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C09–C–404

3425

BOARD DIPLOMA EXAMINATION, (C–09)

OCT/NOV—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. State the units of measurements of the following items : 1×3

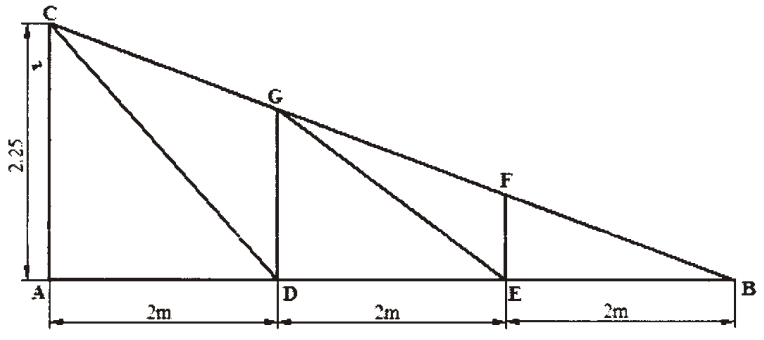
(a) Sand filling

(b) Weather proof course

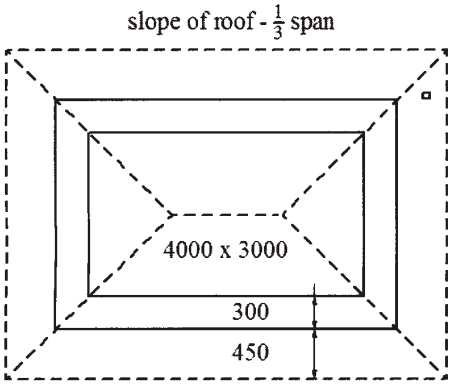
(c) RCC for slab

2. State the purpose of an approximate estimate and give the different methods adopted. 1½+1½

3. Calculate the length of the members DC, EG and DG for the truss shown in the figure below : 1+1+1



4. For a hipped roof shown in the figure below, calculate the following : 1+1+1



Note : All dimensions are in mm.

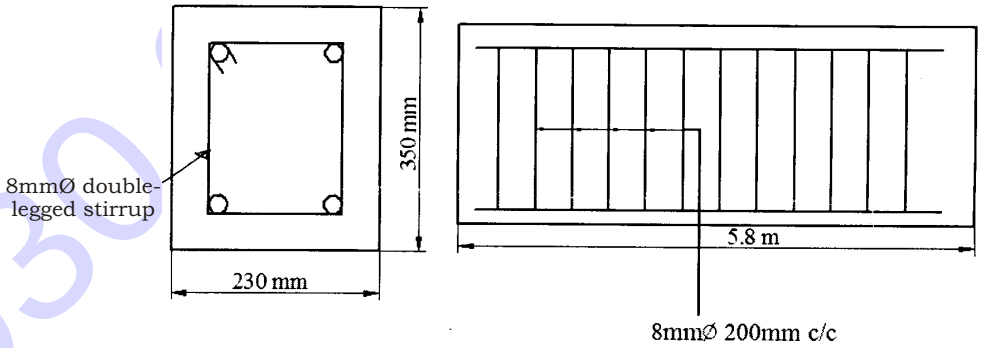
(a) Length of ridge piece

(b) Length of common rafters

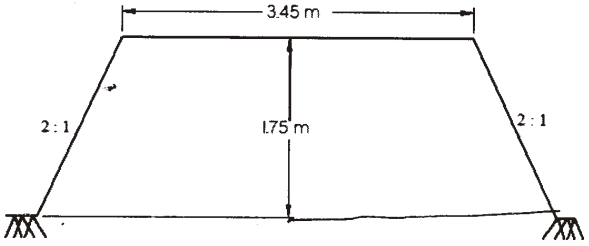
(c) Length of eaves board

5. Calculate the quantity of cement required in bags for brick masonry in CM (1 : 6) using country bricks for 18·50 m^3 of work, if 0·38 m^3 of mortar is required for 1 m^3 of masonry. 3

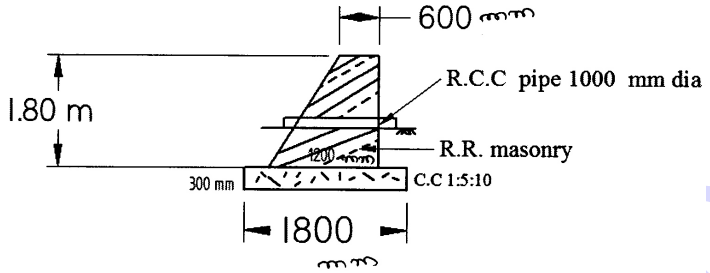
6. Calculate the total weight of stirrups of 8 mm dia for a simply supported beam shown in the figure below. Weight of rod is 0·41 kg/m. Assume the clear cover as 25 mm : 3



7. Find the earthwork in embankment for a 2·0 km road, whose cross-section is given below : 3



8. The cross-section of head wall for pipe culvert is shown in the figure below. Calculate the quantity of RR masonry in CM (1 : 6), if the length of head wall is 6·50 m (without deductions) : 3



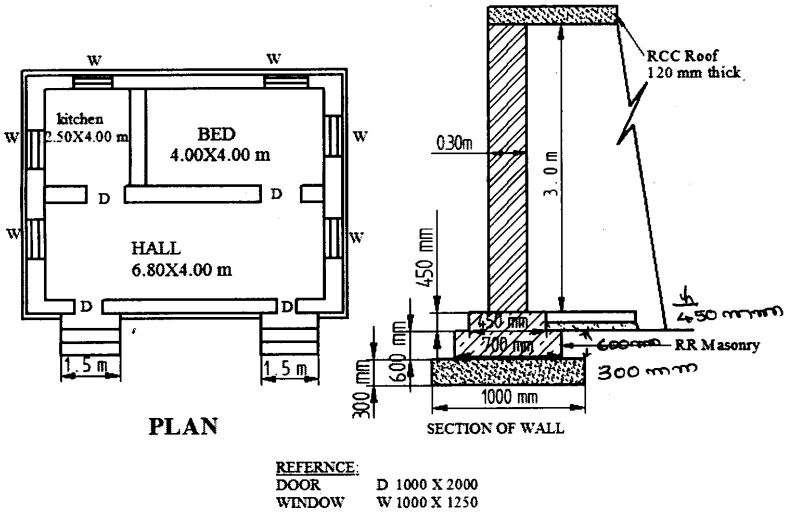
9. Write a short note on book value. 3

10. State any four types of outgoings to be considered during fixation of rent. 3

PART—B 10×5=50

Instructions : (1) Answer *any* **five** questions.
(2) Each question carries **ten** marks.
(3) Answer 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 residential building shown in the figure below : 4+4+2

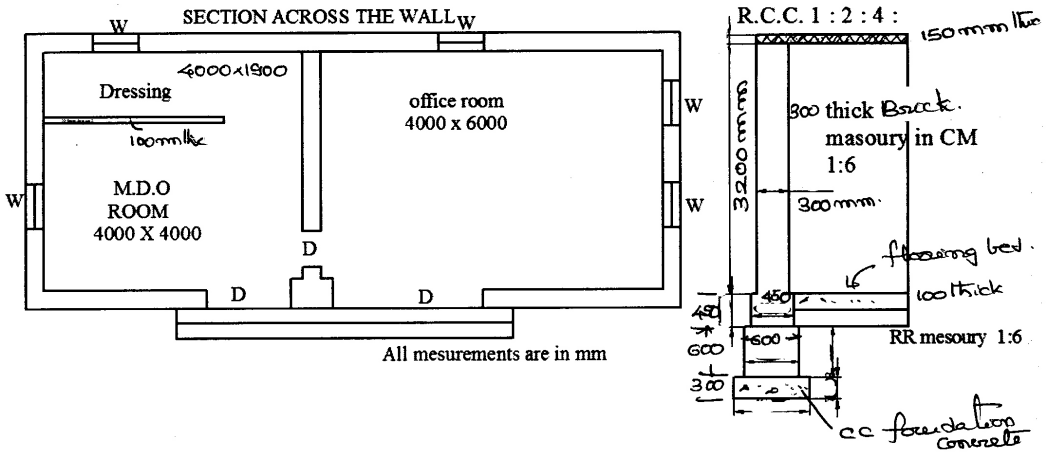


(a) CC (1 : 5 : 10) for foundation bed

(b) Brick masonry for superstructure walls without deduction

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

12. Calculate the quantities for the following items of work for the building shown in the figure below : 10



(a) Earthwork excavation for foundation

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

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

13. Prepare the data sheet and calculate the cost of the items given below, using the lead statement of materials : 5+5

(a) Plastering with CM (1 : 5) 20 mm thick unit—10 sq.m.

0·21 cu.m.	CM (1 : 5)
0·33 nos.	Mason 1st class
0·77 nos.	Mason 2nd class
0·50 nos.	Man mazdoor
0·10 nos.	Woman mazdoor
LS	Sundries

(b) Brick masonry with country bricks in CM (1 : 6) unit—1 cu.m.

512 nos.	Bricks
0·20 cu.m.	CM (1 : 6)
0·42 cu.m.	Mason 1st class
0·98 nos.	Mason 2nd class
0·70 nos.	Man mazdoor
2·10 nos.	Woman mazdoor
LS	Sundries

Lead statement of materials :

Sl. No.	*Materials*	*Rate at source*	*Leads* (in km)			*Conveyance charges per km on 1 cu.m.*
			ST	CT	MT	Rs Paise
1	Bricks	₹ 1600/1000 Nos.	—	—	25	₹ 8·00/km/1000 nos.
2	Sand	₹ 250/1 cu.m.	2	3	10	For 20 km ₹ 160
3	Cement	₹ 3400/1 MT				At site

Labour charges :

Mason 1st class	= ₹ 160·00 per day
Mason 2nd class	= ₹ 140·00 per day
Man Mazdoor	= ₹ 110·00 per day
Woman Mazdoor	= ₹ 110·00 per day
Mixing charges for CM	= ₹ 20·00/cu.m.

14. Prepare the data sheet and calculate the cost of the items given below : 5+5

(a) Flooring with 25 mm thick polished Shahabad stone of 1st quality of size not exceeding 400 mm×400 mm, laid over set in CM (1 : 10) 16 mm thick base coat—10 sq.m.

(b) Painting with white cement paint 1st quality two coats to walls after surface is thoroughly cleaned including cost and conveyance of materials to site etc., 10 sq.m.

(1) Materials and labour required for flooring with 25 mm thick polished Shahabad stone—unit—10 sq.m.

10·10 sq.m.	Polished stone
0·12 cu.m.	CM (1 : 10)
0·96 nos.	Mason I class
2·24 nos.	Mason II class
2·20 nos.	Man mazdoor
1·10 nos.	Woman mazdoor
LS	Sundries

(2) Painting with white cement paint—unit—10 sq.m.

3·5 kg	White cement paint
0·15 nos.	Mason I class
1·35 nos.	Mason II class
0·50 nos.	Man mazdoor
1·0 nos.	Woman mazdoor
LS	Sundries

Lead statement :

Sl. No.	*Materials*	*Rate at source* (in ₹)	*Leads* (in km)	*Conveyance charged/km*
1	Polished stone	1650/10 sq.m.	8	₹ 10/10 sq.m.
2	Sand	250/cu.m.	20	₹ 160·00 for 20 km/1 cu.m.
3	Cement	3400/MT	Local	—
4	White cement paint	15/kg	Local	—

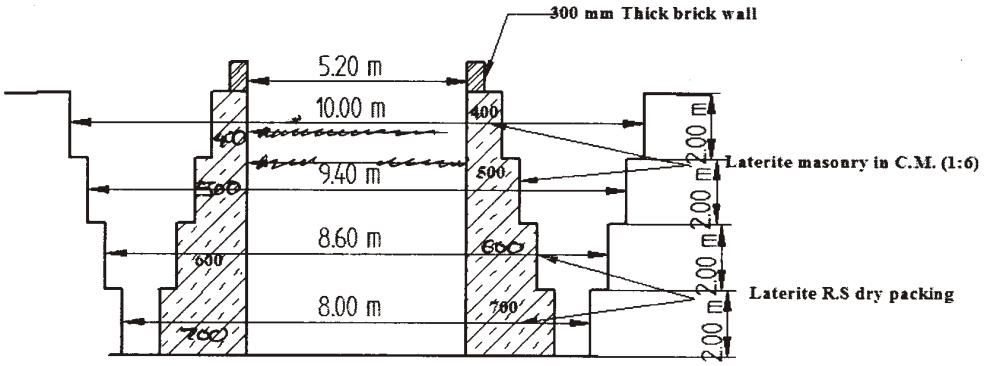
Labour charges :

1st class mason	₹ 190·00/day
2nd class mason	₹ 180·00/day
Man mazdoor	₹ 150·00/day
Woman mazdoor	₹ 150·00/day
Mixing charges for CM	₹ 30·00/m^3

15. The contour areas of a reservoir are given below. Calculate the dead and effective capacity of the reservoir : 10

Levels (in m)	*Areas* (in sq.m.)	
10·0	10500	Bed level
11·0	13200	
12·0	20600	Sill level
13·0	35000	
14·0	40200	
15·0	60700	
16·0	72400	
17·0	90300	FTL
18·0	99300	MWL

16. Calculate the quantities for the following items of work for an open well shown in the figure below : 4+3+3

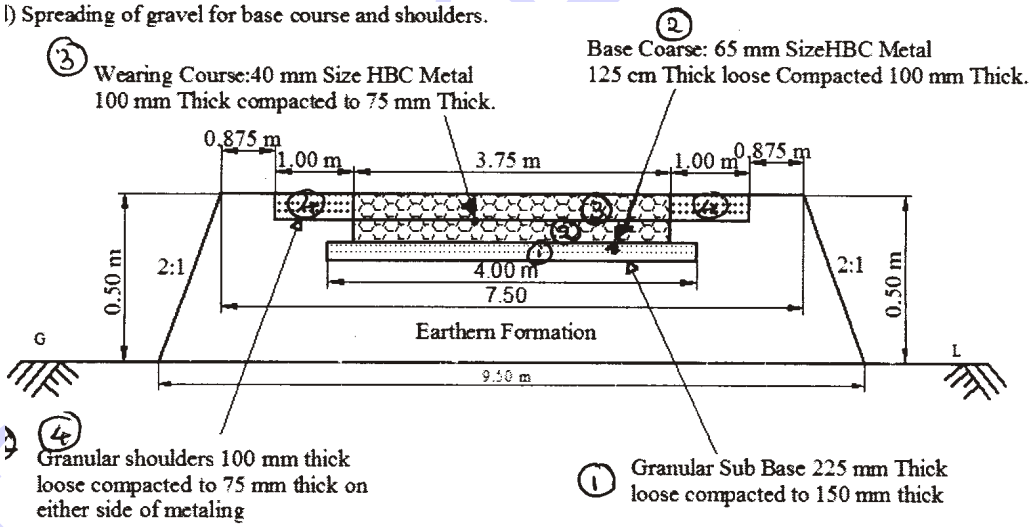


(a) Earthwork excavation for open well

(b) Laterite masonry in CM (1 : 6)

(c) Laterite rough stone dry packing

17. Calculate the following quantities for a WBM road shown in the figure below for a length of 1·00 km : 2+3+3+2



(a) Spreading of 65 mm HBG metal for base course

(b) Collection and supply of 65 m HBG metal for base course

(c) Collection and supply of 40 mm HBG metal for wearing course

(d) Spreading of gravel for base course and shoulders

18. Explain the factors governing the valuation of a property. 10

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