



C14-C-307

4231

BOARD DIPLOMA EXAMINATION, (C-14)
SEPTEMBER/OCTOBER - 2020
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) Part—A need not be drawn to the scale.

(4) Any missing data may be assumed suitably.

1. Draw the conventional signs for the following represented in sectional elevation :

(a) Glass

(b) Rubble stone

(c) Stop valve

(d) Ceiling fan

2. Draw the cross-section of a load bearing wall and name all the components below and above the ground level.

3. State the minimum setbacks on rear side in meters as per building bye laws :

(a) Plot size 100 and up to 200 sq.m

(b) Plot size above 200 and up to 300 sq.m

(c) Plot size above 300 and up to 400 sq.m

(d) Plot size above 400 and up to 500 sq.m

- * 4. Draw the line diagram of Hostel building for 30 students with all functional requirements.
5. Draw the working diagram for marking the width of foundation for the given plan shown in Fig 1, with 300 mm thick walls and 900 mm wide CC foundation. The measurements shown in figure are inner dimensions :

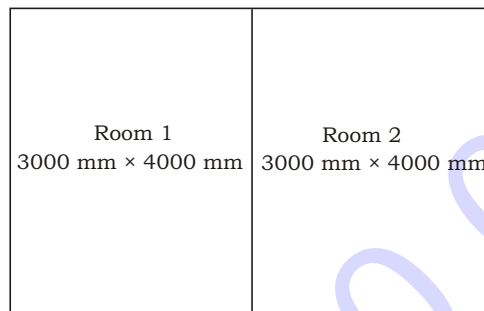


Fig. 1

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. 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 :

- (a) Detailed plan 10
- (b) Section along AA 10

Specifications :

Foundations : All the main walls are taken to a depth of 1000 mm below the ground level. The plain cement concrete (1 : 4 : 8) bed in the foundation will be 800 mm wide and 300 mm deep. The footings shall be of brick masonry in CM (1 : 4). First footings will be 500 mm wide and 400 mm deep, second footing will be 400 mm wide and 300 mm deep. The footings are brick masonry in CM (1 : 4).

*

Basement : All the walls are 300 mm wide and the height of basement is 600 mm above GL.

Superstructure : All the walls are 200 mm thick except two partition walls between bed toilet and dining toilet which are constructed on the floor with a thickness of 100 mm. The height of the walls is 3300 mm to the bottom of RCC roof slab.

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 of opening.

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

Front Verandah : Front verandah is 1200 mm wide and a square brick pillar 200 mm x 200 mm is provided on the right side corner. An RCC beam 200 mm x 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). A continuous sunshade is provided in front side of building and on right side of the verandah extending from bottom of the RCC beam.

Roofing : Roofing consists of RCC (1:2:4) slab 120 mm thick is laid over entire building.

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.

Flooring : Flooring shall be 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.

*

*

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) 150 mm thick and having offset on the three sides equal to 100 mm. Tread of each step is 300 mm and rise is 150 mm :

Number	size in mm
D - 2 No	1000 x 2100
D1 - 2 No	1000 x 2000
D2 - 3 No	900 x 1800
W1 - 1 No	1500 x 1200
W2 - 7 No	1000 x 1200
V - 3 No	1000 x 600
CB	1500 x 1800

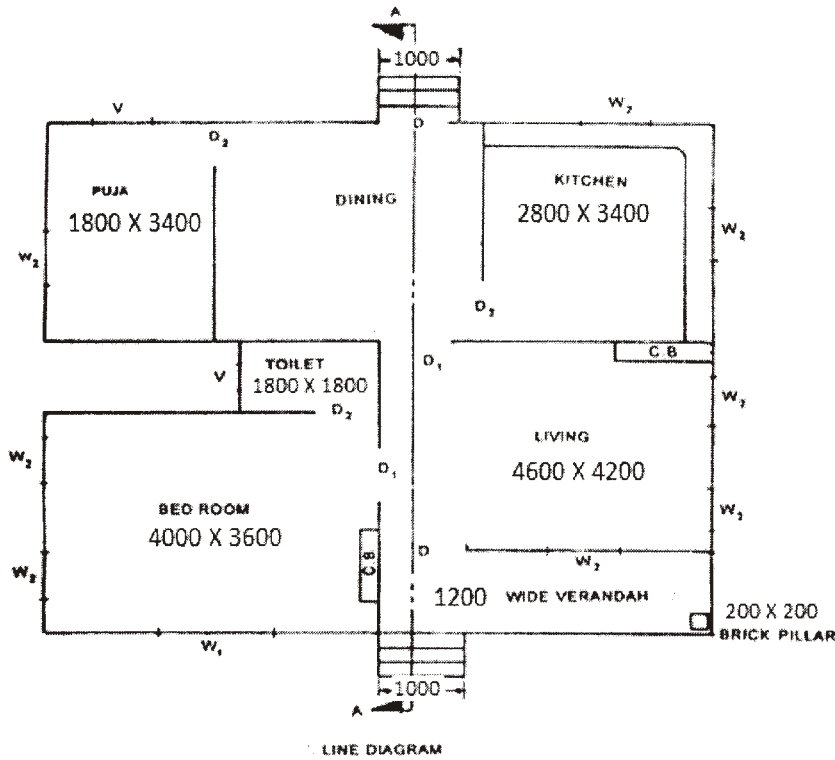


Fig. 2

7. Draw the line diagram of Primary school of 250 to 300 students with all functional requirements to a suitable scale. 20
