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C09–C–**404**

3425

BOARD DIPLOMA EXAMINATION, (C–09)

APRIL/MAY—2015

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 units of measurement for the following :

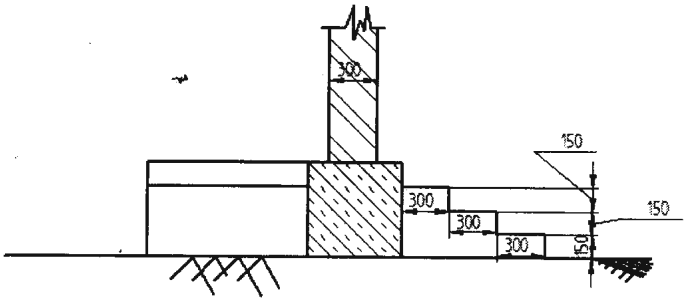
(a) Plastering

(b) RCC

(c) DPC of specified width and thickness

2. Write a short note on plinth area method for approximate estimate.

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

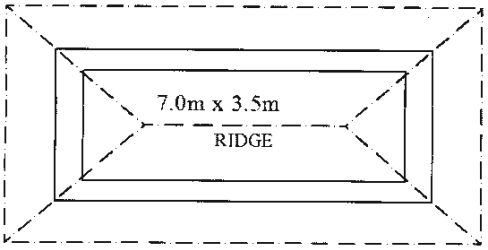


Calculate the volume of brick masonry in CM (1:5) for all three steps, if the length of each step is 2·10 m.

4. For a hipped roof shown in the following drawing, calculate—

(a) length of the common rafter;

(b) number of common rafters spaced at 500 mm c/c.



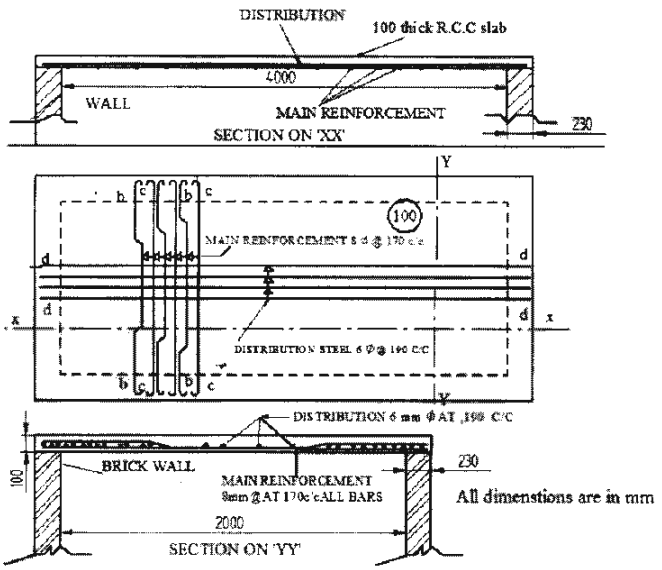
Note :

Wall thickness = 300 mm
Eaves projection = 500 mm
Rise of roof = 1700 mm

5. Calculate the quantities of cement, sand and coarse aggregate for preparing 5 cu.m of CC (1 : 2 : 4) using 20 mm HBG metal.

6. From the figure given below, calculate the quantity of distribution steel 6 mm ϕ @ 190 mm c/c required for bottom mat :

Top cover (clear) = 25 mm
Side cover (clear) = 25 mm
Bottom cover (clear) = 15 mm
6 mm dia bars = 0·22 kg/m



7. Explain 'trapezoidal rule' and 'prismoidal rule' with usual notations.

8. Prepare the detailed estimate for laying cement concrete pavement of 1 : 2 : 4 mix with 20 mm size HBG chips, 100 mm thick over the base course of CC 1 : 4 : 8 with 40 mm size HBG chips, 150 mm thick for a length of 500 m, if the width of the road is 3·75 m.

9. List any six different forms of value.

10. The cost of a newly constructed building including all provisions is ₹ 18,00,000. Calculate monthly rent, if the reasonable interest on capital is 8%.

PART—B

10×5=50

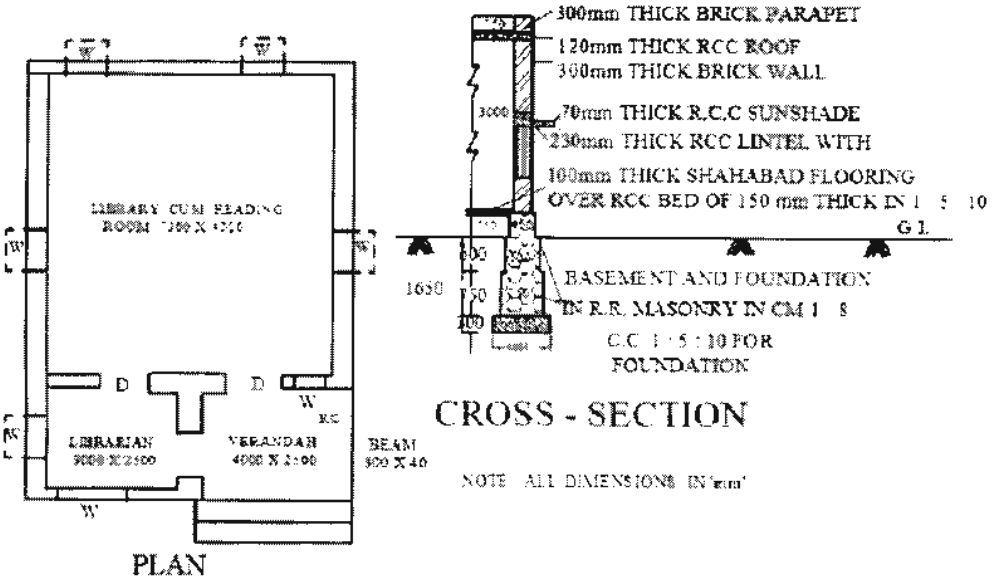
Instructions : (1) Answer *any* **five** questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

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

(a) CC (1 : 5 : 10) for foundation

(b) RR masonry in CM 1 : 8 for footings

(c) RCC for roof slab

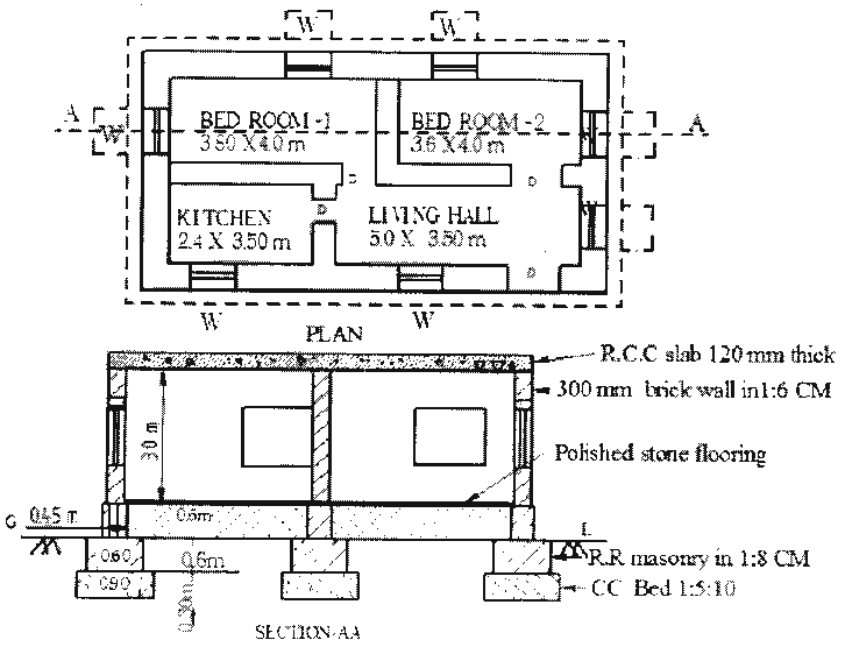


12. For the building drawing shown in the figure below, calculate the quantities for the following items of work :

(a) CC bed (1 : 5 : 10) for foundation

(b) Quantity of brickwork in superstructure wall without deductions

(c) Sand filling in basement



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

(a) Plain cement concrete for foundations (1 : 4 : 8) unit—1 cu. m

0·92 m^3	40 mm size HBG metal
	Sand
	Cement
0·06 nos.	Mason I class
0·14 nos.	Mason II class
1·18 nos.	Man Mazdoor
1·40 nos.	Women Mazdoor
LS	Sundries

(b) Plastering with CM (1 : 6) 12 mm thick unit—10 m^2

1·15 cu.m.	CM (1 : 6)
1·10 nos.	Mason
0·50 nos.	Man Mazdoor
1·10 nos.	Women Mazdoor
LS	Sundries

Rate of materials at site

HBG metal 40 mm size	₹ 440.00/1 cu.m.
Sand	₹ 200.00/1 cu.m.
Cement	₹ 3,400.00/MT

Labour charges

1st class Mason	₹ 190.00/day
2nd class Mason	₹ 160.00/day
Man Mazdoor	₹ 120.00/day
Woman Mazdoor	₹ 120.00/day
Mixing charges for CM	₹ 30.00/m^3

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

(a) CC (1 : 5 : 10) using 40 mm HBG metal—unit 1 cu.m.

0·92 m^3	40 mm HBG metal
	Sand
	Cement
0·06 nos.	Mason I class
0·14 nos.	Masson II class
1·80 nos.	Man Mazdoor
1·40 nos.	Women Mazdoor
LS	Sundries

(b) RR Stone masonry in CM (1 : 6) unit—1 cu.m

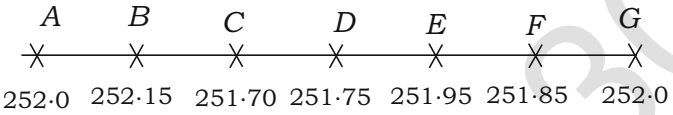
1·05 cu.m	Rough stone
0·05 cu.m	Bond stone
0·34 cu.m	CM (1 : 6)
0·54 nos.	Mason I class
0·26 nos.	Mason II class
1·40 nos.	Man Mazdoor
1·40 nos.	Women Mazdoor
LS	Sundries

Rates of labour and materials at site :

HBG 40 mm size	₹ 440·00/1 cu.m
Sand	₹ 200·00/1 cu.m
Cement	₹ 3,400·00/1 cu.m
Rough stone	₹ 280·00/1 cu.m

Bond stone	₹ 700·00/1 cu.m
Mason 1st class	₹ 160·00/day
Mason 2nd class	₹ 140·00/day
Man Mazdoor	₹ 110·00/day
Women Mazdoor	₹ 11·00/day
Mixing charges for CM	₹ 20·00/cu.m

15. The ground levels along the ridge of proposed canal area are shown below :



The bed of the canal is 4 · 0 m wide and sloped 1 in 100 downwards in longitudinal direction. The side slopes are 2 : 1 and the bed level of canal at *A* is 250·000

Determine the volume of the earth work in cutting, if the chainage between the points is 20 m.

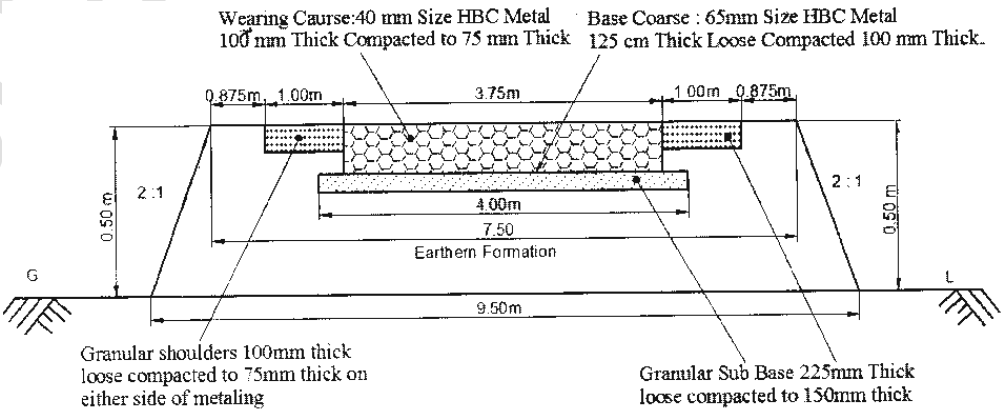
16. Prepare the detailed estimate for the following items for a WBM road having length 800·00 m as shown in the figure below :

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

(b) Collection and supply of gravel for sub base course;

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

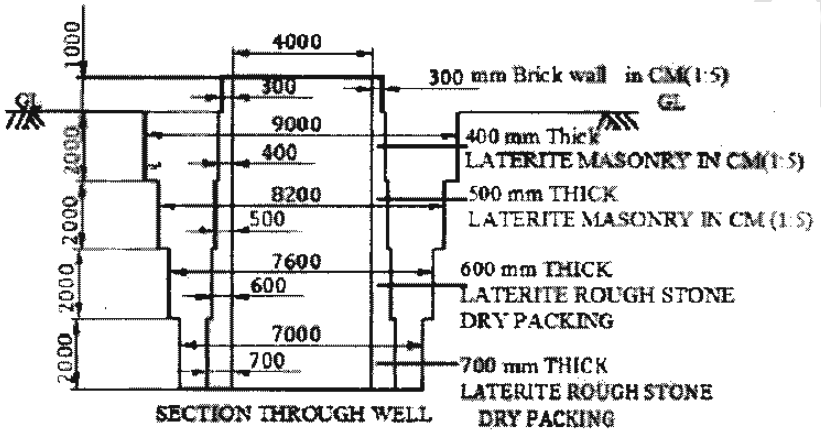
(d) Spreading of gravel for sub base course and shoulders.



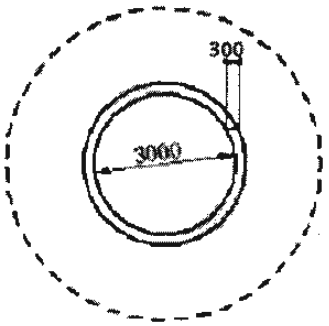
17. Calculate the quantities for the following items of work for an open well shown in the figure below :

(a) Refilling with excavated earth around the well staining

(b) Laterite rough stone dry packing for well staining



SECTION THROUGH WELL



PLAN AT TOP
(MASONRY WELL)

18. An employee of a government office purchases an old building for ₹ 12,00,000 based on the cost of land ₹ 3,00,000 and cost of building as ₹ 9,00,000. The scrap value of the building is assumed to be 10%. Work out the annual sinking fund at 12% interest rate, if the residual life of the building is 20 years.

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