



c16-c-403

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**BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
DCE—FOURTH SEMESTER EXAMINATION
QUANTITY SURVEYING—I**

Time : 3 hours]

[*Total Marks* : 80

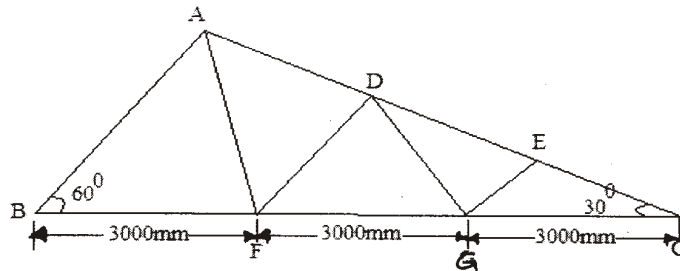
PART—A

3×10=30

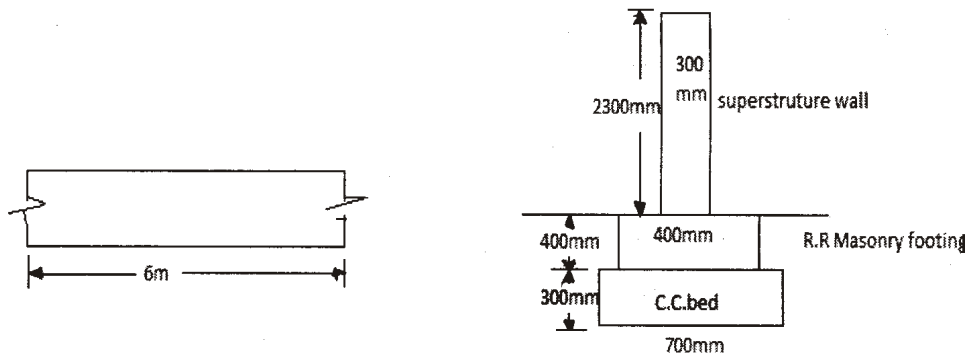
- Instructions** : (1) Answer **all** questions.
(2) Each question carries **three** marks.
(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. State the units for the following items :
 - (a) Earthwork excavation
 - (b) Plastering
 - (c) Steel truss
2. What is quantity surveying? State two objects of quantity surveying.
3. State the necessities of specifications.
4. Define the terms lead and lift, and give the standard values of lead and lift.
5. Find the area of embankment if the top width of the road is 8 m and the depth is 4 m. The side slopes are 2:1.
6. List any three differences between detailed estimate of abstract estimate.

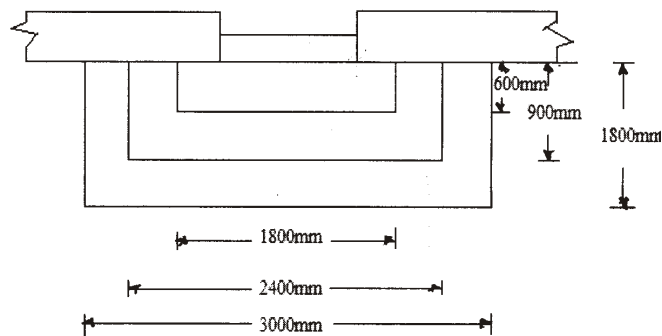
7. Prepare an approximate estimate of the hostel for 200 students if area allowed per student is 10 m^2 . The plinth area rate is ₹ 4,000 per m^2 .
8. Calculate the length of members AB , DF , EG of north light roof truss shown in the figure below :



9. The following figure shows the plan and section of a part of a compound wall :
- (a) Cement concrete required for foundations
- (b) Brick masonry required for footing and wall



10. Calculate the quantity of brick masonry in CM (1 : 8) for steps in plan shown in the figure below. Rise of step is 150 mm :



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PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

- 11.** (a) Write any three duties of quantity surveyor or estimator. 5
(b) What is meant by specification? Explain any four general specifications of different items of building work. 5

- 12.** The road has the following data :

Chainage (in meters)	0	30	60	90	120
GL (in meters)	30.25	30.75	31.50	32.25	32.75

The formation level at chainage zero is 32 m and having a rising gradient of 1 in 100. The top width is 10 m and the side slope 2 horizontal to 1 vertical. Assuming the transverse slope is level. Calculate the volume of earthwork by—

- (a) trapezoidal rule;
(b) prismoidal rule. 10

- 13.** A canal is proposed to be excavated between two points A and B is 150 m apart. If the bed width is 10 m, side slopes 2 : 1 and depth of cutting 1 m and 2 m at A and B respectively. Calculate the quantity of earthwork excavation by—

- (a) mid-sectional area method;
(b) mean sectional area method;
(c) prismoidal rule. 4+3+3

- 14.** State the methods of preparing approximate estimates. Explain them in detail.

15. Prepare a rough estimate for a proposed commercial complex for a municipal corporation for the following data :

Plinth area = $400 \text{ m}^2/\text{floor}$

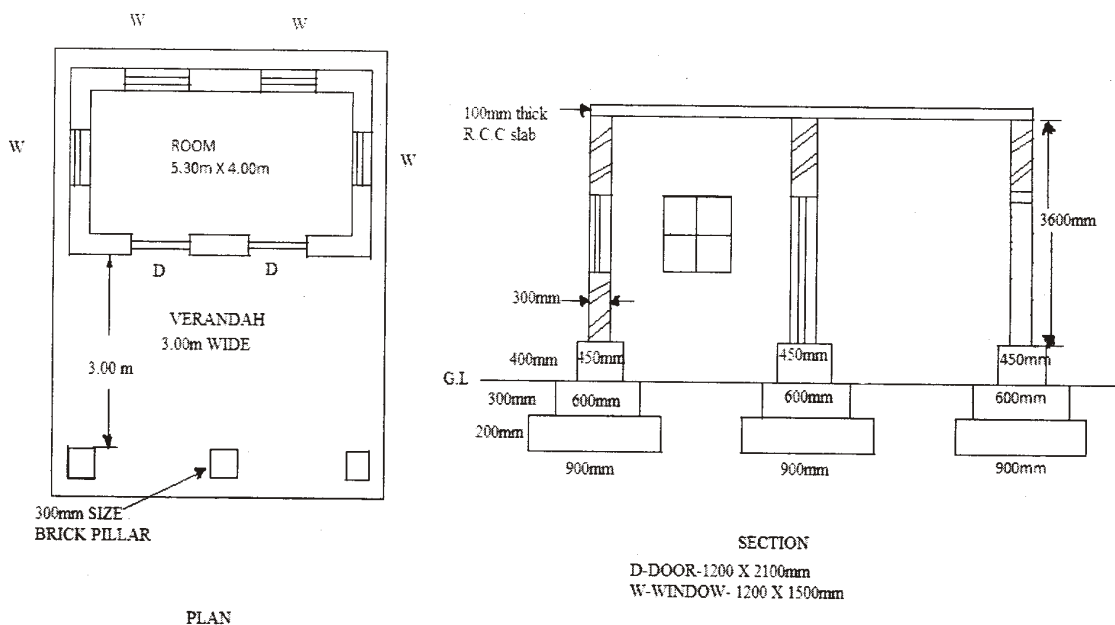
Height of each floor = 3 m

Number of stories = Ground floor + 2

Cubical content rate = ₹ 600 per m^3

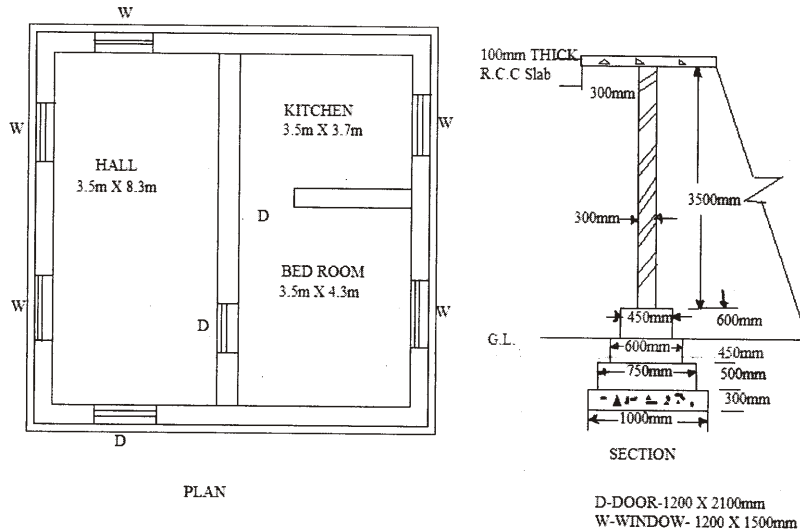
Provisions are given below :

- (i) Water supply and sanitation : 8% of building cost
 - (ii) Electrification : 6% of building cost
 - (iii) Fluctuation of rates : 5% of building cost
 - (iv) Contractor's margin : 10% of total cost
 - (v) PS and contingencies : 3% of total cost
16. Prepare a detailed estimate for the following items of work for the building shown in the figure below :



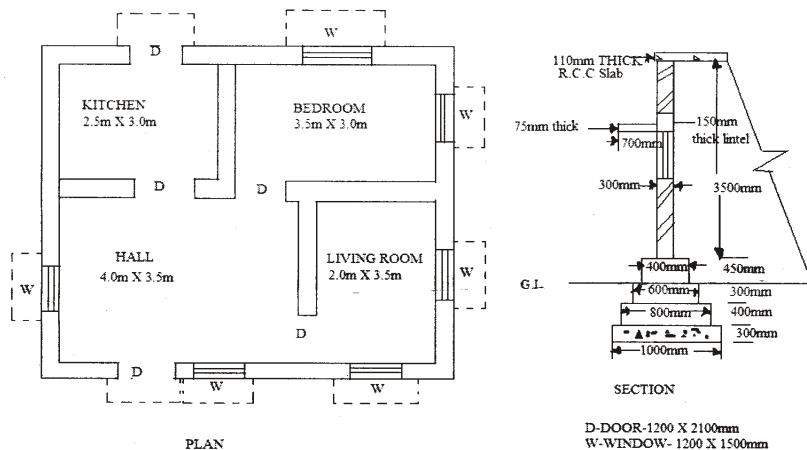
- (a) Earthwork excavation for foundation
- (b) RR masonry in CM (1 : 6) for footing and basement

17. Prepare the detailed estimate for the following items of work shown in the figure below :



- (a) CC bedding for foundation
- (b) RCC roof slab (1:2:4) 100 mm thick
- (c) Internal plastering for walls in CM (1:4) without deductions for doors and windows

18. Calculate the quantities in proper units for the following items of work from the accompanying figure of a building :



- (a) Brick masonry in CM (1:6) for superstructure with deductions for doors and windows
- (b) RCC for roof and lintels by taking 150 mm bearing on either side of lintel

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