



c09-c-307

3223

**BOARD DIPLOMA EXAMINATION, (C-09)
APRIL/MAY—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 as represented in a sectional elevation :

(a) Brick masonry

(b) Stone masonry

(c) Concrete

(d) Glass

2. Draw the conventional signs for the following electrical fittings :

(a) Light plug

(b) Exhaust fan

(c) Ceiling fan

(d) One-way switch

3. Draw the plan of a dog-legged staircase width of stairs 1 m showing 10 nos. of steps in each flight assuming tread 250 mm.

- * 4. Draw the marking plan of a single-room building of size 3.6 m × 3.6 m having wall thickness 200 mm and width of foundation is 700 mm.
5. Draw the plan of a lift shaft with a lift car.

PART—B

20×2=40

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

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

(3) Any missing data may be assumed suitably.

6. Draw the plan and section for given line sketch in the figure (Page 4) and following specification of a building, draw to a scale of 1:50.

Specifications :

(i) Foundation : The depth of foundation shall be 1000 mm below ground level. The plain cement concrete (1 : 4 : 8) bed in the foundation will be 800 mm wide and 200 mm deep. The footing shall be of brick masonry in CM (1 : 4). Width of first and second footings will be 500 mm and 400 mm respectively, whereas the depth of both the footings will be 400 mm.

(ii) Plinth or basement : The height of basement is 600 mm. Dampproof course of 50 mm thick shall be provided under the superstructure walls. Thickness of walls in basement is 300 mm.

(iii) Superstructure : The walls in the superstructure will be of brick masonry in CM (1 : 6) and all the walls except the partition between the toilets are 200 mm thick. The partition walls are 100 mm thick from floor.

A square brick pillar 200 mm × 200 mm is provided at the corner in front verandah.

* (iv) Lintels and sunshades : Lintels with RCC (1 : 2 : 4) are provided on all openings and depth is 150 mm with a bearing of 150 mm on either side.

Sunshades 100 mm thick at the wall face and 75 mm thick at free-end are provided projecting from lintels over all exterior openings. A continuous sunshade is provided both sides of

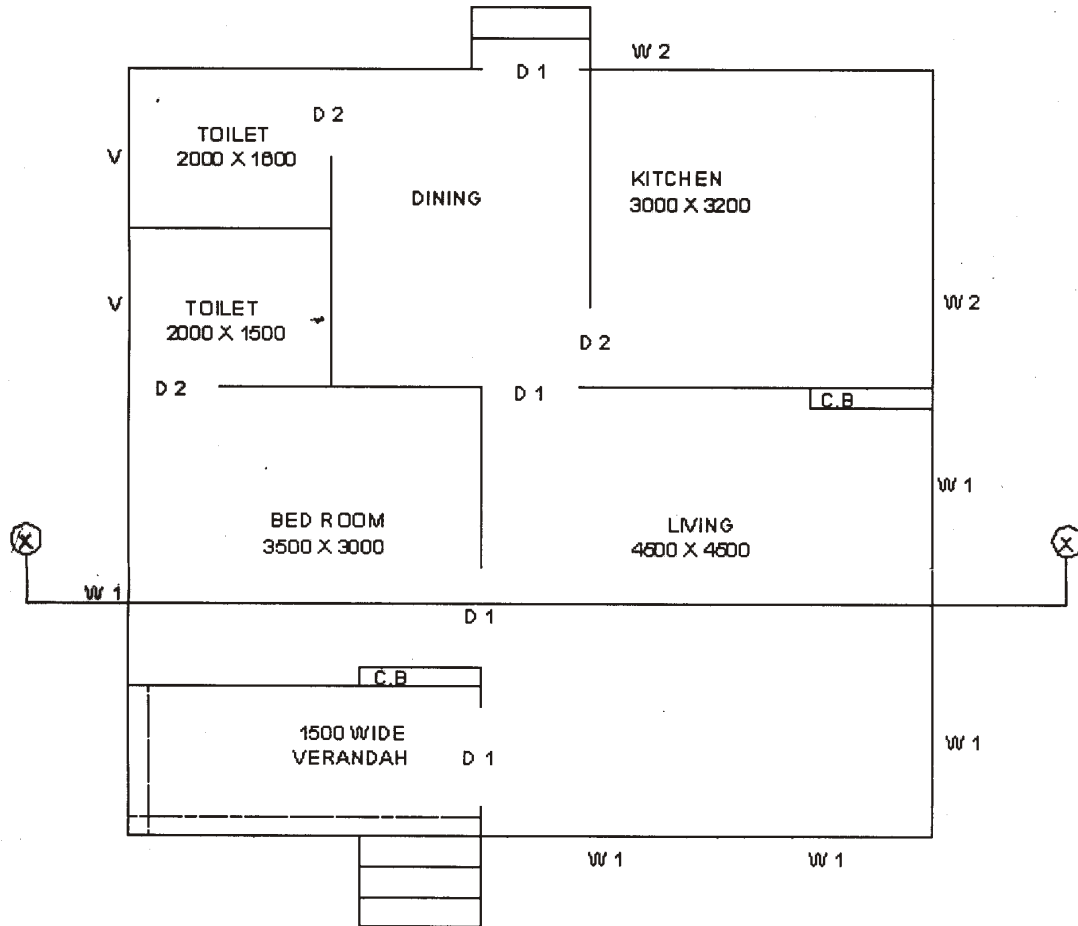
front verandah. All the sunshades shall project 600 mm from the face of the wall.

- (v) Verandah : In front verandah, RCC bressummer beam 200 mm × 250 mm is laid over the brick pillar, the bottom of the beam being at 2100 mm from floor level. From the bottom of the beam, the sunshade projects on both sides to a length of 600 mm. The remaining height above the beam and roof consists brick masonry wall (entablature wall) in CM (1 : 6).
- (vi) Height of superstructure : The walls in the superstructure are taken to a height of 3300 mm, i.e., up to the bottom of roofing slab.
- (vii) Roofing : Roofing consists of RCC (1 : 2 : 4) slab 110 mm thick and weatherproof course with two courses of flat tiles in CM (1 : 4) 50 mm thick is laid over RCC slab.
- (viii) Flooring : Flooring shall be of polished Shahabad stone slab 25 mm thick over 80 mm thick cement concrete (1 : 3 : 6) over sand filling in the basement.
- (ix) Parapet wall : Parapet 100 mm thick and 700 mm height with brick masonry in CM (1 : 4) shall be constructed all round the building. A coping of 150 mm × 150 mm thick shall be provided over the parapet.
- The dimensions given in line diagram are internal dimensions and width of verandah is up to end of verandah retaining wall.
- (x) Steps : Steps are provided in front side and rear side of length 1200 mm. The width of tread = 300 mm and rise of step = 150 mm. These are founded over 150 mm CC bed with 100 mm offset on all sides.

Schedule of doors and windows :

<i>Designation</i>	<i>Numbers</i>	<i>Modular size (in mm)</i>	<i>Specifications</i>
10 DS 21	D_1 4 No.	1000×2100	Flushed door
9 DS 20	D_2 3 No.	900×2000	Flushed door
12 WT 15	W_1 4 No.	1200×1500	Glazed window
10 WT 15	W_2 2 No.	1000×1500	Glazed window
10 V 6	V_1 2 No.	1000×600	Glazed ventilator
12 C BT 15	Cupboard	1200×1500	Flushed shutters

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LINE DIAGRAM

7. Draw the line diagram showing the functional requirement of a rural hospital for 10 beds capacity.

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