



C14-C-307

4231

BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2017

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 must be assumed suitably.

(4) Part—A need not be drawn to the scale.

1. Draw the conventional signs for the following :

(a) Wash basin

(b) Stone

(c) Bulb

(d) Glass

2. Draw one brick wall meeting in corners both odd and even coarse in English bond.

3. Draw the plan of a dog-legged staircase in a room of 2.5 m × 4 m.

4. Prepare an electrical layout for a one-bed room residential building with at least four components.

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5. Draw the working drawing for marking of foundation width of 1.0 m of two-roomed building for the Fig. 1. The measurements shown are inner dimensions :

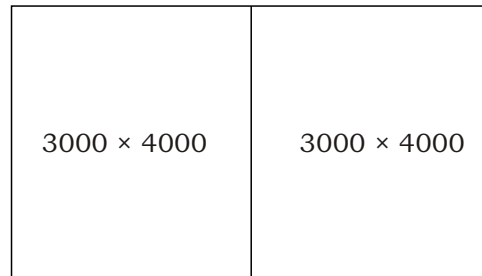


Fig. 1

PART—B

20×2=40

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

(2) Any missing data may suitably be assumed.

6. The line diagram of a residential building showing the internal dimensions of the rooms is shown in the Fig. 2. From the given specifications, draw the following views to the scale of 1 : 100 (Page No. 4) :

(a) Detailed plan

(b) Section along ABCD

Specifications :

Foundation : The depth of foundation shall be 1000 mm below the ground level. The PCC (1:4:8) bed in the foundation will be 800 mm wide and 200 mm deep. The footing shall be of stone masonry in CM (1:4) with width of first and second footing will be 600 mm and 500 mm respectively, and the depth of first and second footing will be 300 mm and 400 mm respectively.

Basement * : The height of basement is 450 and width is 400 mm in brick masonry in CM (1:4). DPC shall be provided under the superstructure walls with 50 mm thick.

Superstructure : The wall of superstructure will be of brick masonry in CM (1:6). Height of the wall is 3·0 m from the floor to bottom of the RCC slab. Width of the wall is 300 mm. For toilets, the partition wall is 100 mm thick from floor level.

Lintels and sunshades : Lintels with RCC (1:2:4) are provided on all openings with depth 200 mm and bearings of 200 mm on either side. Sunshades are provided on all the outer doors and windows. Sunshade is 75 mm thick at the wall face and 60 mm at free end and projection of 600 mm from the face of the wall.

Roofing : Roofing consists of RCC (1:2:4) slab 125 mm thick and weatherproof coarse of 20 mm thick over slab.

Flooring : Flooring shall be of CM (1:4) 20 mm thick over CC (1:5:10) of 100 mm thick over sand filling in the basement.

Parapet : Parapet wall is 100 mm thick and 650 mm height with brick masonry in CM (1:4) shall be constructed all around the building. A coping of 150 mm × 50 mm thick shall be provided over the parapet.

Steps : Steps of 1200 mm wide are provided with brick masonry in CM (1:6) on both front and rear sides and rest on CC (1:4:8) bed 150 mm, and having offset on the three sides equal to 100 mm. Tread of each step is 250 mm and rise is 150 mm.

* **Doors and windows** : Reference

D1-Flushed door—1200 × 2100 mm

D2-Flushed door—900 × 2100 mm

D3-Flushed door—750 × 1800 mm

W1-Window—1800 × 1500 mm

W2-Window—1000 × 1250 mm

CB—Cupboard—1800 × 2000 mm

V—Ventilator—600 × 450 mm

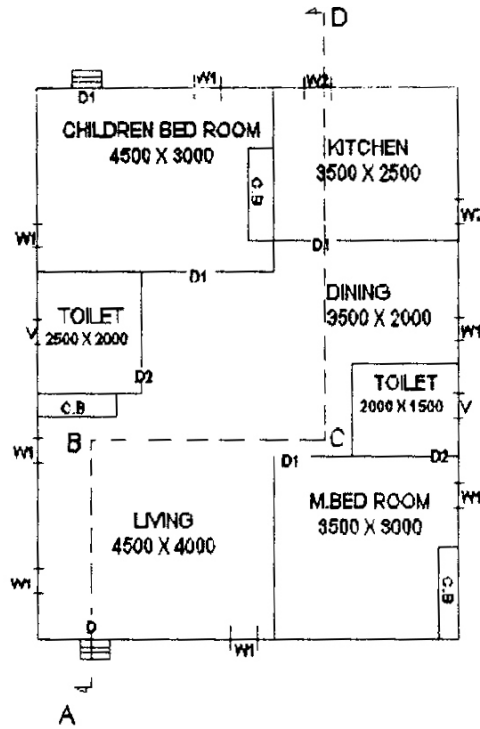


Fig. 2

7. Draw the line diagram showing the fundamental requirements of a rural hospital building for 10 beds capacity.
