



c09-c-404

3425

BOARD DIPLOMA EXAMINATION, (C-09)
OCT/NOV—2013
DCE—FOURTH SEMESTER EXAMINATION
QUANTITY SURVEYING

Time : 3 hours]

[Total Marks : 80

PART—A

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

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

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

1. What is the necessity of specifications?

2. Prepare the approximate estimate of a proposed building with the following data :

(i) Plinth area = 200 sq. m

(ii) Plain area rate = Rs 18,000 per sq. m

(iii) Water supply and sanitation = 12% of the cost of building

(iv) Electrification = 7.5% of cost of building

(v) Fluctuation of rates = 3% of cost of building

3. For the given staircase of width 1.2 m shown in Fig. 1, calculate the total quantity of CC (1 : 1½ : 3) :

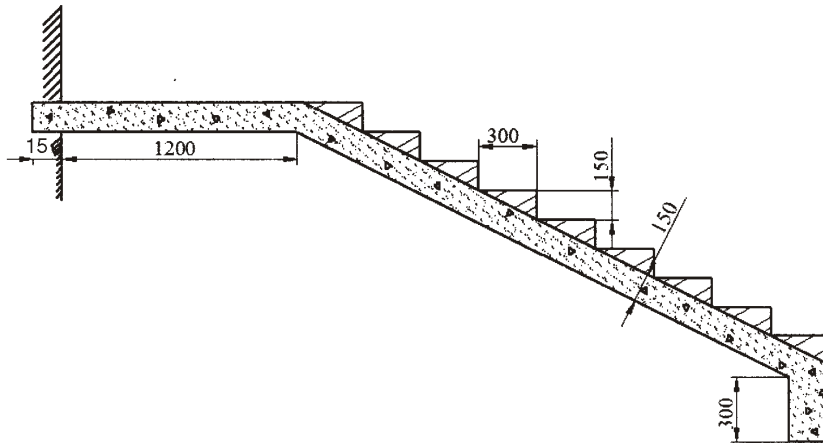


Fig. 1

4. Calculate the length of common rafter and number of common rafters spaced at 0.5 m c/c for the hipped roof shown in Fig. 2 :

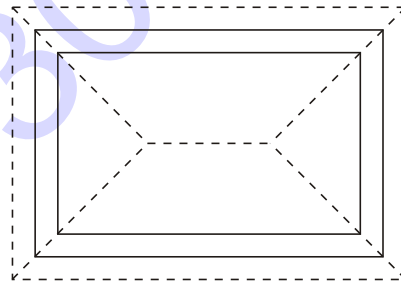


Fig. 2

Room size = 6.0 m × 4.0 m

Wall thickness = 300 mm

Slope of roof = $\frac{1}{3}$ of span

Eaves projection = 500 mm

5. Calculate the quantities of ingredients for 10 cu. m of cement concrete of (1 : 2 : 4) proportion.

*

C09-C-404

6. Find the length of 6 mm diameter bar as shown in Fig. 3, if the size of column is 300 mm × 300 mm. Assume 40 mm clear cover for main reinforcement.

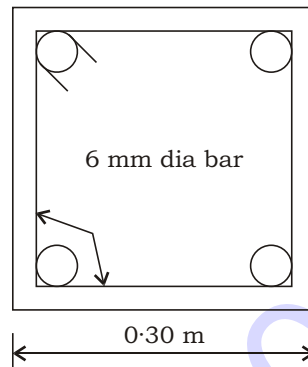


Fig. 3

7. Calculate the quantity of earthwork for 100 m long road on a uniform ground with heights of banks at the two ends being 1.0 m and 1.6 m. The formation width is 10 m and sides slopes are 2 : 1.
8. Calculate the quantity of gravel to be collected for granular shoulders, on either side of the WBM road having length 800 m. The width of shoulder is 1 m. The compacted thickness is 100 mm (loose thickness 120 mm).
9. Write a short note on salvage value.

*

10. State any four types of outgoing to be considered during fixation of rent.

PART—B

- 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 Fig. 4 :

- (a) Earthwork excavation for foundation
- (b) Plastering with CM (1 : 5) 12 mm thick for superstructure walls excluding parapet wall and without deductions
- (c) RCC for roof slab

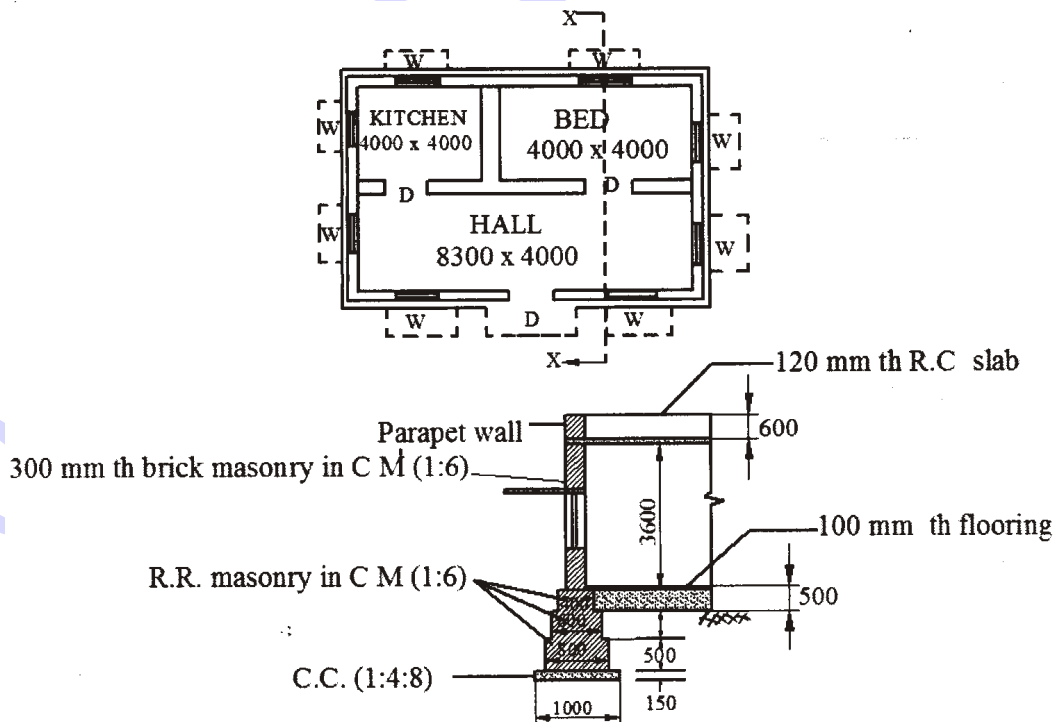
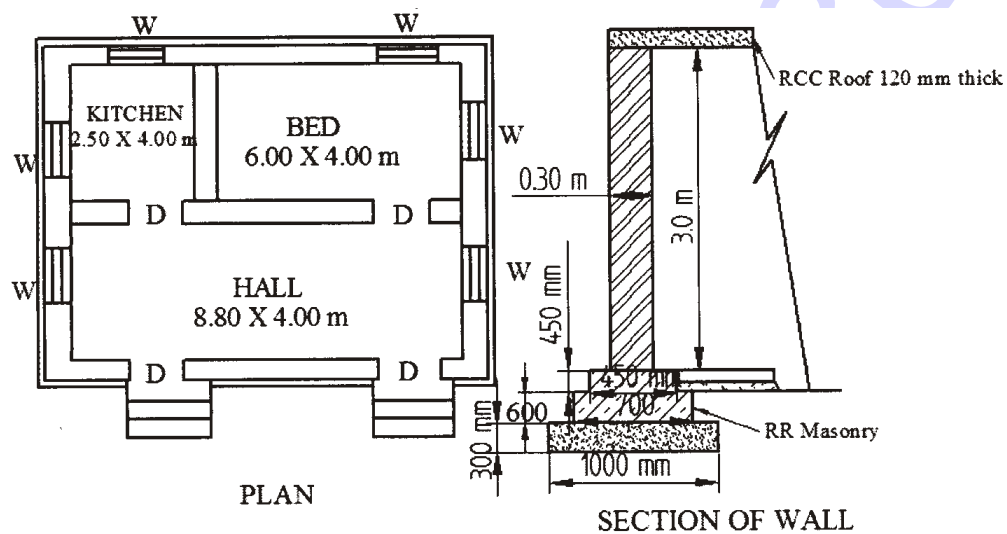


Fig. 4

12. Prepare the detailed estimate for the following items of work for the building shown in Fig. 5 :

- (a) CC (1 : 4 : 8) for foundation bed
- (b) BM for superstructure walls with deductions
- (c) RCC for roof slab 120 mm thick



REFERENCE:

- DOOR D 1000 X 2000
- WINDOW W 1000 X 1250

Fig. 5

13. Prepare the data sheet and find the cost of the following items of works :

- (a) Quantities for BM in CM 1 : 6 using country bricks—unit— $1m^3$

600 Nos.	Country bricks
0.38 cum	CM (1 : 6)
1.4 Nos.	Brick layer
0.7 No.	Man mazdoor
2.1 Nos.	Women mazdoor
LS	Sundries

(b) Quantities for CM 1 : 3—flush pointing—unit—10 m²

0.06 cum	CM (1 : 3)
1.6 Nos.	Brick layer
0.5 No.	Man mazdoor
1.1 Nos.	Women mazdoor
LS	Sundries

Lead statement :

Sl. No.	Materials	Rate at source (Rs)	Leads in km	Conveyance charges/km
1	40 mm size broken stone	380 per m ³	12 km MT	3 per 1 m ³
2	Sand	75 per m ³	35 km MT	3 per 1 m ³
3	Country bricks	1500 per 1000 nos.	At site	
4	Cement	2400 per 10 kN or 1 tonne	At site	

Labour charges :

Mason or brick layer—Rs 260/day
Men and women mazdoors—Rs 180/day
Mixing charges—Rs 30/cum

14. Prepare the data sheet and calculate the cost of items given below :

(a) Cement concrete (1 : 4 : 8) using 40 mm HBG metal unit—1 m³

(b) RR masonry in CM (1 : 6) unit—1 m³

Materials and labour required for—

CC (1 : 4 : 8) using 40 mm HBG metal—1 cu. m	RR Masonry in CM (1 : 6)—1 cu. m
0.92 m ³ HBG metal	1.1 m ³ Rough stone
0.46 m ³ Sand	0.34 m ³ CM 1 : 6
0.115 m ³ Cement	1.8 No. Masons
0.2 No. Mason	2.8 No. Mazdoors
3.2 No. Mazdoors	LS Sundries
LS Sundries	

Lead statement materials :

Sl. No.	Materials	Rate at source	Leads in km	Conveyance per cu. m
1	40 mm HBG metal	Rs 400 per m ³	10 km MR	Rs 2 per km
2	Sand	Rs 90 per m ³	8 km MR	Rs 2 per km
3	Rough stone	Rs 150 per m ³	5 km MR	Rs 3 per km
4	Cement	Rs 2200 per tonne	At site	

Labour charges :

- (i) Mason 1st class—Rs 223 per day
- (ii) Mason 2nd class—Rs 217 per day
- (iii) Mazdoor—Rs 212.50 per day
- (iv) Hand mixing charges of cement mortar per m³—Rs 34

15. The following table shows the areas of consecutive contours for a reservoir. The contour interval is equal to 3 m. Calculate the capacity of reservoir using prismatic and trapezoidal rules :

Contour No.	0	1	2	3	4	5	6	7	8
Area (in m ²)	250	210	200	190	185	170	160	150	130

16. Calculate the quantities for the following item of work for a slab culvert shown in Fig. 6 :

- (a) Earthwork excavation for abutment and returns
- (b) RCC (1 : 2 : 4) for deck slab

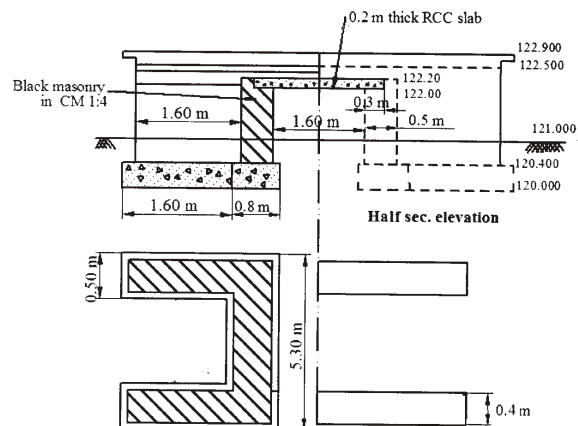


Fig. 6

17. Prepare the detailed estimate for the following items of work for an open well shown in Fig. 7 :
- (a) Earthwork excavation in different types of soils
 - (b) RR masonry in CM 1: 6

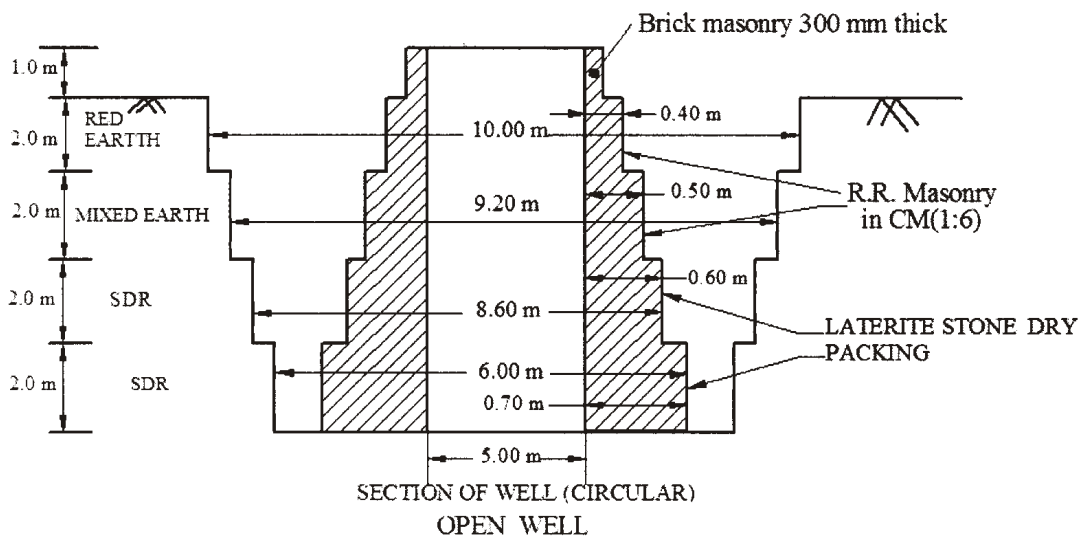


Fig. 7

18. A scooter was purchased for Rs 4,500 in 1976. The salvage value of the scooter is Rs 2,000 in 1980. Calculate the depreciation and book value for each year by constant percentage method.
