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C20-C–307

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BOARD DIPLOMA EXAMINATION, (C-20)

JUNE/JULY—2022

DCE – THIRD SEMESTER EXAMINATION

CIVIL ENGINEERING DRAWING – I

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

PART—A 10×2=20

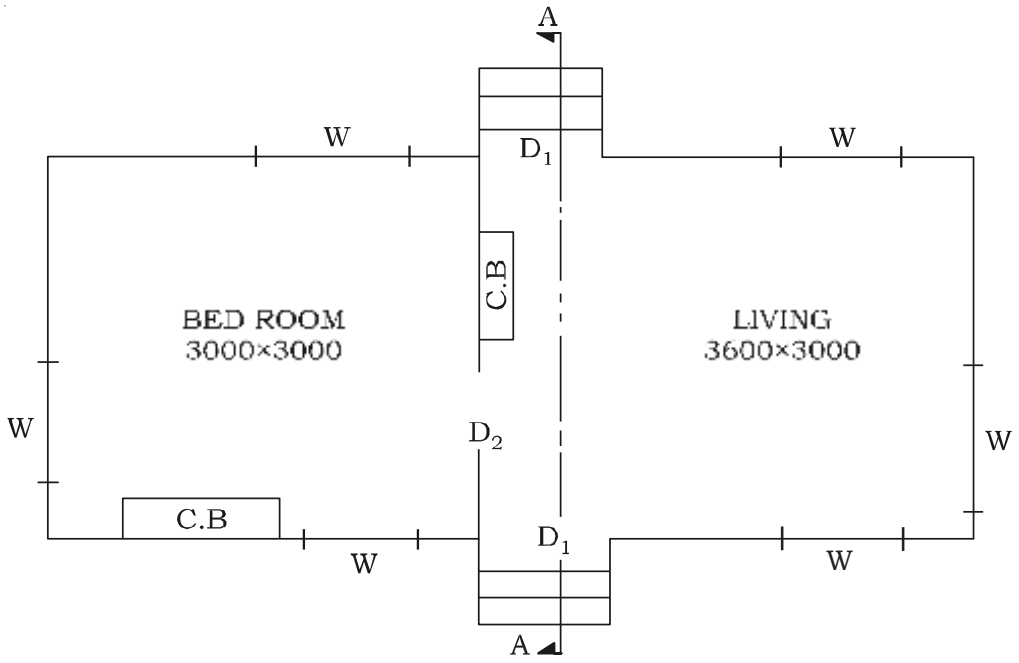
Instructions : (1) Answer all questions.

(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 a two-roomed building as shown in the fig. Take the superstructure wall thickness as 200 mm and width of the foundation concrete is 900 mm.



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2. Draw the Plan and sectional elevation of a Dog-legged Staircase with the following details :

Type of stair = Dog-legged half turn

No. of flights = 2

No. of steps in each flight = 10

Tread of each step = 250 mm

Rise of each step = 150 mm

Width of flight = 1000 mm

Height of each flight = 1650 mm

Height between floors = 3300 mm

Any other data required may be suitably assumed.

Calculations to draw the above views.

Inside dimensions of the stair case room

Width = Length of landing = 2 × width of flights

= 2 × 1000 = 2000 mm

Length = Total goings in one flight + 2 (width of landings)

= (10×250) + 2(1000) = 4500 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. With the given line sketch and with the following specifications of a residential building Draw to scale of 1 : 50 the plan and section along A-A.

Specifications :

(a) Foundations : The depth of foundation shall be 1100 mm below ground level with cement concrete bed (1 : 4 : 8) in the foundation 1000 mm wide and 300 mm deep.

Width of first and second footings will be 700 mm and 500 mm where as depth of both footings will be 400 mm.

(b) Plinth or basement : The height of basement is 600 mm. Damp proof courses of 50 mm thick shall be provided under the superstructure walls. Thickness of walls in basement is 300 mm.

(c) Superstructure : The walls in the superstructure will be of brick masonry in CM (1 : 6) and all the walls are 200 mm thick.

(d) Lintels and sun shades : Lintels with RCC (1 : 1/2 : 3) are provided on all openings and depth is 150 mm with a bearing 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 openings.

(e) Height of superstructure : The walls in the superstructure are taken to a height of 3300 mm i.e., up to the bottom of roof slab.

(f) 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.

(g) Flooring : Flooring shall be of polished Shahabad stone slab 25 mm thick cement concrete (1 : 3 : 6) over sand filling in the basement.

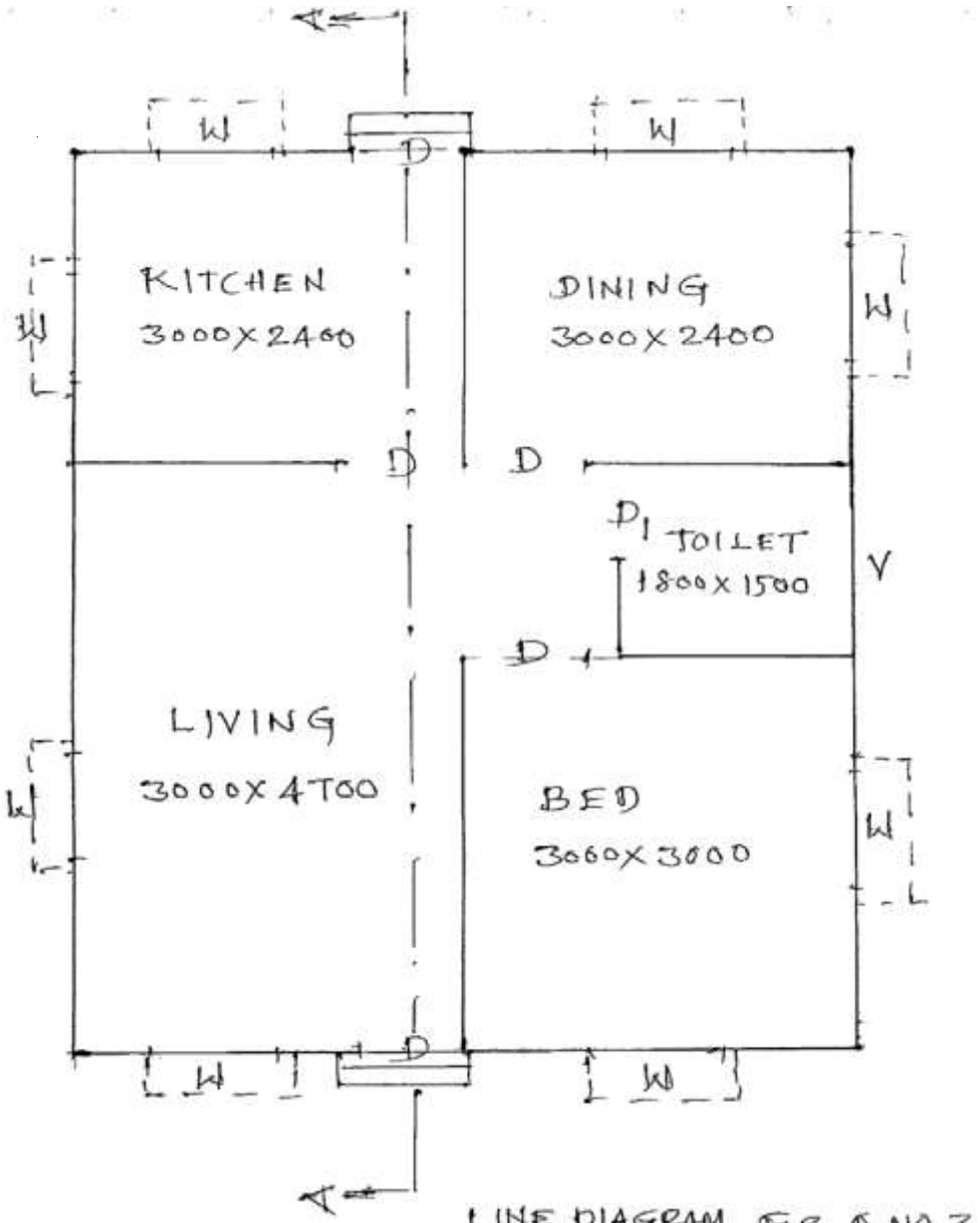
(h) Parapet : Parapet 100 mm thick and 700 mm height with brick masonry shall be constructed all round the building.

(i) Steps : Steps are provided in front side and rear side of length 1200 mm.

Tread = 300 mm and rise of step = 150 mm. These are provided over 150 mm C.C. offset on all sides.

Schedule of doors and windows : -

Doors-D	1000 mm × 2100 mm
Doors-D_1	900 mm × 2000 mm
Windows-W	1200 mm × 1500 mm
Ventilator-V	600 mm × 200 mm



LINE DIAGRAM FOR Q.NO-3

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4. Draw the line diagram showing the functional requirements of a hostel building for 50 boys to a suitable scale.

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