C09–C–307

3223

BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2018

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 ne assumed suitably.

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

(a) Concrete existing

(b) Bell

(c) Ceramic tiles

(d) Plywood

2. Draw the one-brick wall meeting a corner, showing odd and even courses in English bond.

3. Draw the plan of a one-bedroom residential building.

4. Sketch the sectional elevation of a lift shaft for two floors.

5. Draw the line diagram of a queen-post truss and label the parts.

PART—B

25+15=40

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

(2) The drawing must be to the scale.

(3) Any missing data may be assumed suitably.

6. With line sketch and given specifications of a building, draw to a scale of 1 : 50 the following views : 25

(a) Fully dimensioned plan

(b) Section along ABCD

(c) Front elevation

Specifications :

(i) *Foundations* : 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 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. Damp proof 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 wall is 100 mm thick from floor. A square brick pillar 200 mm 200 mm is provided at the left 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 Bessemer 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 ton a length of 600 mm. The remaining height above the beam and roof consist of brick masonry wall (entablature wall) 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 weather-proof 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.

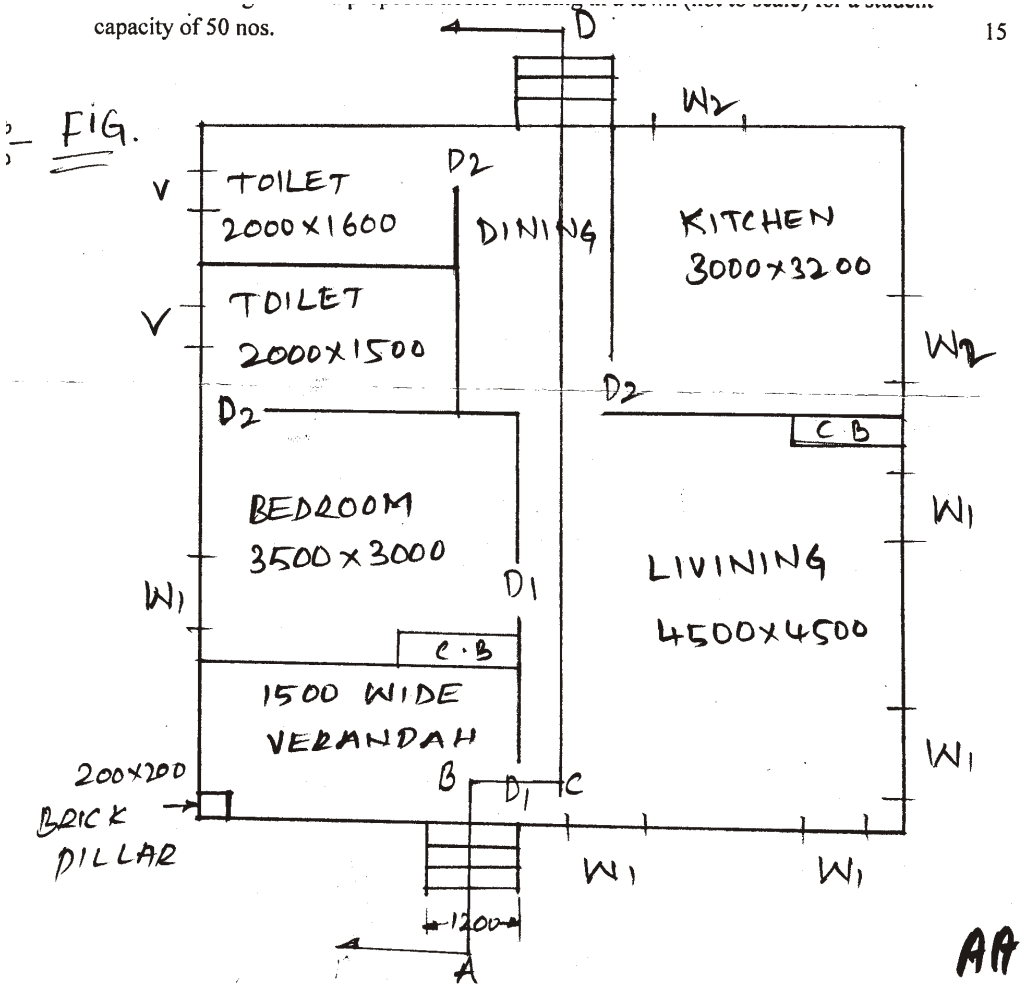
(ix) *Parapet* : Parapet 100 mm thick and 700 mm height with brick masonry in CM (1:4) shall be constructed all-round the building. A coping of 150 mm 50 mm thick shall be provided over the parapet.
The dimensions given in line diagram are internal dimensions and width of verandah is up to end of verandah retaining wall.

(x) *Steps* : Steps are provided in front side and rear side of length 1200 mm. The width of read = 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 21	D 14 No.	1000 2100	Flushed door
9 DS 20	D 23 No.	900 2000	Flushed door
12 WT 15	W 14 No.	1200 1500	Glazed window
10 WT15	W 22 No.	1000 1500	Glazed window
10 V 6	V 12 No.	1000 600	Glazed ventilator
12 C BT 15	CUP board	1200 1500	Flushed shutter

capacity of 50 nos. 15



7. Draw a line diagram for a proposed hostel building in a town (not to scale) for a student capacity of 50 nos.

★ ★ ★