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C09–C–404

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BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—2018

DCE—FOURTH SEMESTER EXAMINATION

QUANTITY SURVEYING

Time : 3 hours] [*Total Marks* : 80

PART—A 3×10=30

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

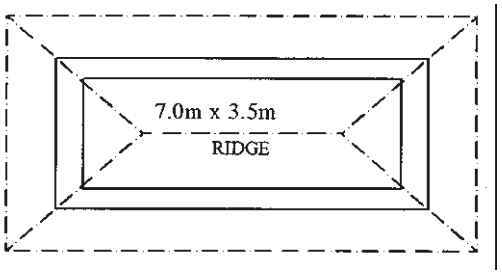
(2) Each question carries **three** marks.

(3) Answers should be brief and straight to the point and shall not exceed *five* simple sentences.

1. Write the types of specification and explain any one.

2. A hostel building has to be constructed for 400 students. The standard area allowed per student is 18 sq.m. and the rate per sq.m. is ₹ 3,500. Find the approximate cost of the building.

3. A hipped roof is shown in the figure below :



Calculate the—

(a) length of the common rafter;

(b) no. of common rafters spaced at 500 mm c/c

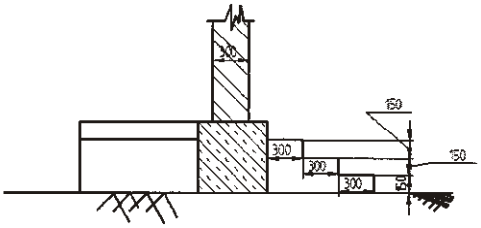
Note :

Wall thickness = 300 mm

Eaves projection = 500 mm

Rise of roof = 1700 mm

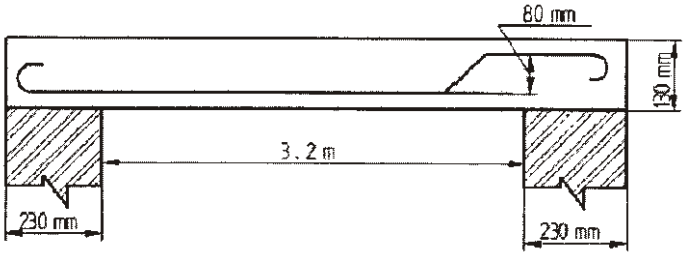
4. The section of steps at the front of a residential building is shown in the figure below :



Calculate the volume of brick masonry in CM (1 : 5) for all three steps, if the length of each step is 2·10 m.

5. What is SSR? State its importance.

6. Calculate the length of steel rod of 10 mm dia as shown in the figure below :



Assume end cover as 20 mm.

7. Calculate the quantity of earthwork for 100 m long road on a uniform ground with heights of banks at the two ends being 1·00 m and 1·6 m. The formation width is 10 m and side slopes are 2 : 1.

8. Calculate the quantity of gavel to be collected for granular shoulders on either side of the WBM road having length 800·00 m. The width of shoulder is 1·00 m. The compacted thickness is 100 mm (loose thickness 120 mm).

9. Explain the following terms :

(a) Scrap value

(b) Salvage value

10. Write a short note on calculation of standard rent.

PART—B

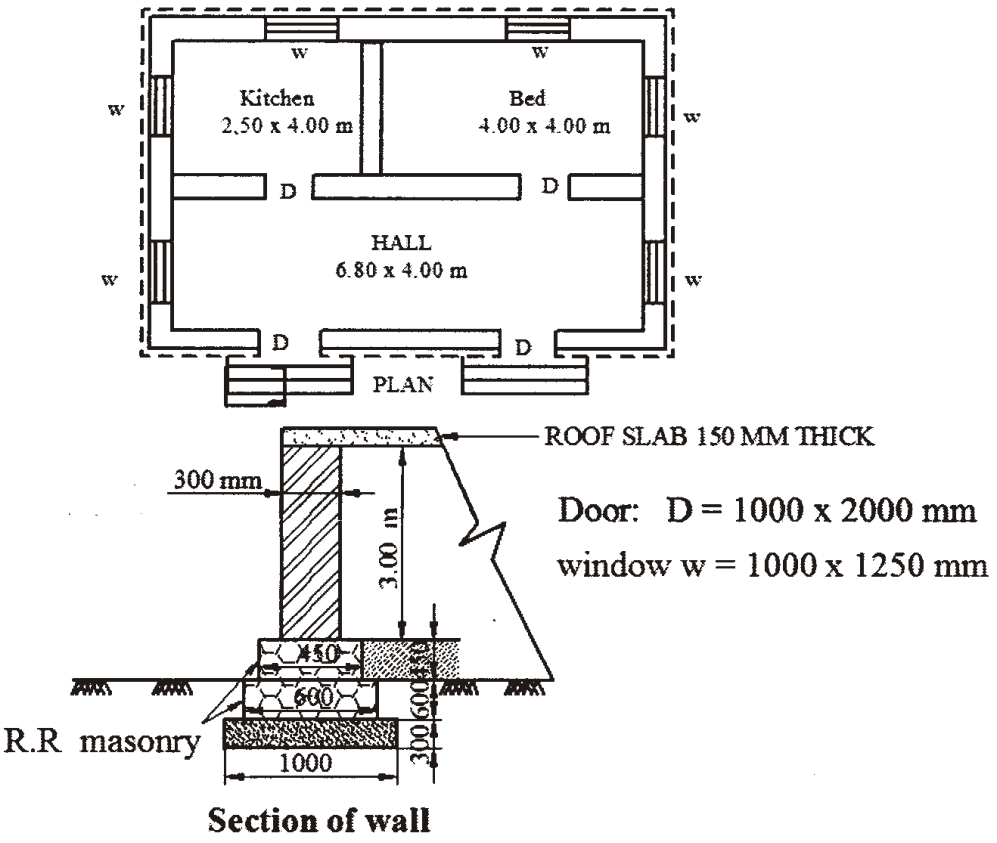
10×5=50

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

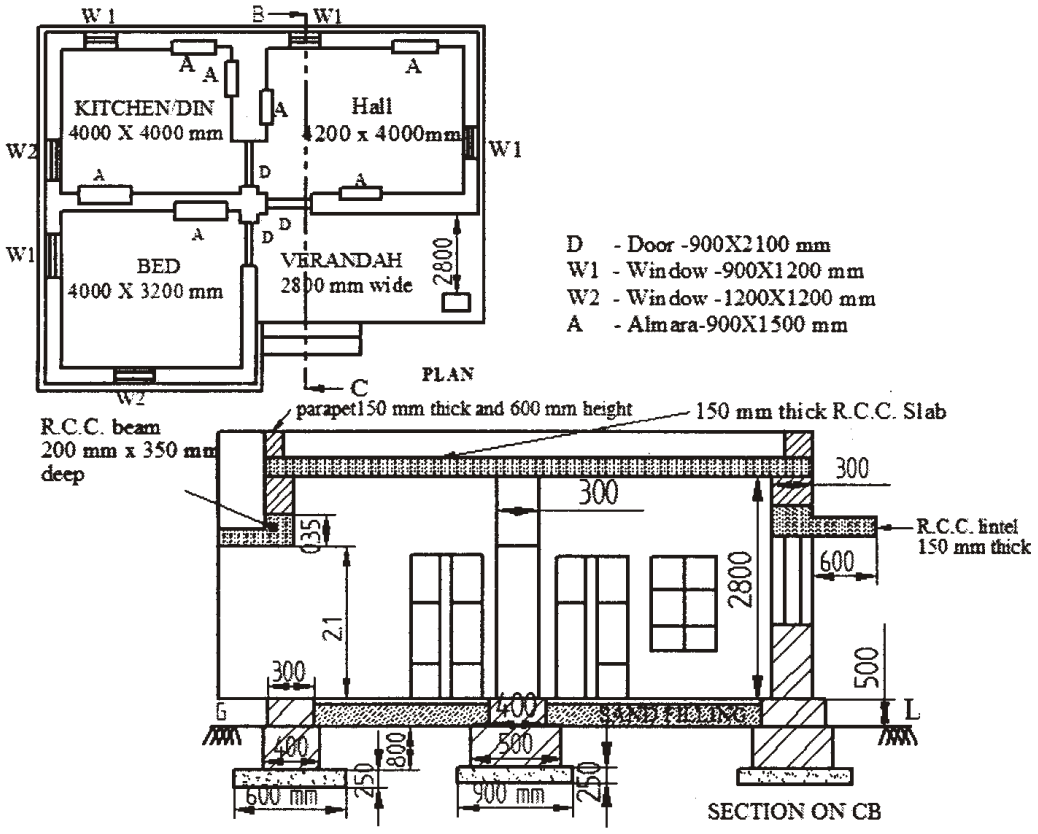


(a) Earthwork excavations in foundations

(b) Painting wood work for panelled doors and panelled windows (two coats over primer coat)

(c) RCC for roof slab 150 mm thick

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



(a) Earthwork excavation for foundations

(b) Brick masonry in CM 1 : 6 for footing

13. Prepare the datasheet and calculate the cost of the items given below, using lead statement :

(a) Brick masonry in CM (1 : 6)—1 cu.m.

(b) CC (1 : 3 : 6) using 40 mm HBG metal—1 cu.m.

Materials and Labour required :

CC (1 : 3 : 6) *using 40 mm HBG metal*		*Brick Masonry in CM* (1 : 6)	
0·92 cu.m.	40 mm HBG metal	512 nos.	Bricks
—	Sand	0·20 cu.m.	CM (1 : 6)
—	Cement	1·4 nos.	Masons
0·2 nos.	Masons	0·70 nos.	Men mazdoors
1·8 nos.	Men mazdoors	2·1 nos.	Women mazdoors
1·4 nos.	Women mazdoors	1·0 cu.m.	Scaffolding
LS	Sundries	LS	Sundries

Lead statement for materials :

Sl. No.	*Materials*	*Rate*	*Per*	*Lead*	*Conveyance charges*
1	40 mm HBG metal	306·70	1 cu.m.	15 km	₹ 4·00 per 1 km
2	Sand	75·00	1 cu.m.	9 km	₹ 3·00 per 1 km
3	Cement	3400·00	1 MT	Local	—
4	Bricks	2500	1000 nos.	12 km	₹ 3·00 per km per 1000 nos.

Labour charges :

Masons = ₹ 266·00 per day
Men mazdoors = ₹ 216·00 per day
Women mazdoors = ₹ 206·00 per day
Scaffolding charges = ₹ 45·00 per day
Mixing charges = ₹ 30·00 per cu.m.

14. Prepare the data sheet and calculate the cost for the following items of work.

(a) RR masonry with CM (1 : 8) unit—1 m^3

1·05 m^3	Rough stone
0·34 m^3	CM (1 : 8)
1·8 no.	Mason
2·8 nos.	Men mazdoor
LS	Sundries

(b) Pointing to RR masonry in CM (1 : 5) unit—10 m^2

0·09 m^3	CM (1 : 5)
2·28 nos.	Mason
0·5 nos.	Men mazdoor
1·1 nos.	Women mazdoor
LS	Sundries

Lead statement of materials :

Sl. No.	*Materials*	*Rate at source* (in ₹)	*Leads* (in km)	*Conveyance charges/km*
1	Rough stone	320/m^3	15 km	4·00/m^3
2	Sand	95/m^3	10 km	3·00/m^3
3	Cement	2,500/10 kN (1 tonne)	At site	

Labour charges :

Mason	₹ 225·00/day
Men mazdoor	₹ 180·00/day
Women mazdoor	₹ 180·00/day
Mixing charges for CM	₹ 40·00/m^3

15. For an embankment 60 m long having uniform gradient with the height of bank 3·0 m at one end and 1·8 m at the other end. The width of embankment at top is 6 m and its side slopes are 2 : 1. Estimate the quantity of earthwork by—

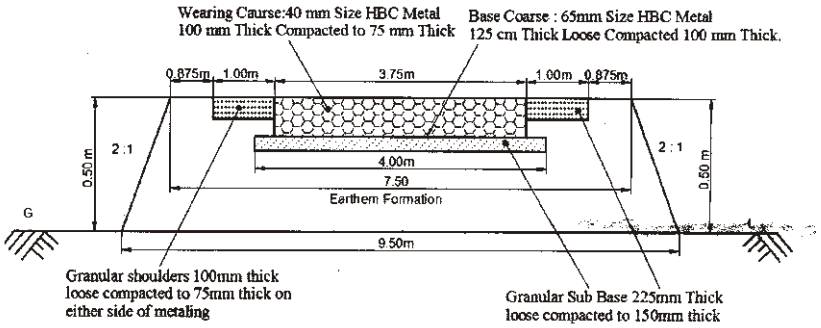
(a) prismoidal rule;

(b) mid sectional method;

(c) Mean sectional method.

The longitudinal and traverse gradient of the ground is nil.

16. Prepare the detailed estimate for the following items for a WBM road having length 800 m shown in the figure below :



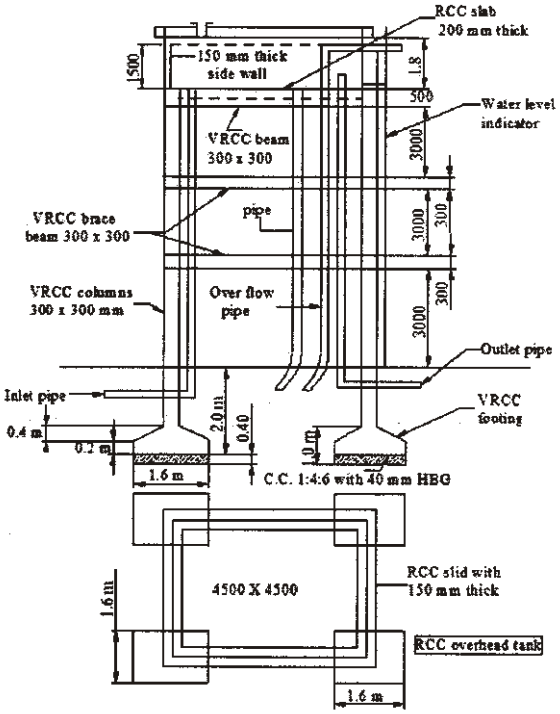
(a) Collection and supply of 65 mm HBG metal for base course

(b) Collection and supply of gravel for subbase course

(c) Spreading of 40 mm HBG metal for wearing course

(d) Spreading of gravel for subbase course and shoulders

17. Prepare the detailed estimate for the following items for an overhead tank shown in the figure below :



(a) Earthwork excavation for column foundation

(b) VRCC for column footings and columns up to ground level

18. What are the factors causing reduction in the market value of a property?

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