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C09–C–404

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BOARD DIPLOMA EXAMINATION, (C–09)

MARCH/APRIL—2016

DCE—FOURTH SEMESTER EXAMINATION

QUANTITY SURVEYING

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

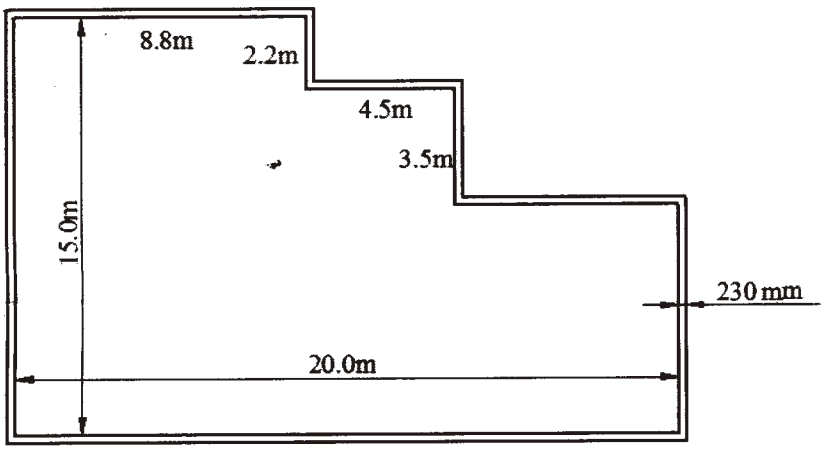
PART—A 3×10=30

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. State the need for quantity surveying. 3

2. What is an abstract estimate? Indicate its format. 2+1

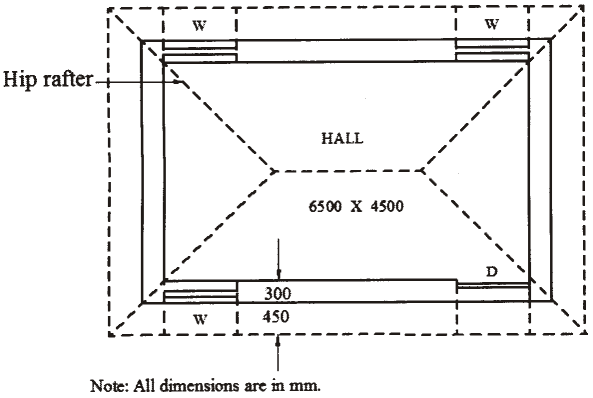
3. The plan of compound wall is shown in figure below. Calculate its centre line length : 3



4. For a hipped roof shown in figure below. Calculate—

(a) length of common rafter;

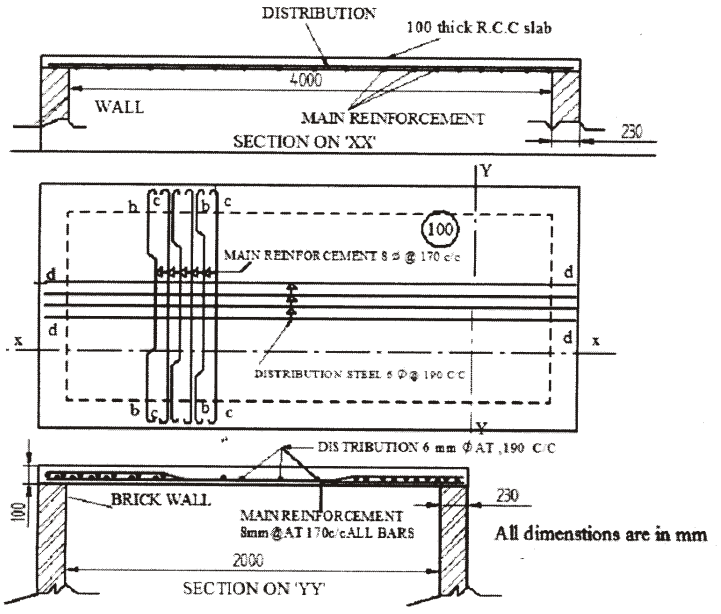
(b) number of common rafters spaced at 500 mm c/c, if the rise of roof is $\frac{1}{3}$ of span.



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

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

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

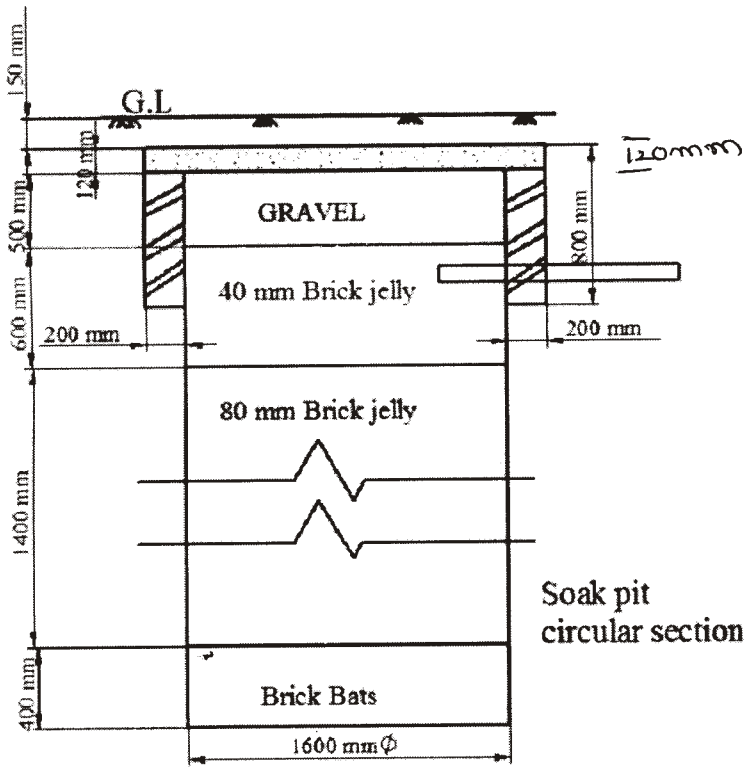


7. Explain 'Trapezoidal Rule' and 'Prismoidal Rule' with usual notations.

8. From the accompanying figure of a circular soak pit, calculate the quantity of—

(a) loose packing of brick jelly 40 mm size;

(b) RCC 1 : 2 : 4 roof over soak pit. 1½+1½



9. List any six different forms of outgoings.

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

PART—B

10×5=50

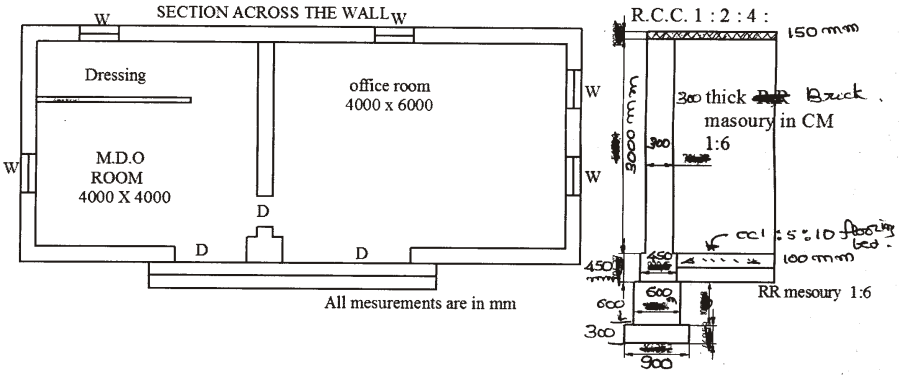
Instructions : (1) Answer *any* **five** questions.
(2) Each question carries **ten** marks.
(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. Calculate the quantities for the following items of work for the building shown in figure below :

(a) Earth work excavation for foundation

(b) RR Masonary in CM 1 : 6 in basement and footings

(c) CC 1 : 5 : 10 for flooring bed, 100 mm thick

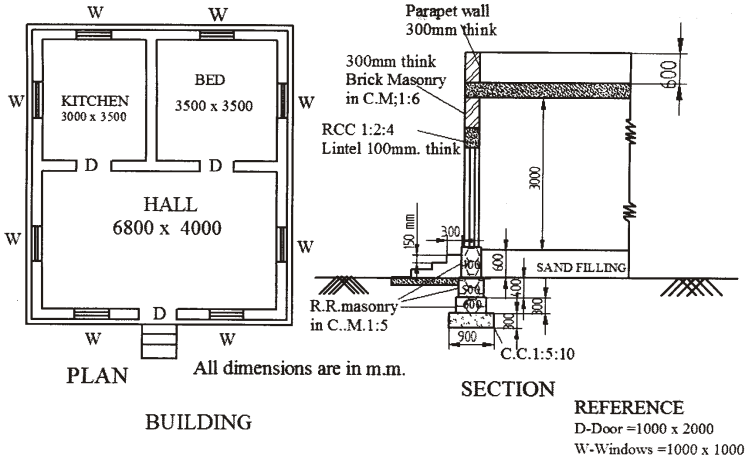


12. Prepare the detailed estimate for the following items of work for the building shown in figure below :

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

(b) Brick masonry in CM (1 : 6) for superstructure wall without deductions (excluding parapet wall)

(c) Plastering with CM (1 : 5) 12 mm thick for inside the building without deductions.



13. 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.	Man Mazdoor
LS	Sundries

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

0·09 m^3	CM (1 : 5)
2·28 Nos.	Mason
0·50 Nos.	Man Mazdoor
1·10 Nos.	Women Mazdoor
LS	Sundries

Lead statement of materials :

Sl.No.	*Materials*	*Rate at sources* (in ₹)	*Leads* (in km)	*Conveyance charges*/km
1	Rough stone	320·00 / m^3	15 km	4·00 / m^3
2	Sand	95·00 / m^3	10 km	3·00 / m^3
3	Cement	2500·00 / 10 kN (1 tonne)	At site	

Labour charges :

Mason	₹ 225·00/day
Man Mazdoor	₹ 180·00/day
Woman Mazdoor	₹ 180·00/day
Mixing charges for CM	₹ 40·00/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 Ist class
1·26 Nos.	Mason IInd 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	₹ 110·00/day
Mixing charges for CM	₹ 20·00/cu.m

15. Reduce levels of ground along the centre line of a proposed road from chainage 0 to 9 are given below. The formation level at '0' chainage is 10·00 and the road is in downward gradient of 1 in 100. Formation width of road is 10 m and side slopes are 2 : 1. Length of chain is 20 m. The ground is level in the transverse direction. Calculate the quantity of earth work by Trapezoidal rule.

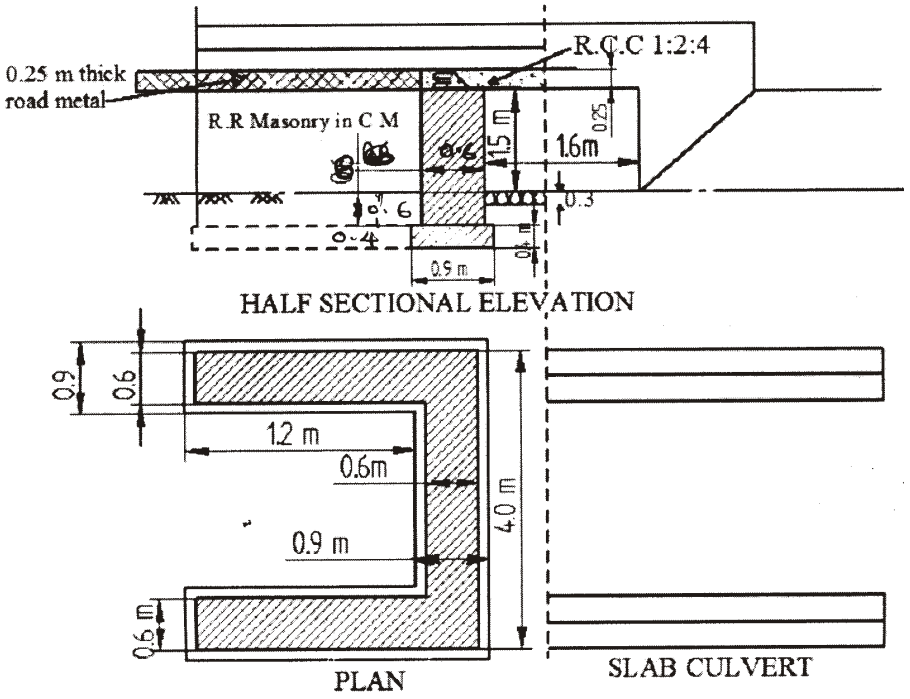
Chainage	0	1	2	3	4	5	6	7	8	9
RL of ground	8·0	7·8	7·60	7·20	6·80	6·10	6·20	5·90	5·0	4·90

16. Prepare the detailed estimate for the following items of work for a slab culvert shown in figure : 4+4+2

(a) Earth work excavation for foundation for abutments and returns

(b) CC (1 : 4 : 8) for abutment and returns

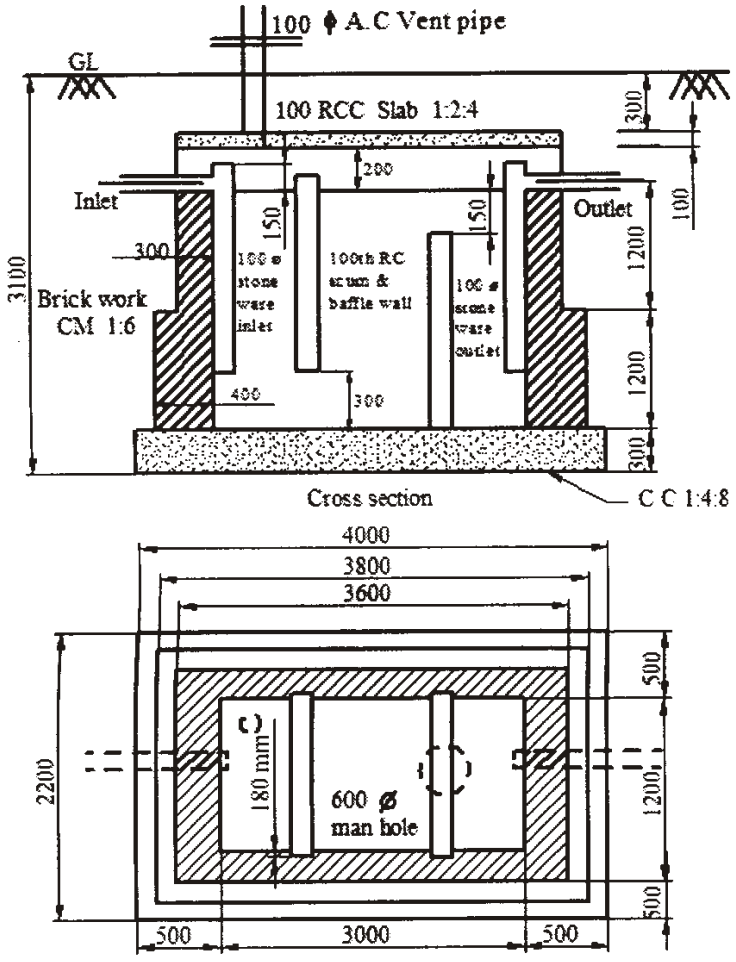
(c) RCC (1 : 2 : 4) for deck slab



17. Calculate the following quantities for a septic tank shown in figure :

(a) Cement concrete 1 : 4 : 8 for foundation

(b) 2nd class brickwork in CM (1 : 6)



18. The total cost of the newly constructed building is ₹ 15 lacks. Find the depreciation cost of building after 25 years by *(a)* straight line method and *(b)* constant percentage method if the scrap value of the building is ₹ 1,20,000. Assume the life of building as 80 years. 5+5

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