PART C — (1 × 15 = 15 marks)

16. (a) Estimate the quantities of the following items for the building giving in fig 1.
   (i) Earthwork excavation in foundation
   (ii) PCC in foundation
   (iii) Stone masonry in footings and plinth
   (iv) Material in damp proof course
   (v) Material in steps.

Or

(b) Estimate the quantities of the following items of works for the buildings as shown in fig.1.
   (i) Material in floor
   (ii) Brick work in superstructure
   (iii) Material in roof and weathering course
   (iv) Plastering interior and exterior
   (v) Material in parapet wall.
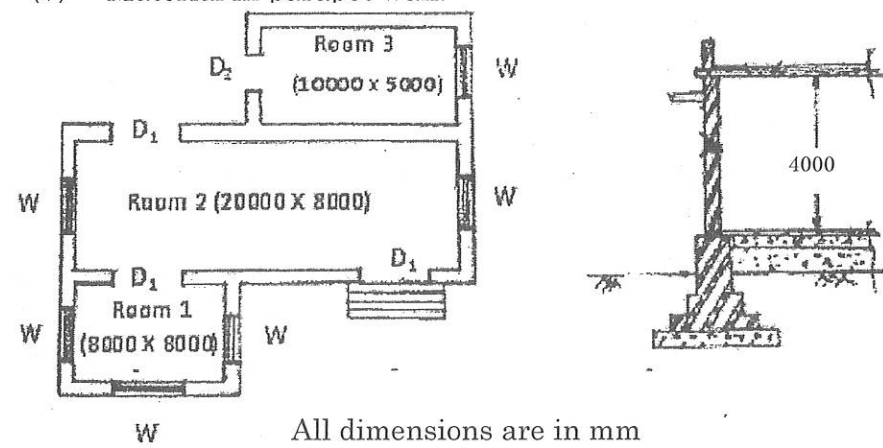

All dimensions are in mm

Fig.1

Dimensions of Components:
- PCC in foundation: 1200 mm × 200 mm
- Stone work in first footing: 800 mm × 200 mm
- Stone work in second footing: 600 mm × 250 mm
- Plinth below ground level (Stone masonry): 400 mm × 300 mm
- Plinth above ground level (Stone masonry): 400 mm × 600 mm
- Super structure wall (brick work) at 230 mm thickness with height 4000 mm
- Parapet wall at 150 mm thickness and height 1000 mm
- Thickness of roof slab 120 mm
- DPC at 25 mm thickness
- Thickness of sand filling in floor: 500 mm
- Thickness of floor base: 75 mm

Question Paper Code : 90336

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Seventh Semester

Civil Engineering

CE 8701 – ESTIMATION, COSTING AND VALUATION ENGINEERING

(Regulations 2017)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Classify revised estimate from supplementary estimate.

2. Tell the factors to be considered in designing the septic tank.

3. Define the term Lump-sum

4. Write the importance of rate analysis.

5. Write few words about TTT Act

6. Tell the reason for rejection of all tender.

7. List down various types of Contracts.

8. Define the term Arbitration.

9. Write the necessity of valuation.

10. List down various methods of valuation.

PART B — (5 × 13 = 65 marks)

11. (a) Briefly explain the different types of estimates and discuss at which situation each type is preferred by giving appropriate justification.

Or

(b) Describe a detailed estimate with specifications, quantity measurement for RCC retaining wall constructed along a river bed.

12. (a) Prepare a detailed rate analysis for the following items: (Assume any other relevant data)

    (i) 2.5 cm Cement concrete floor of 1:2:4 mix — Rate for 10 m^2

    Labour requirement for 100 sq.m;

    Head mason – ¾ no. ; Mason – 10 nos; Mazdoor category I – 5 nos;

    Mazdoor category II – 7 nos, Take side forms, sundries,

    T & P – Lump sum @ Rs. 600/-

    (ii) Reinforced cement concrete 1:2:4 mix (Including steel and formwork) for columns— Rate / 10 m^3

    Labour requirement for 100 cu.m:

    Head mason – ½ no; Mason – 4 nos; Mazdoor category I – 20 nos;

    Mazdoor category II – 34 nos;

    Sundries, T & P – Lump sum @ Rs.500/-;

    Blacksmith for Bending & Cranking of steel (II class) – 14 nos.

    Carpenter (Class II) – 12 nos.

    Steel plates (for Centering & shuttering) – (Lumpsum) @ Rs.5,000/-

    Nails & T & P (Lumpsum) @ Rs. 450/–

    Cost of materials & Labour:

    Cement – Rs. 450/bag

    Coarse sand – Rs. 1120/ m^3

    Broken stones 20mm gauge – Rs.1050/ m^3

    MS bars.& binding wires - Rs.50/kg

    Head mason – Rs.600/day; Mason – Rs. 550/day

    Mazdoor I – Rs.400/day; Mazdoor category II – Rs. 300 /day

    Blacksmith – Rs. 450/day, Carpenter (Class II) – Rs. 450/day

Or

(b) Prepare a detailed rate analysis for the following items. (Assume any other relevant data)

    (i) Plastering with cement mortar 1:4, 12 mm thick – Rate for 10 m^2

    Labour requirement for 100 sq.m:

    Head mason – 1/3 no. ; Mason – 15 nos.; Mazdoor category II – 20 nos.; Mazdoor category I – 2 nos; Scaffolding, sundries, T & P – Lump sum @ Rs. 600/-

    (ii) Reinforced cement concrete 1: 1 ½: 3 (including steel and formwork) for roof slab – Rate/10m^3

    Labour requirement for 100 cu.m:

    Head mason – ½ no; Mason – 4 nos.; Mazdoor I – 15 nos;

    Mazdoor II – 32 nos; Sundries, T & P(Lump sum) @ Rs.500/-;

    Blacksmith for bending & Cranking of steel (II class) – 14 nos.

    Carpenter (Class II) – 12 nos.

    Steel plates (for Centering & shuttering) – (Lumpsum) @ Rs. 5000/-

    Nails & T & P (Lumpsum) @ Rs. 450/-

    Cost of materials & Labour:

    Cement – Rs. 450/bag

    Coarse sand – Rs. 1120 /m^3

    Broken stones 20mm gauge – Rs. 1050/m^3

    MS bars & binding wire – Rs.50/kg

    Head mason – Rs. 600/day; Mason – Rs. 550/day

    Mazdoor I – Rs. 400/day; Mazdoor category II – Rs.300/day

    Blacksmith – Rs. 450/day

    Carpenter (Class II) – Rs.450/day

13. (a) Discuss the detailed specifications for RCC and color washing in building mentioning its salient features.

Or

(b) Prepare a report for estimate a residential building that can be submitted to an engineer.

14. (a) Explain in detail about preparation of contract document with all its features.

Or

(b) Write a note on: Arbitration and Legal requirements in projects.

15. (a) Mr.'X' purchased a Residential Flat of 1250 sq.ft @ a composite rate of Rs.6500/sq.ft. He wants to let out his flat and he expects a rate of return of 3%. What is the rent he can expect?

Or

(b) (i) What is the General procedure of valuation of property involving plot and Building? (7)

    (ii) What are the few factors affecting the value of the building in general? (6)