B.E. (Civil Engineering) Seventh Semester (C.B.S.)
Estimating and Costing

P. Pages : 3

Time : Four Hours

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Max. Marks : 80

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Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Due credit will be given to neatness and adequate dimensions.
9. Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.
11. Use of non programmable calculator is permitted.

1. a) Explain with suitable examples. The various methods of calculating Approximate estimates. **6**

   b) The following table is an extract from the longitudinal section of road earth work survey. **7**
   Calculate the quantity of earth work from the following data.
   i)   Formation width : 14 m
   ii) Side slopes : a) Banking – 2 : 1 b) cutting – 1.5 : 1

Chainage	0	30	60	90	120	150	180
R. L. of ground	99.70	99.80	100.30	100.50	100.80	100.90	100.60
R. L. of formation	100.50− in 1300 (+) ∗ in 150(−)→						

OR

2. a) Explain the objective of preliminary estimate and enlist method for preparing preliminary estimate. **6**

   b) Estimate the quantity of earth work for an embankment 200 m long and 10 m wide at crest **7**
   & where side slopes is 2 : 1. The central height from 0 to 30 chainage are 0.75, 1.50, 1.85, 2.1, 1.70m, 1.6m & 1.3m using Trapezoidal formula.

3. a) Estimate the quantities for the following items of work for the given building plan & typical **8**
   wall section in figure (I).
   i) Earthwork in excavation in foundation trenches.
   ii) IInd class brick masonry in CM 1 : 6 in foundation and plinth.

Figure - I

PLAN

D = 1.2 x 2.1m
D1 = 1.0 x 2.1m
W = 1.2 x 1.2m
W₁ = 0.9 x 1.2m

section @ x - x
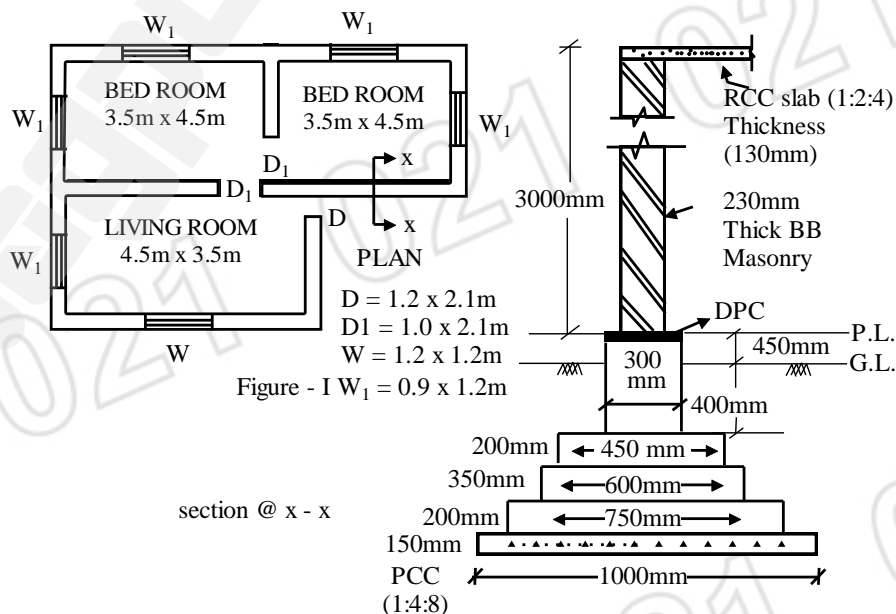
b) A RCC simply supported slab of clear size $3.3m \times 6.6m$ is Reinforced with $10mm\phi @ 120mm\,c/c$ alternately bent up. Distribution bars are $6mm\phi @ 140mm\,c/c$. Thickness of slab is 120mm. Bearing of slab is 150mm. Calculate the total quantity of reinforcement. Also prepare schedule of bar. **6**

OR

4. a) As per figure (I) showing plan & section calculate **8**

    i) IInd class brick masonry in CM 1 : 5 in super structure.

    ii) 12mm thick internal plaster in CM 1 : 4 for celling and walls.

b) A RCC simply supported beam of size $350mm \times 650mm$ is reinforced with 4 No's of $20mm\phi$ bar. Main bar are placed in one row & two bent up. Two anchor bars of 12mm diameter are provided at top 8mm diameter stirrups are provided at 150mm c/c. The overall beam length is 6.2m. Calculate the total quantity of steel required show bar schedule. **6**

5. a) Explain the terms "Administrative Approval" & Technical Sanction. **6**

b) Explain the term of contract, enlist the various types of contract, explain any one of them. **7**

OR

6. a) Explain the methods of carrying out Civil Engg. works in Govt. Department. **6**

b) Enlist an information to be included while drafting Tender Notice. **7**

7. a) What is specification? Explain in brief, objectives of specification. Enlist the type of specification. **6**

b) Write the detailed specification of the following item. **7**

    i) IInd class brick masonry in CM 1 : 6 in super structure.

    ii) Laying PCC 1 : 4 : 8 mix in foundation.

OR

8. a) Explain 'Direct and Indirect Charges'. **6**

b) Write short notes on the following **any two.** **7**

    i) Classification of cost.

    ii) Security deposit.

    iii) MAS Account.

9. a) Explain the term of 'rate analysis'. Explain the major and minor factors affecting it. **6**

b) Analyse the rate for any two following items in standard format. **8**
    i) R.C.C. work (1 : 2 : 4) in slab with 1.2% steel reinforcement.
    ii) Brick masonry (Brick size 200mm x 10mm x 10mm) in CM 1 :4.
    iii) 12 mm thick plaster in CM 1 : 2.

OR

10. a) Write short notes on : **6**

      i) Overhead Costs.

      ii) Task work of labourer.

    b) Calculate the rate per unit item of the following **any two.** **8**

      i) R.C.C. work (1 : 2 : 4) in column with 6% steel reinforcement including shuttering in column.

      ii) 12 cm thick cement concrete flooring.

      iii) Stone masonry in super structure CM 1 : 3.

11. a) What is Valuation? Explain in brief, the purpose of valuation. **7**

    b) Differentiate clearly with suitable example between cost, value and price. **6**

OR

12. Write short notes on **any three.** **13**

    i) Market Value and Book Value.

    ii) Cost Value and Price.

    iii) Direct and Indirect Charge.

    iv) M.A.S. Account.

    v) Depreciation and obsolescence.

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