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C09-C–307

3223

BOARD DIPLOMA EXAMINATION, (C-09)

JUNE—2019

DCE - THIRD SEMESTER EXAMINATION

CIVIL ENGINEERING DRAWING - I

Time : 3 hours] [*Total Marks* : 60

PART—A

5×4=30

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

(2) Each question carries **four** marks.

(3) Part- A, need not be drawn to scale.

(4) Any missing data may be assumed suitably.

1. Draw the conventional signs for the following :

(a) Brick

(b) Sand

(c) Glass

(d) Concrete

2. Draw the conventional signs for the following electrical fittings :

(a) 3 pin 15Amp Socket outlet

(b) Tube light

(c) Two - way switch

(d) Exhaust fan

3. Draw the plan of dog-legged stair case in a room of 2.5 m x 4.5 m, width of stair is 1.25 m.

4. Draw electrical layout plan for single roomed building.

Show at least 4 components.

5. Draw the foundation marking plan of a single room building of 3.6 m x 4.5 m. Superstructure wall thickness is 300 mm and the width of foundation is 1000 mm.

PART—B

Instructions : (1) Answer **all** questions. 40

(2) The drawing must be drawn to scale.

(3) Any missing data may be assumed suitably.

25

6. Draw the plan and section of a building given the line diagram in the figure (page 3) with following specifications, draw to a scale of 1:50.

Specifications :

(i) Foundation : 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 300 mm deep. The foundation shall be of brick masonry in CM (1:5). Width of first and second footings will be 600 mm and 400 mm respectively, where as the depth of both the footings will be 450 mm.

(ii) Plinth or basement : The height of basement is 600 mm. Damp proof course of 50 mm thick shall be provided under the super structure walls. Thickness of the walls in basement is 300 mm.

(iii) Superstructure : The walls in the superstructure will be of brick masonry in CM(1:6) and the walls except the partition between the toilets are 230 mm thick. The partition walls are 100 mm thick.
A square brick pillar 200 mm x 200 mm is provided at the 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 brace beam 200 mm x 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 to a length of 600 mm. The remaining height above the beam and roof consists brick masonry wall (entablature wall) in CM (1:6)

(vi) Height of super structure : 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 weatherproof 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 wall : 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 x 150 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 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 windoes :

Designation	*Numbers*	*Modular size (in mm)*	*Specifications*
10 DS 21	D_1 4 No.	1000×2100	Flushed door
9 DS 20	D_2 3 No.	900×2000	Flushed door
12 DT 15	W_1 5 No.	1200×1500	Glazed window
10 WT 15	W_2 2 No.	1000×1500	Glazed window
10 V 6	V_1 2 No.	1000×600	Glazed ventilator
12 C BT 15	Cupboard	1000×1500	Glazed ventilator

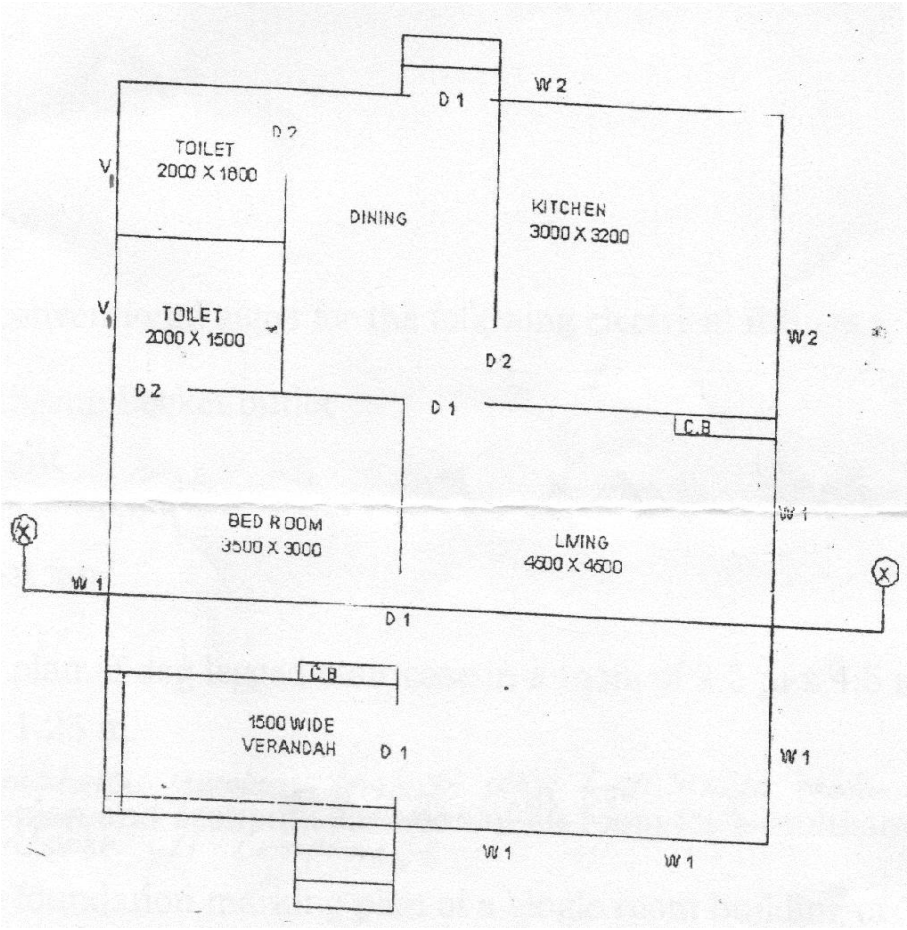

Figure (Line Diagram)

7. Draw a line diagram for a primary school building with all functional requirements to a scale of 1 : 200. 15

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