



C14-C-307

**4231**

**BOARD DIPLOMA EXAMINATION, (C-14)**

**OCT/NOV—2016**

**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) Brick

(b) Concrete

(c) Wood

(d) Sand

**2.** Draw the front elevation of wooden king-post truss with labelled parts.

**3.** State the best locations of the following rooms as per the building byelaws :

(a) Kitchen

(b) Bedroom

(c) Dining room

(d) Pooja room

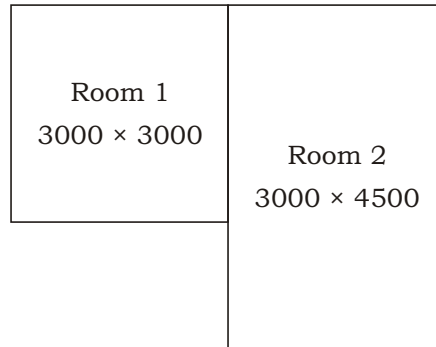
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4. Prepare the working drawing for excavation of foundation for the following line diagram with 200 mm thick walls and 900 mm wide CC foundation for walls taken to a depth of 1200 mm from GL :



5. Briefly explain the standard format for obtaining permission from the competent authority for construction of a residential building.

**PART—B**

20×2=40

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

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

(3) The drawing must be to the scale.

(4) Any missing data may be assumed suitably.

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

(a) Fully dimensioned plan 10

(b) Section on AB 10

**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 footing will be 600 mm and 400 mm respectively, whereas the depth of both the footings will be 400 mm.

(ii) *Plinth or basement* :

The height of basement is 450 mm above the ground level. Damp proof course of 50 mm thick shall be provided under the superstructure wall. Thickness of walls in basement is 400 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 300 mm thick. The partition wall is 200 mm thick from floor.

(iv) *Lintel 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.

(v) *Sunshades* :

100 mm thick at the wall face and 75 mm thick at free end are provided projecting from lintels over all exterior openings and at entrance.

(vi) *Height of superstructure* :

The walls in the superstructure are taken to a height of 3000 mm, i.e., up to the bottom of roofing slab.

(vii) *Roofing* :

Roofing consists of RCC (1 : 2 : 4) slab 120 mm thick and weather-proof course with two courses of flat tiles in CM (1 : 4) 50 mm thick is laid over RCC slab and slab projected 150 mm all-round the building.

(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 200 mm thick and 700 mm height with brick masonry in CM (1 : 4) shall be constructed all-round the building. A coping 150 mm × 50 mm thick shall be provided over the parapet.

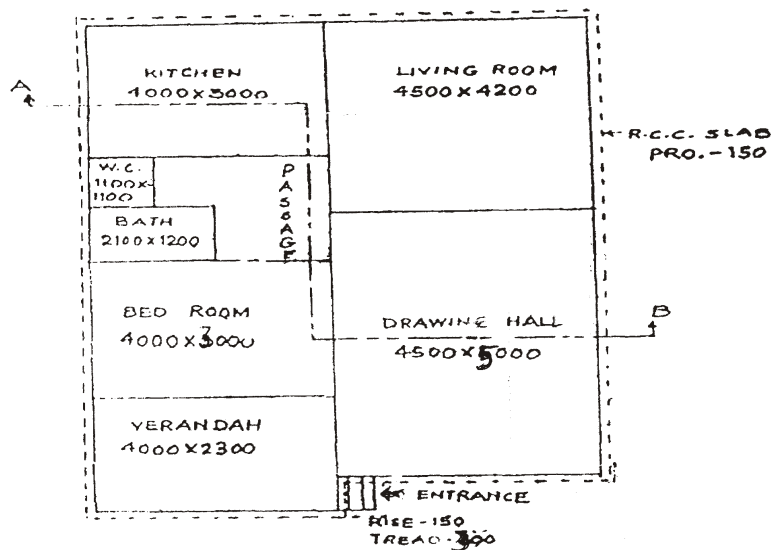
(x) <sup>\*</sup>Steps :

Steps are provided at entrance for a length of 2000 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.

The dimensions given in line diagram are internal dimensions.

Schedule of doors and windows :

Designation	Number	Modular Size (in mm)	Specification
10 DS 21	D1 4 No.	1000 × 2100	Flushed Door
9 DS 20	D2 3 No.	900 × 2000	Flushed Door
12 WT 15	W1 4 No.	1200 × 1500	Glazed Window
10 WT 15	W2 2 No.	1000 × 1500	Glazed Window
10 V 6	V1 2 No.	1000 × 600	Glazed Ventilator
12 C BT 15	Cupboard	1200 × 1500	Flushed Shutters



7. Draw the line diagram of hostel for 50 students with all functional requirements to a suitable scale.

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