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C16-C–403

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BOARD DIPLOMA EXAMINATION, (C-16)

AUGUST/SEPTEMBER—2021

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 of the following items of work :

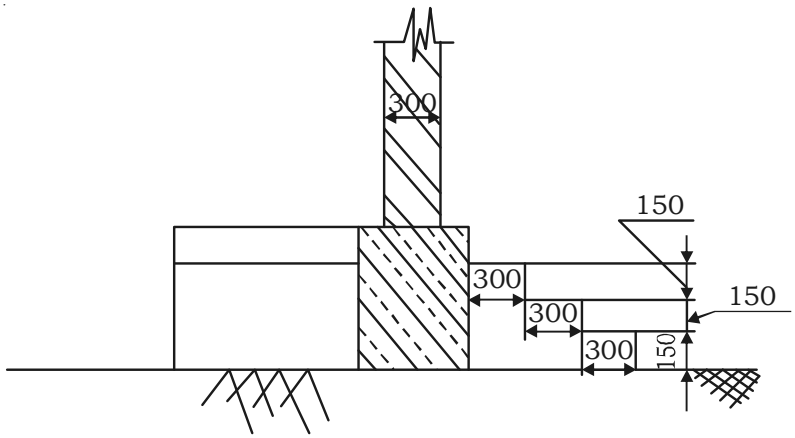
(a) Flooring

(b) Brick masonry

(c) AC sheet roofing

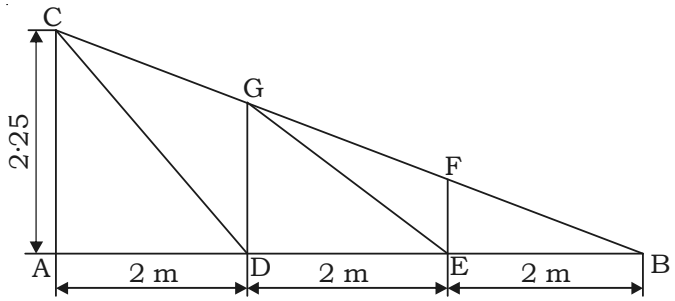
2. State any three approximate methods of estimating civil engineering structures.

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



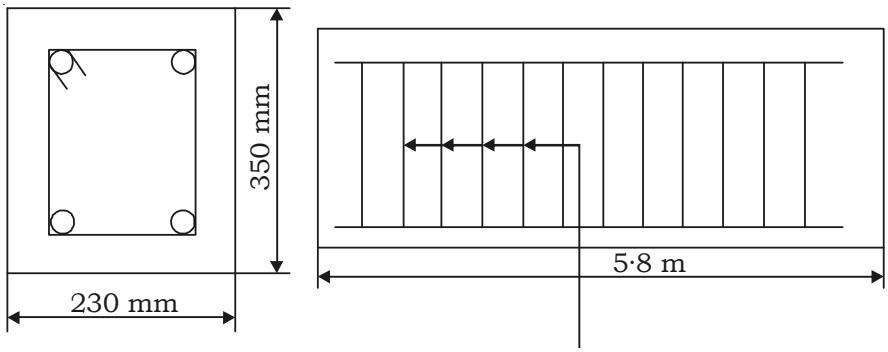
Calculate the volume of brick masonry in CM (1 : 5) for all three steps, if the length of each step is 2·10 m.

4. Calculate the length of the members DC, EG and DG for the truss shown in the figure below :



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

6. Calculate the total weight of stirrups of 8 mm dia for a simply supported beam shown in the figure. Weight of rod is 0·41 kg/m. Assume the clear cover as 25 mm.



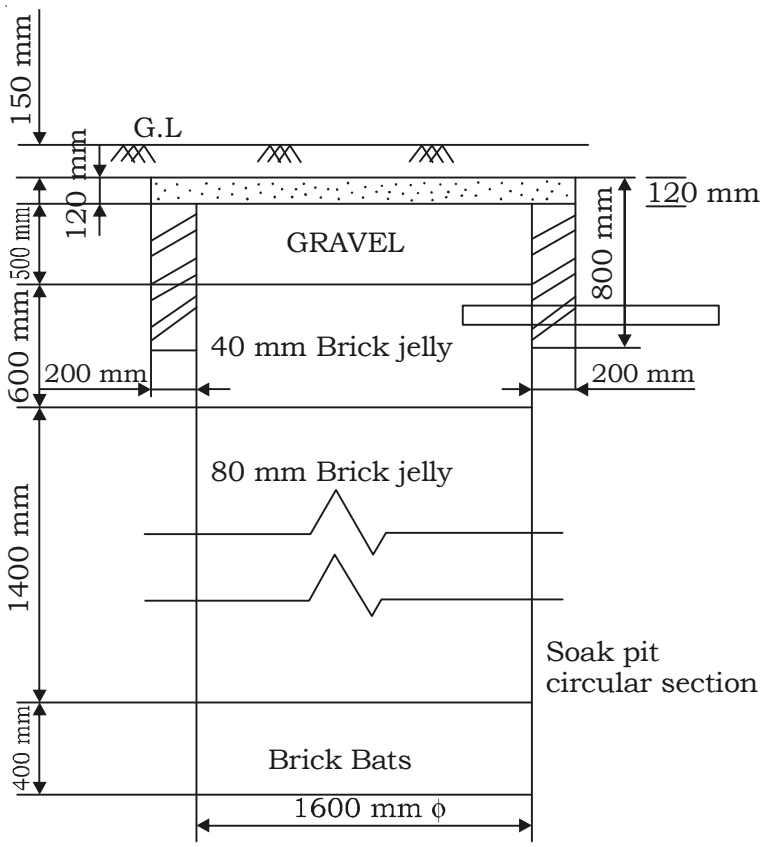
8 mm @ 200 mm c/c

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.



9. List any six different forms of value.

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

PART—B

10×5=50

Instructions : (1) Answer *any* **five** questions.

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

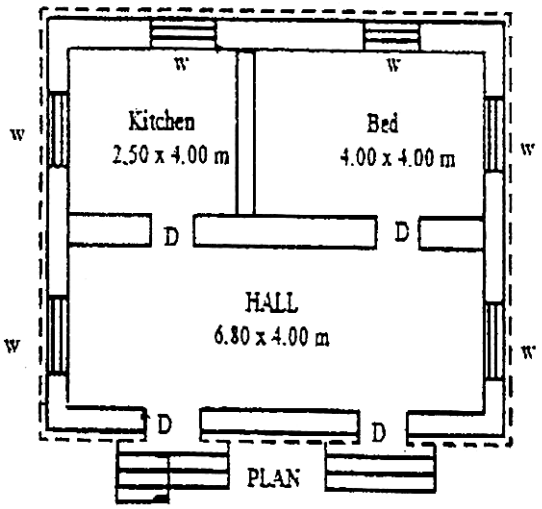
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

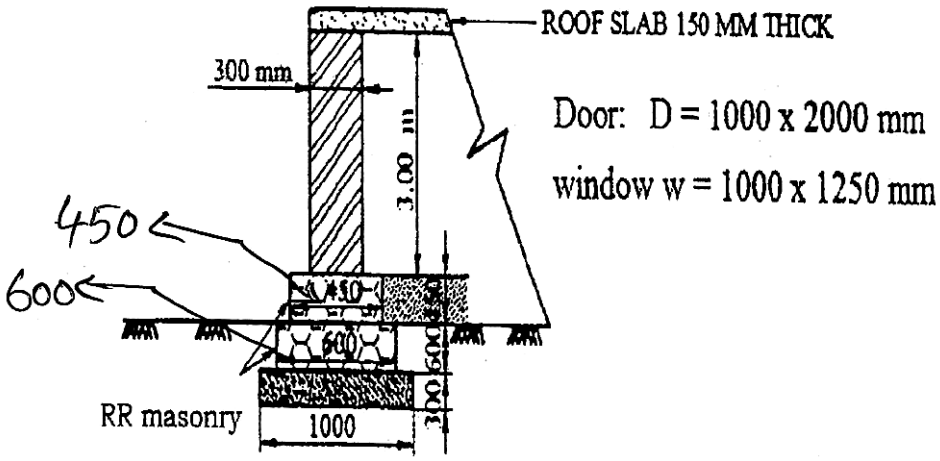
11. Prepare the detailed estimate for the following items of work for the building as shown in the figure below :

(a) Earthwork excavation in foundation

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

(c) RCC for roof slab 150 mm thick



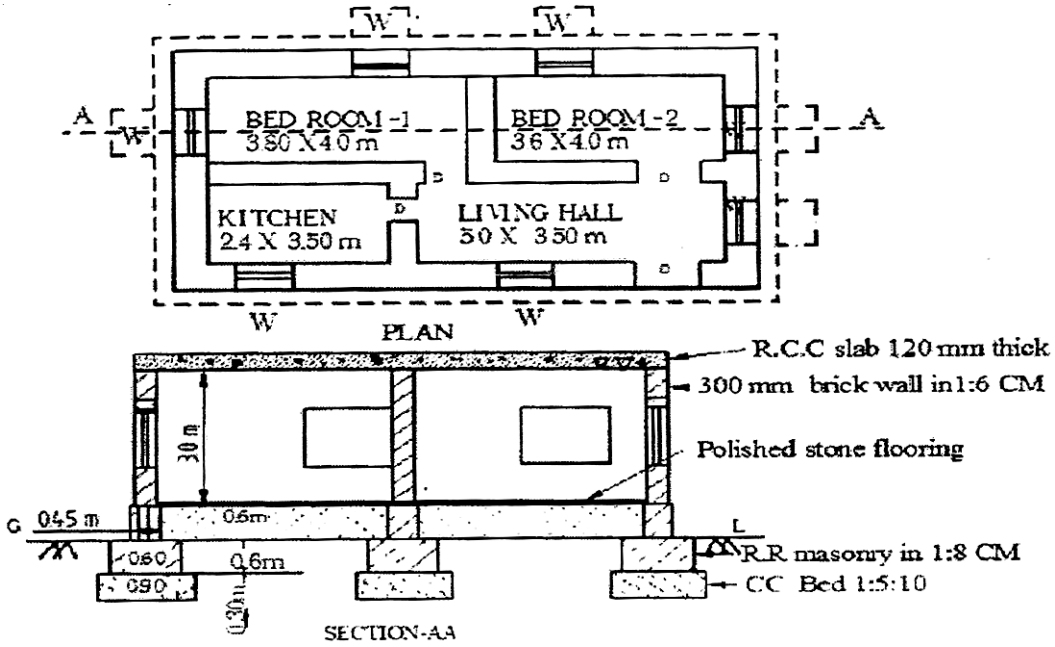


12. For the building drawing shown in the figure below, calculate the quantities for the following items of work :

(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 :

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

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 40mm size	₹ 440·00/1 cu.m.
Sand	₹ 200·00/1 cu.m.
Cement	₹ 3,400·00/MT

Labour charges

1 st 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 for the following items of work 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 Nos.	Mason
2·8 Nos.	Man Mazdoor
LS	Sundries

Pointing to RR masonry in CM (1 : 5) unit : 10 m^3

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

Lead statement of materials :

S. No.	Materials	Rate at source	Lead 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	

15. The areas enclosed by contour lines for a soil heap are as follows :

Contour in meters	Area in Sq. m
200	1·0
199	4·0
198	15·0
197	47·0
196	120·0
195	180·0
194	260·0
193	340·0
192	430·0

Taking 192 as the general ground level and 200 as the crest point of heap, find the volume of earthwork by using (a) Trapezoidal rule and (b) Prismoidal rule.

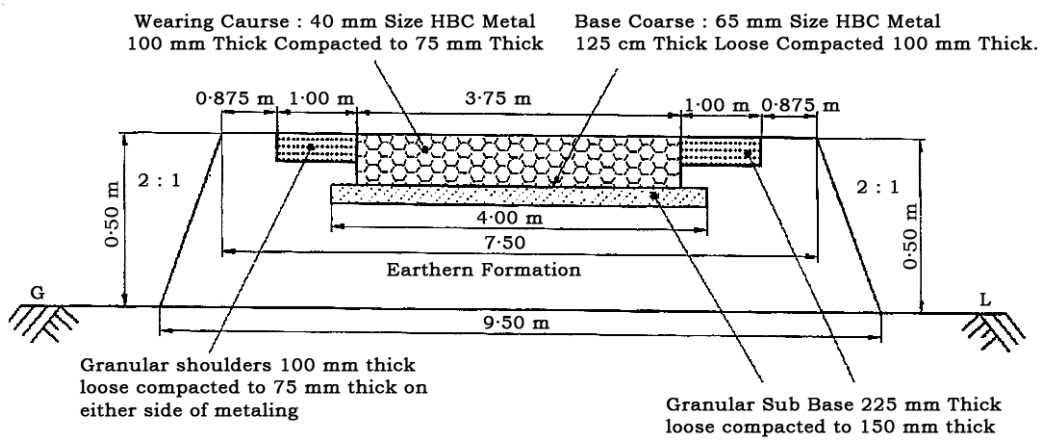
16. Prepare the detailed estimate for the following items for a WBM road having length 800·00 m as shown in the figure below :

(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.

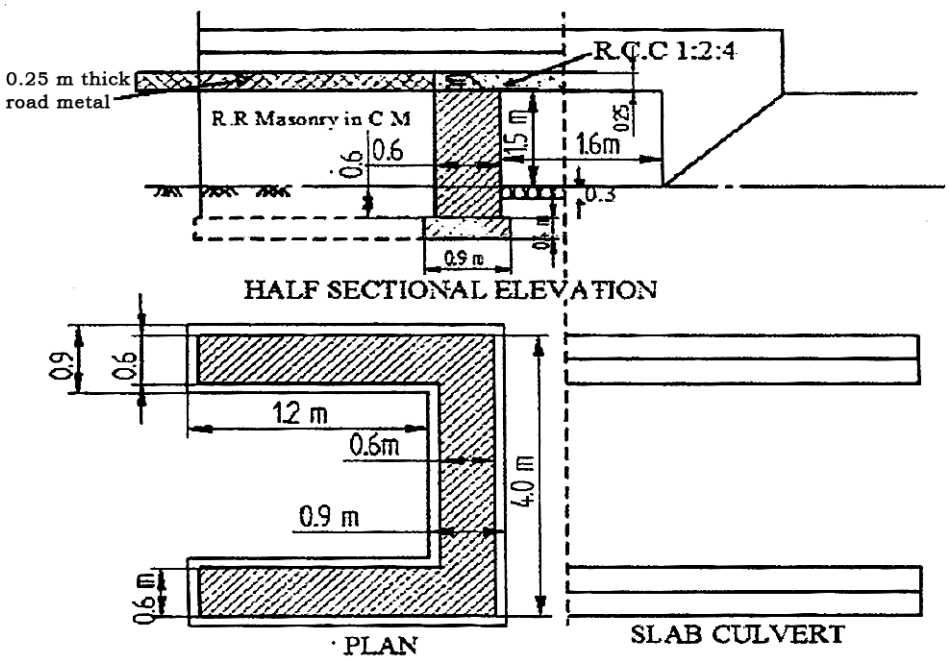


17. Prepare the detailed estimate for the following items of work for a slab culvert shown in figure :

(a) Earthwork excavation for foundation for abutments and returns

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

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



18. Residential building constructed 12 years ago is situated on a plot whose total area is 400 m^2. The plinth area of the building is 240 m^2. The present cost of construction of the building is ₹ 1,30,000 and the cost of the land is ₹ 180/m^2. The rate of depreciation for the value of the building is 1% per annum. Calculate the total value of the property.

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