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C14-C–403

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BOARD DIPLOMA EXAMINATION, (C-14)

MARCH/APRIL—2021

DCE - FOURTH SEMESTER EXAMINATION

QUANTITY SURVEYING - I

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

PART—A

4×5=20

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

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

(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. What is quantity surveying?

2. Write the units of measurements for the following items of works:

(a) Steel reinforcement in R.C.C.

(b) Doors.

3. Define the term ‘‘Lift”.

4. Explain “Prismoidal rule” with usual notations.

5. Explain the term “Cutting”.

6. Explain “Plinth area method” of approximate estimate.

7. A room's internal dimensions are 3·6 m × 3·0 m, the wall thickness in superstructure is 230 mm. Calculate the centre line length.

8. A hospital building has to be constructed for 20 beds. The cost of construction altogether for each bed is ` 80,000. Determine the total cost of hospital building.

9. 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 brick masonry in CM (1 : 8) in basement.

10. Calculate the quantity of cement concrete (1 : 1½ : 3) required for RCC lintels over doors of a residential building. There are 6 doors of size 1·1 m × 2·10 m. Thickness of wall is 230 mm and thickness of lintel is 100 mm and a bearing on either side of doors is 150 mm.

PART—B

15×4=60

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

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

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

11. What is meant by specification? State its necessity.

12. Calculate the volume of the earthwork by any two methods for the details given below :

(a) Width of formations—5·0 in.

(b) Side slopes—1½ : 1.

(c) Constant (common interval)—10 m.

(d) Heights of filling @ 10 m interval—1·8 m, 2·1 m, 1·65 m, 1·9 and 0·75 m.

13. Explain trapezoidal rule and prismoidal rule with usual notations.

14. Prepare an approximate estimate of a polytechnic hostel for a capacity of 300 students. The cost of construction for each student is arrived at ` 50,000 by considering the recent hostel building construction.

15. Prepare a preliminary estimate for the proposed construction of a Govt. building with a plinth area of 195·10 m^2 using the following data :

(a) Plinth area rate : ` 950 per m^2.

(b) Cost of water supply @ 7·5 % of building cost.

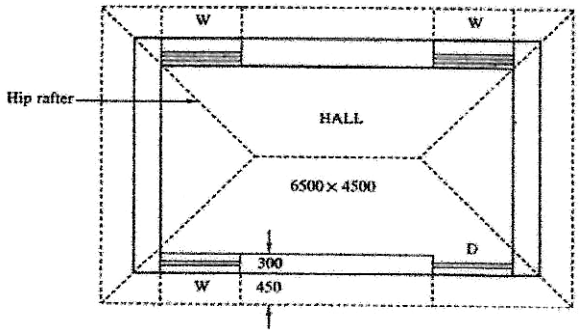
(c) Cost of sanitary fittings and installation @ 5 % of building cost.

(d) Cost of electrification @ 6 % of building cost.

(e) Cost of architectural features @ 0·5 % of building cost.

(f) Cost of roads & lawns @2% of building cost.

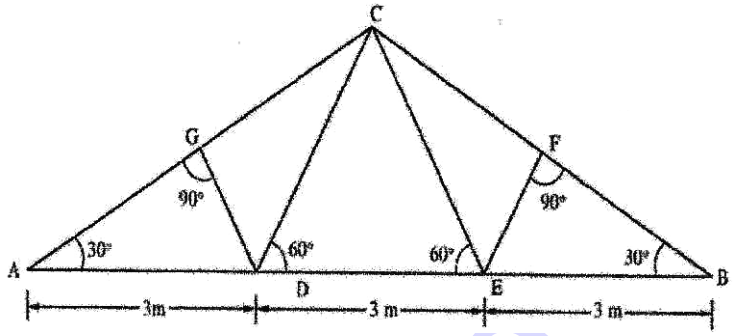
16. For a hipped roof shown in below sketch, calculate *(a)* Length of hip rafter and *(b)* No. of common rafters spaced at 500 mm c/c.



17. Calculate the quantity of steel required for the steels truss as shown in the figure below :

(a) Main members at 56 N/m.

(b) Struts at 45 N/m.



18. Write any five structural elements for which the quantities of different materials are calculated.

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