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C16-C-306

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BOARD DIPLOMA EXAMINATION, (C-16)

JUNE/JULY—2022

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) Double leaf, Double swing window
 - (b) North
 - (c) Sink
 - (d) Ceiling Fan
2. Draw the elevation of the fully panelled door with size 10 DT 20 and assume any other data necessary.
3. State the Min. Area and Min. Width for the following rooms as per the Building Bye Laws :
 - (a) Kitchen Cum Dining
 - (b) Bed Room
 - (c) Bath rooms and Water closets
 - (d) Stair Case

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4. Draw the plan of one brick wall in English bond for a corner of wall.
5. Draw the typical layout of an active solar water heating system.

PART—B

Instructions : (1) Answer all questions.

(2) The drawing must be to the scale.

(3) Any missing data may be assumed suitably.

6. The sketch shows the line plan of “A single bed room house with RCC roof”. The noted therein indicate the clear dimensions between the inside walls. The specifications are given below :

Foundation : Foundation shall be of CC (1 : 4 : 8) mix, 900 mm wide and 300 mm thick laid at 1200 mm below GL. The remaining depth consists of two stone masonry footings of size 500×450 mm and 400×450 mm in CM (1 : 6).

Basement : The basement will be in brick work in CM (1 : 5), 300 mm wide and 600 mm thick above GL. A Damp Proof course in CM (1 : 3), 20 mm thick will be provided for all walls.

Super Structure : All main walls will be in brick work in CM (1 : 5), 200 mm thick. The inner partition walls in toilet will be 100 mm thick. The height of all the walls will be 3000 mm above floor level.

* Sit-out : Entrance of the building is provided with a sit-out in the form of a circle with a radius of 1450 mm. Similar shape of RCC beam 200×250 mm is provided with its bottom at 2100 mm from the floor level. The remaining portion above the curved beam and bottom of RCC roof consists of brick masonry wall 200 mm thick.

Steps : Provide steps in the same shape as that of sit-out with brick masonry with tread 300 mm, rise 150 mm. Rear side steps with same tread and rise are of spread type having length of top step equal to 1000 mm. All these steps have a CC bed foundation 150 mm thick below
GL.

Roofing : The* roofing will be RCC (1 : 2 : 4) mix, 120 mm thick flat slab. A weathering course in brick jelly lime concrete plastered with mortar (1 : 5) mix, 75 mm thick will be provided.

Lintels and sunshades : 120 mm thick RCC (1 : 2 : 4) lintel overall the openings shall be provided. Suitable sunshades for all external openings shall be provided with a bearing of 150 mm. RCC sunshades extend from the bottom of these lintels provided over exterior openings by 600 mm. These are 90 mm thick at the face of wall and 75 mm thick at free end. The sunshade at the entrance is provided extending from the curved beam provided over the sit-out by 600 mm as shown in the line diagrams.

Flooring : The flooring will be in CC (1 : 4 : 8), 100 mm thick plastered smooth with CM (1 : 3), 20 mm thick for all the portions.

Schedule of doors and windows :

Designation	Numbers	Specifications	Size (in mm)
10 DT 20	D 2 No.	Fully panelled door	1000×2000
10 DS 20	D ₁ 4 No.	Flushed door	1000×2000
9 DS 20	D ₂ 2 No.	Flushed door	900×2000
15 WT 12	W 2 No.	Glazed Window	1500×1200
10 WT 12	W ₁ 4 No.	Glazed Window	1000×1200
10 V 6	V 2 No.	Glazed Ventilator	1000×600
25 CB 20	CUP BOARD		2500×2000
15 A 12	ALMARAHA		1500×1200

Draw the following views to a suitable scale :

- (a) Plan of the building 15
- (b) Section on "ABCD" 10

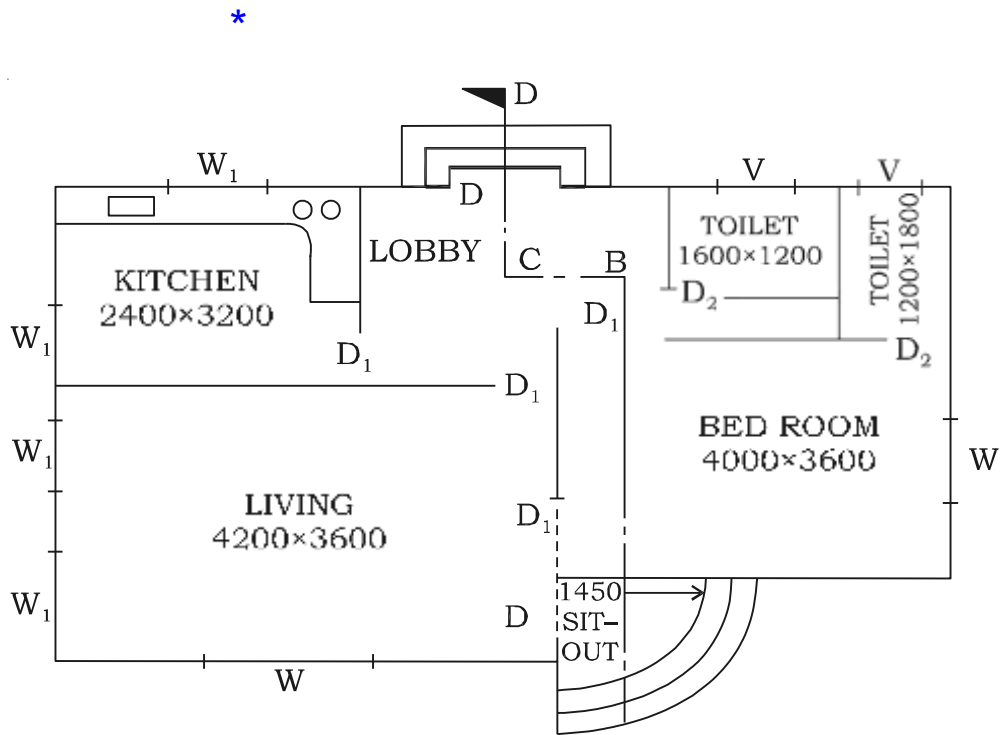


FIGURE : LINE DIAGRAM

The dimensions are in “mm”.

7. Draw the line diagram of Rural Hospital for 10 beds capacity with all functional requirements with suitable scale.

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