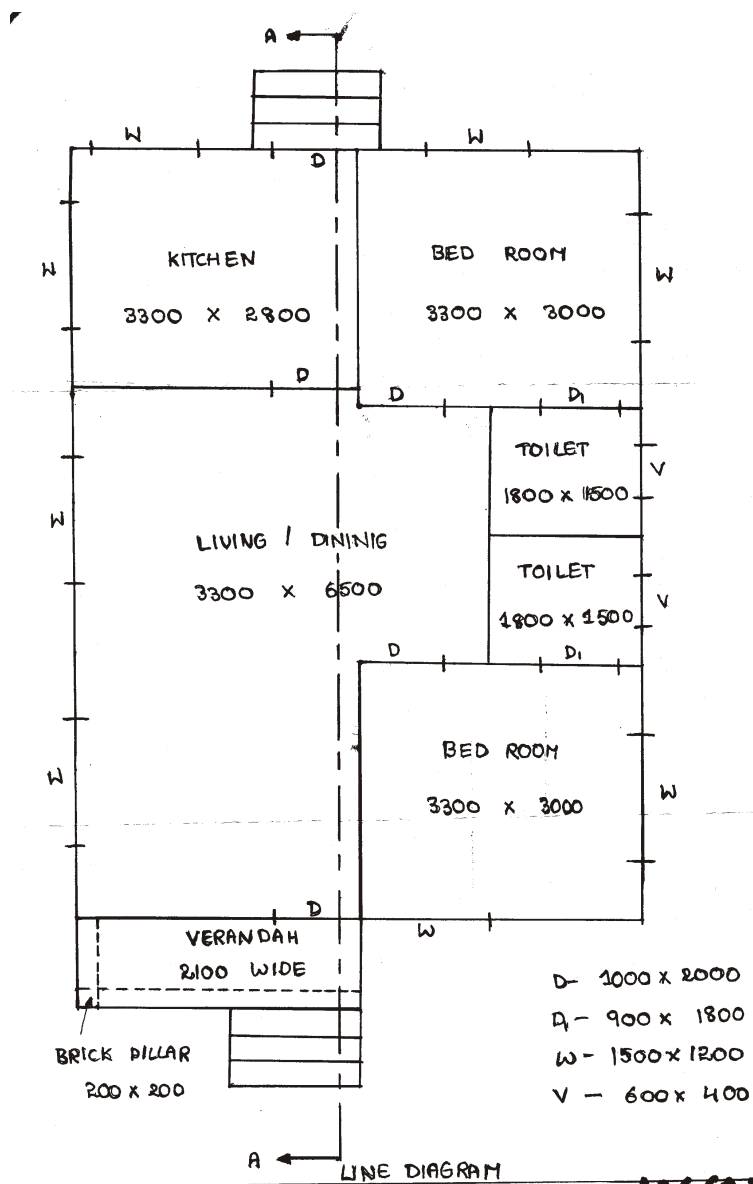
RCC sunshades are provided on all exterior doors, windows and ventilators and over verandah with 90 mm thickness at wall face and 75 mm thickness at free end. The projection of sunshades beyond the wall surface is 700 mm.

(vi) Front verandah : Front verandah is 2100 mm wide and a square brick pillar 200 mm×200 mm is provided on right-side corner. A 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 CM (1 : 6).

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

(viii) 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.

(ix) Flooring : Flooring consists of mosaic 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.



7. Draw a line diagram for a proposed hostel building for 100 students (not to scale) with all required amenities. 15
