

6227

BOARD DIPLOMA EXAMINATION, (C-16)

OCTOBER / NOVEMBER—2023

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 :
 - (a) Concrete
 - (b) Sand
 - (c) One way switch
 - (d) Indian type water closet
2. Draw the elevation of a fully-Glazed window shutter and label the parts.
- * 3. Draw the plan of a dog-legged staircase to a suitable scale.
4. Draw an electrical layout for two bedroom residential building showing atleast four Components.
5. Draw the working drawing for the purpose of marking the width of foundation of single room building of size 4m × 6.5 m with superstructure wall of 300 mm thick and the width of footing is 1000 mm.

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

(2) The drawings must be to the scale.

(3) Any missing data may be assumed suitably.

6. The line diagram of a residential building is shown in the figure below. From the given specification, draw the following views to a scale of 1 : 50 :

(a) Fully dimensional detailed plan. 15

(b) Section along A-A. 10

Specifications :

(i) All the dimensions shown in the line diagram are in mm.

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 of 500 mm and 400 mm wide and are 400 mm and 300 mm deep. The footings are of brick masonry in CM (1 : 4).

(ii) **Basement :** All the walls are 300 mm wide and the height of basement is 600 mm above the ground level.

(iii) **Steps :** Steps of 1000 mm wide are provided with brick masonry in CM (1 : 6) both on front and rear sides and rest on CC bed (1 : 4 : 8) of 150 mm thick and having offset on the three sides equal to 150 mm. Tread of each step is 300 mm and rise is 150 mm.

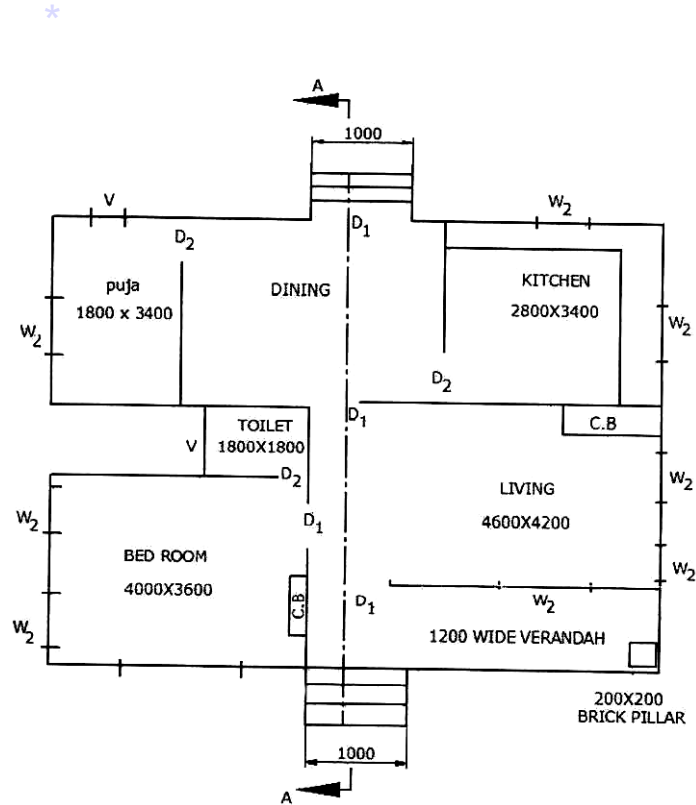
(iv) **Flooring :** Flooring consists of mosaic tiled flooring over 100 mm thick CC bed (1 : 4 : 8). The remaining portion of basement is filled and compacted with sand.

(v) **Superstructure and roofing :** All the walls are taken to a height of 3300 mm and 300 mm thick except the partition wall between pooja room and dining room which is 100 mm thick. The roofing consists of RCC slab of 120 mm thick provided over the entire building.

- (vi) **Sunshades and lintels** : RCC lintels are provided on all openings like doors, windows, ventilators with 100 mm thick having a bearing of 150 mm on either side. RCC sunshades are provided over 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.
- (vii) **Parapet wall** : Brick masonry parapet wall is cm (1 : 6) is of 100 mm thick and 700 mm height. A coping of 50 mm projection is provided at the top of the parapet wall.
- (viii) **Doors, windows and ventilators** : These are to be provided as per the schedule indicated.
- (ix) **Front verandah** : Front verandah is 1200 mm wide and a square brick pillar 200×200 mm is provided on right side corner. A R.C.C beam 200×250 mm is provided on both sides of verandah resting on brick pillar, the height being 2100 mm from floor level to bottom of R.C.C beam. The remaining portion between top beam and bottom of R.C.C. slab is of brick masonry in C.M (1 : 6).

A Continuous sunshade provided in front side of building and right side of verandah extending from bottom of the R.C.C beam. As per given specification (vi) (sunshade and lintel).

D1	4	1000 × 2000	Flushed door
D2	3	900 × 2000	Flushed door
W1	1	1200 × 1500	Glazed window
W2	8	1000 × 1500	Glazed window
V	2	1000 × 600	Glazed ventilator
Cupboard (CB)	1	1200 × 1500	Flushed shutters



7. Draw the line diagram showing the functional requirements of a rural hospital of 10 beds capacity to a suitable scale.

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