6227

BOARD DIPLOMA EXAMINATION, (C-16)

MARCH/APRIL—2021

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 items :

    (a) Stone masonry

    (b) WC

    (c) Wash basin

    (d) one way switch

2. Draw the elevation of Queen post truss and label the parts.

3. State the Best locations of the following rooms as per the Building Bye Laws :

    (a) Pooja Room

    (b) Master Bed Room

    (c) Kitchen

    (d) Stair case

4. Draw the plan of a dog-legged staircase in a room of 2·6 m × 5·0 m and take width of stair as 1·0 m, Tread 300 mm and Rise 150 mm.

5. Draw the cross-section of a lift shaft for a five-storied building.

PART—B

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

(2) The drawing must be to the scale.

(3) Any missing data may be assumed suitably.

6. Draw the following views for the given line sketch with the following Specification, and draw to a suitable scale :

(a) Fully Dimensioned plan   15

(b) Section on AA   10

Specifications :

(i) Foundations : The Depth of Foundation shall be 1200 mm below ground level. The plain cement concrete (1 : 4 : 8) bed in the foundation will be 900 mm wide and 200 mm deep. The footing shall be of brick masonry in CM (1 : 4). Width of first and second footing will be 600 mm and 500 mm respectively, whereas the depth of both the footings will be 500 mm.

(ii) Plinth or basement : The height of basement is 450 mm above the ground level. Damp proof course of 50 mm thick shall be provided under the superstructure wall. Thickness of walls in basement is 400 mm.

(iii) Superstructure : The walls in the superstructure will be of brick masonry in CM (1 : 6) and all the walls expect the partition between the toilets are 300 mm thick. The partition wall is 200 mm thick from floor.

/6227   2   [*Contd...*

(iv) Lintel 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 and at entrance.

(v) Height of superstructure : The walls in the superstructure are taken to a height of 3000 mm, i.e., up to the bottom of roofing slab.

(vi) Roofing : Roofing consists of RCC (1 : 2 : 4) slab 120 mm thick and weather proof course with two courses of flat tiles in CM(1 : 4) 50 mm thick is laid over RCC slab and slab projected 150 mm all-round the building.

(vii) 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.

(viii) Parapet : Parapet 200 mm thick and 600 mm high with brick masonry in CM (1 : 4) shall be constructed all-round the building. A coping 150 mm × 50 mm thick shall be provided over the parapet.

(ix) Steps : Steps are provided at entrance and backyard for a length of 1000 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 :

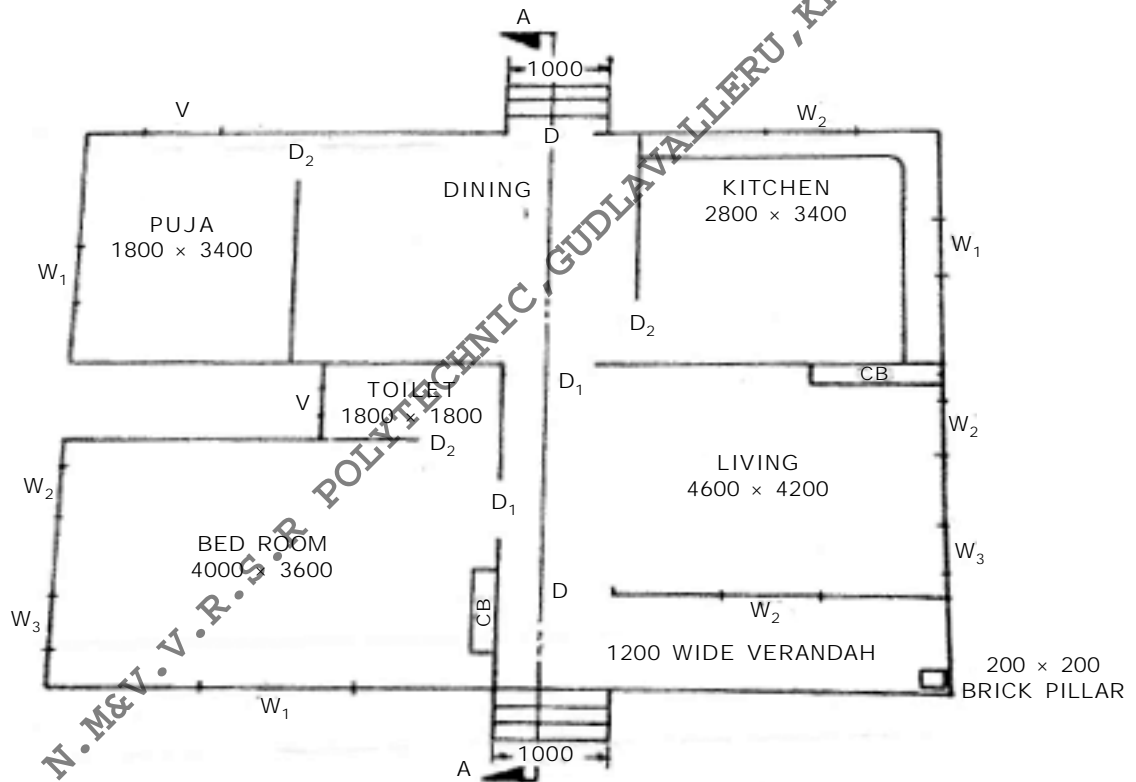| Designation	Numbers	Modular Size (in mm)	Specifications
10 DS 20	D1 4 No.	1000 × 2000	Flushed door
9 DS 20	D2 3 No.	900 × 2000	Flushed door
12 WT 15	W1 4 No.	1200 × 1500	Glazed Window
10WT 15	W2 2 No.	1000 × 1500	Glazed Window
10 V6	V1 2 No.	1000 × 600	Glazed Ventilator
12 C BT 15	CUP board	1200 × 1500	Flushed shutters

FIG. LINE DIAGRAM

The dimensions given in line diagram are internal dimensions which are in "mm" :

7. Draw the line diagram of hostel for 50 students with all functional requirements with suitable scale. 15

★ ★ ★