



c16-c-403

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BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
DCE—FOURTH SEMESTER EXAMINATION
QUANTITY SURVEYING

Time : 3 hours]

[Total Marks : 80

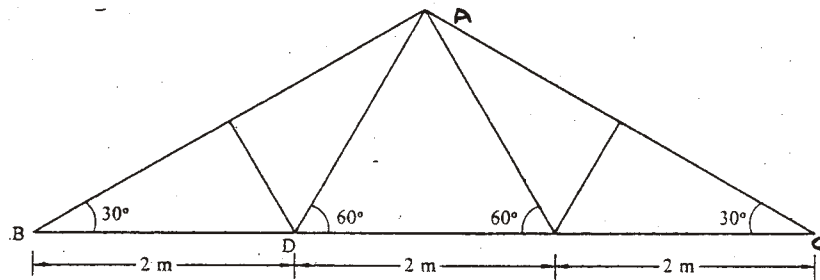
PART—A

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. State the difference between detailed estimation and abstract estimation.
2. State the need for quantity surveying.
3. A room has 6·0 m × 3·5 m internal dimensions with 300 mm wall thickness. The basement has a cross-section of 400 mm width and 600 mm height. Calculate (a) plinth area and (b) brick masonry in CM (1:8) in basement.
4. From the simple steel truss shown in figure below, find the steel required for the following :
(a) Principal rafter AB @ 0·108 kN/m.

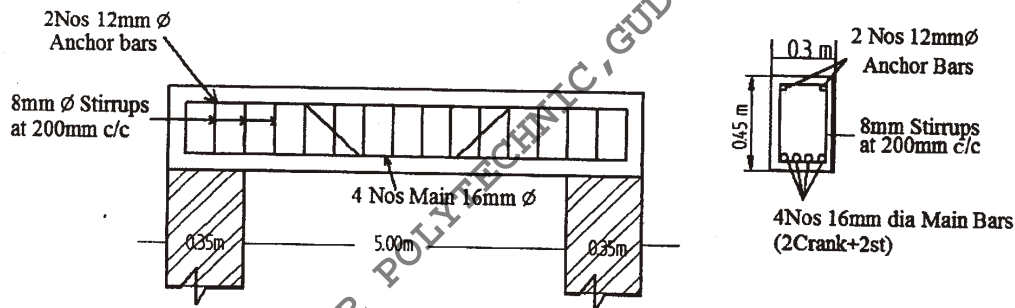
(b) Tie AD @ 0.054 kN/m



5. Define the following terms :

- (a) Blasting charges
- (b) Seigniorage charges
- (c) Cess charges

6. Calculate the quantity of steel required for cranked bars shown in figure below. Assume top and bottom clear cover as 40 mm, end cover as 25 mm, weight of 16 mm bar is 1.58 kg/m :



7. The details of a 120 m long canal PQ are given below :

- (a) Depth of cutting at P 2.8 m
- (b) Depth of cutting at Q 4.0 m
- (c) Side slope of canal 2:1
- (d) Width of canal at bottom 6 m

Calculate the volume of the earthwork by mid-ordinate method.

8. A cement-concrete pavement 150 mm thick and 6.20 m wide is laid over a base course 100 mm considering a length of 1200 m. Calculate the following quantities :

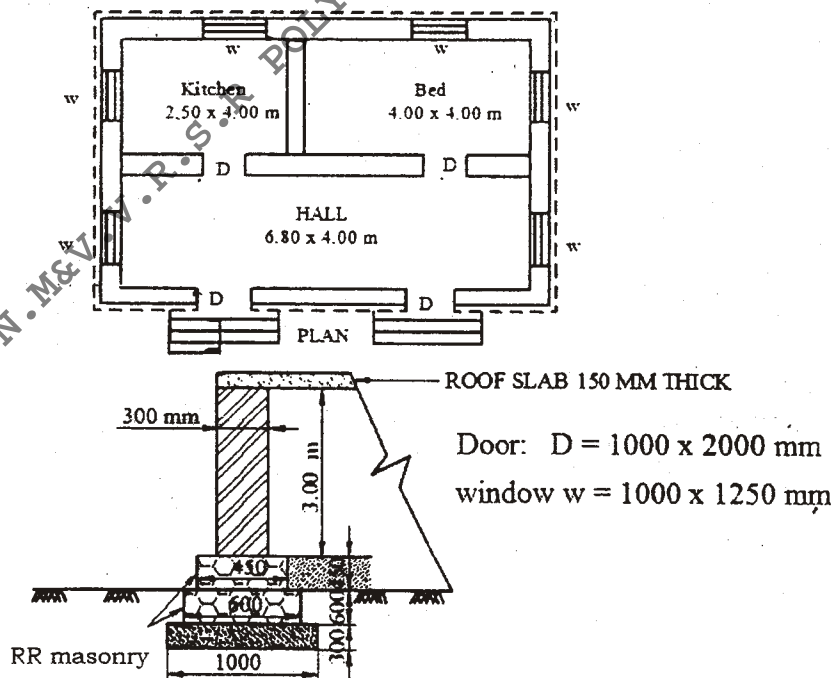
- (a) CC required for pavement
- (b) CC required for base course

9. Write a short note on depreciation.
10. The cost of a building including cost of land is ₹ 1,00,000. The owner expects 10% return. If the expenditure on all outgoings including sinking fund is ₹ 5,000, find the gross rent of property per month.

PART—B

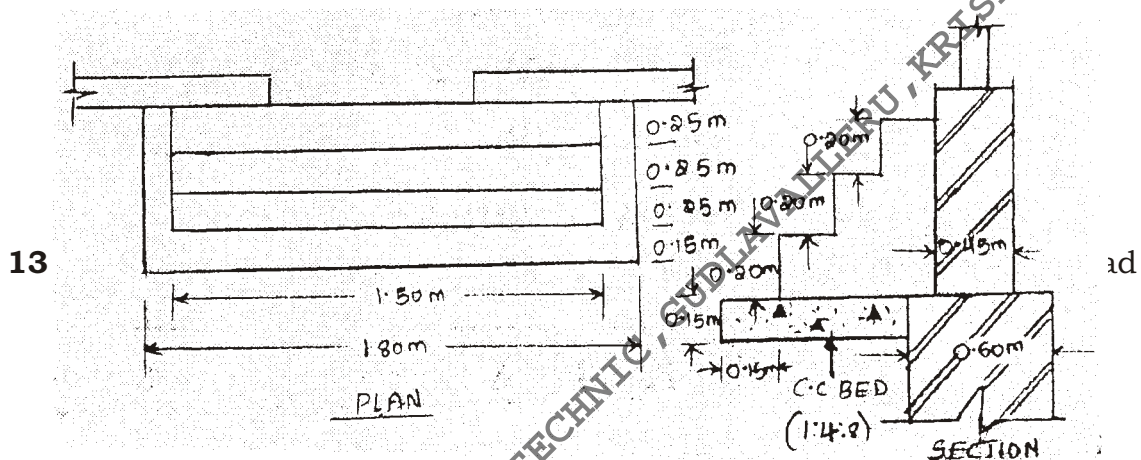
10×5=50

- 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 as shown in the figure below :
- Earthwork excavation in foundation
 - Painting wood work for panelled doors and panelled windows two coats over primer coat
 - RCC for roof slab 150 mm thick



12. The plan and section of steps at the front of a residential building shown in the figure below. Calculate the following items of work :

- CC (1:4:8) bed for foundation
- Brick masonry in CM (1:6) for steps
- Plastering in CM (1:4) with 20 mm thick for steps



0.92 m

___ cu.m

___ cu.m

0.2 No.

3.2 No.

LS

40 mm HBG metal

Sand

Cement

Mason

Mazdoor

Sundries

*

(b) First-class brickwork in CM (1 : 8) unit—1 cu.m

500 Nos.	First-class bricks
0.38 cu.m	CM (1 : 8)
1.40 Nos.	Brick layers
2.80 Nos.	Mazdoor
LS	Sundries

Labour Charges :

Mason/Brick layer	₹ 420/day
Mazdoor	₹ 350/day
Mixing charges of cement mortar	₹ 50/cu.m

Lead Statement :

Sl. No.	Materials	Rate at Source (in ₹)	Leads (in km)	Conveyance charges/km
1	40 mm HBG metal	250.00/cu.m	12 km MT + 10 km CT	₹ 6.00/km/cu.m
2	Sand	75.00/cu.m	6 km MT + 5 km ST	₹ 4.00/km/cu.m
3	Bricks	900/1000 Nos.	6 km MT	₹ 5.00/km/1000 nos.
4	Cement	2500 per tonne	At site	—

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

(a) RR masonry with CM (1 : 8) unit 1 m³

1.05 m ³	Rough stone
0.34 m ³	CM (1:8)
1.8 nos.	Mason
2.8 nos.	Man mazdoor
LS	Sundries

(b) Pointing to RR masonry in CM (1:5) unit—10 m²

0.09 m ³	CM (1:5)
2.28 nos.	Mason
0.5 No.	Man mazdoor
1.1 nos.	Woman mazdoor
LS	Sundries

*

Lead Statement of Materials :

Sl. No.	Materials	Rate at Source (in ₹)	Lead (in km)	Conveyance charges/km
1	Rough stone	320.00/m ³	15	₹ 4.00/m ³
2	Sand	95.00/m ³	10	₹ 3.00/m ³
3	Cement	2500.00 /MT	At site	—

Labour Charges :

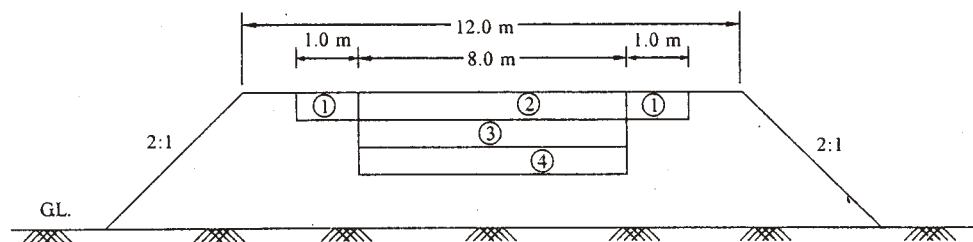
Mason	= ₹ 225.00/day
Men mazdoor	= ₹ 180.00/day
Women mazdoor	= ₹ 180.00/day
Mixing charges for CM	= ₹ 40.00/m ³

- 15.** The contour levels and contour areas of a depression are given below. The bed level of the depression is at 78 m contour and is to be filled up to 84 m. Calculate the earthwork quantity by using (a) trapezoidal rule and (b) prismoidal rule.

Contour level (in m)	78	79	80	81	82	83	84
Area of contour (in sq. m)	99	103	110	116	120	132	137

- 16.** Prepare the detailed estimate of the following items of work for a water bound macadam road as shown in the figure given below for a length of 200 m :

- Collection and supply of gravel for shoulders
- Collection and supply of 65 mm HBG metal for base course
- Spreading of 40 mm HBG metal for wearing course

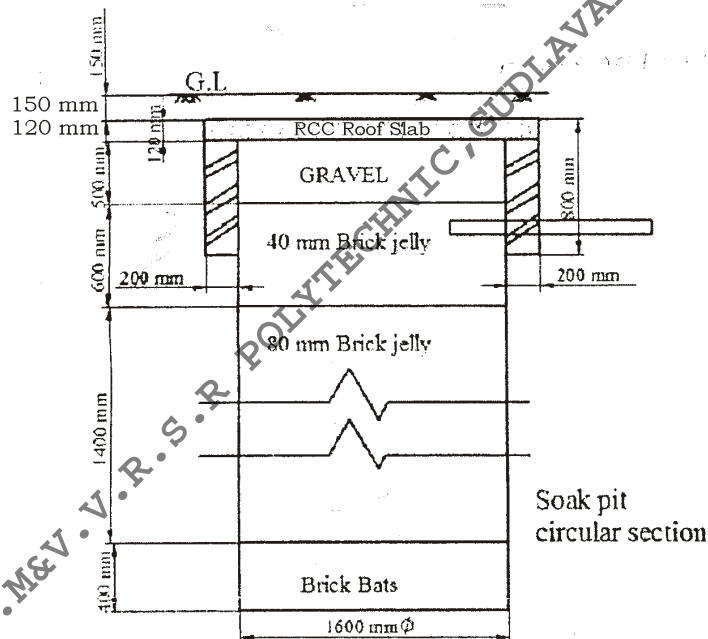


W.B.M Road Section

- (i) Gravel shoulders for a compacted thickness of 100 mm (loose thickness 150 mm)
- (ii) 40 mm HBG to a compacted thickness of 100 mm (loose thickness 130 mm)
- (iii) 65 mm HBG metal to a compacted thickness of 120 mm (loose thickness 150 mm)
- (iv) Gravel base to a compacted thickness of 150 mm (loose thickness of 225 mm)

17. The cross-section of a soak pit of 1.6 m diameter is shown in figure given below. Prepare the detailed estimate of the following items of work :

- (a) Earthwork excavation for soak pit
- (b) Loose packing of brick jelly 40 mm size
- (c) RCC (1: 2 : 4) roof over soak pit



18. A residential building constructed 20 years ago is situated on a plot whose total area is 223 m^2 . The plinth area of the building is 62 m^2 . The present cost of construction of the building is ₹ 8,00,000 and the cost of the land is ₹ 500/ m^2 . The rate of depreciation for the value of the building is 1%. Calculate the total value of the property.

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