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C20-C–307

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BOARD DIPLOMA EXAMINATION, (C-20)

OCTOBER/NOVEMBER—2023

DCE – THIRD SEMESTER EXAMINATION

CIVIL ENGINEERING DRAWING—I

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

PART—A

10×2=20

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

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

(3) All parts must be drawn to scale.

(4) Any missing data may be assumed suitably.

1. Draw the working drawing for the purpose of marking the width of foundation for the one roomed building of size 4·20 m × 3·60 m. Take the superstructure wall thickness as 300 mm and width of foundation concrete is 1000 mm.

2. Draw the plan of a lift shaft for the details given below.

(a)	Shaft dimension	=	1300 × 1450
(b)	Cabin dimension	=	900 × 1200
(c)	Counter weight dimensions	=	1100 × 80
(d)	Counter rail dimensions	=	100 × 50
(e)	Thickness of car sill	=	50
(f)	Thickness of landing clearance	=	40
(g)	Thickness of landing sill	=	40
(h)	Width of clea entrance	=	700
(i)	Wall thickness	=	300

Note : All the above dimensions are in mm

PART—B

20×2=40

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

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

(3) All parts must be drawn to scale.

(4) Any missing data may be assumed suitably.

3. Draw the following views of a residential building with the specifications given below to a scale of 1 : 50 for the line sketch given in the **fig. 1.**

(a) Plan

(b) Section along A-A

SPECIFICATIONS :

(i) **Foundation :** The depth of foundation shall be 900 mm below ground level with cement concrete bed (1 : 4 : 8) in the foundation 900 mm wide and 200 mm deep.
Size of first footing = 600 × 400 mm
Size of second footing = 450 × 300 mm

(ii) **Basement :** The width of basement is 300 mm and height is 450 mm with brick masonry in CM (1 : 6).

(iii) **Superstructure :** The walls in superstructure will be of brick masonry in CM (1 : 6) to a thickness of 200 mm and to a height of 3000 mm i.e., up to bottom of roof slab.

(iv) **Lintels and Sunshades :** Lintels with RCC (1 : 2 : 4) are provided overall openings to a thickness of 150 mm with bearing of 200 mm. On either side sunshades of 75 mm thick at fixed end and 50 mm thick at free end are provided projecting 600 mm beyond the wall surface on all exterior doors and windows.

(v) **Roofing :** Roof slab of 100 mm thick in RCC (1 : 2 : 4) is provided with 230 mm projection all round the building. A weather proof course in CM (1 : 3) 20 mm thick is laid over RCC slab.

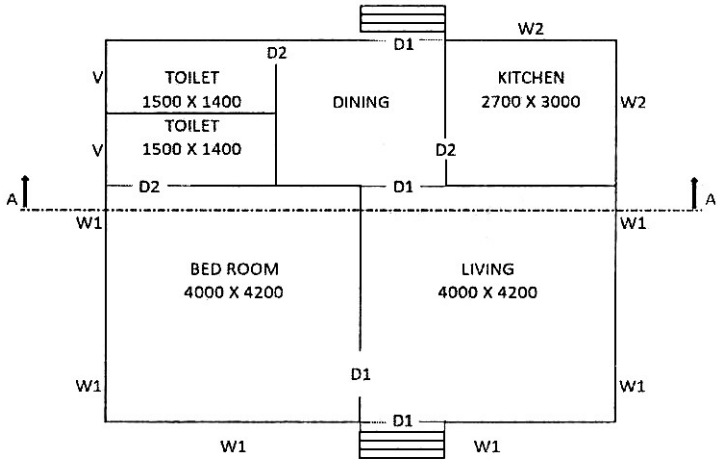
(vi) **Flooring :** Flooring shall be of ceramic tiles laid over a bed of CC (1 : 3 : 6) 150 mm thick over sand filling in basement.

(vii) **Parapet :** Parapet 100 mm thick and 750 mm height with brick masonry in CM (1 : 6) shall be constructed all round the building.

(viii) **Steps :** Steps of 300 mm tread and 150 mm rise are provided in front and rear side of the building to a length of 1200 mm. These are provide over a CC bed of (1 : 4 : 8) 100 mm thick and 150 mm offset on all sides.

Schedule of Doors and Windows :

Doors	D1	-	1000 mm × 2100 mm
Doors	D2	-	900 mm × 2100 mm
Windows	W1	-	1200 mm × 1500 mm
Windows	W2	-	900 mm × 1200 mm
Ventilator	V	-	600 mm × 200 mm



Fig(i) for Question No.3

4. Draw the line diagram showing the functional requirements of a primary school of 250 students.

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