

B.E. / B.Tech. - DEGREE EXAMINATIONS, APR/MAY 2025

Seventh Semester

Civil Engineering**20CEPW701 - ESTIMATION AND QUANTITY SURVEYING WITH LABORATORY**

Regulations - 2020

Duration: 3 Hours

Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)

Answer ALL Questions

- | | <i>Marks</i> | <i>K – Level</i> | <i>CO</i> |
|---|--------------|------------------|-----------|
| 1. Which of the following is used to calculate the quantities of excavation in earthwork?
(a) Mid-section formula (b) Simpson's rule (c) Area method (d) Trapezoidal rule | 1 | K1 | CO1 |
| 2. Which of the following is typically included in a detailed estimate?
(a) Only the material costs (b) Material costs and labor costs
(c) Material costs, labor costs, and contingencies (d) Only labor costs | 1 | K1 | CO1 |
| 3. Which of the following is NOT considered while preparing a rate analysis?
(a) Labor cost (b) Material cost
(c) Depreciation of equipment (d) Project management fees | 1 | K1 | CO2 |
| 4. What is the unit of measurement for brickwork in estimation?
(a) Cubic meter (b) Square meter (c) feet (d) meter | 1 | K1 | CO2 |
| 5. Which of the following is NOT a source of construction specifications?
(a) Industry standards (b) Manufacturer's guidelines
(c) Local building codes (d) Personal preferences of the contractor | 1 | K1 | CO3 |
| 6. What type of information is typically found in the Cost Estimate section of a construction report?
(a) Material specifications and quantities (b) Project timeline
(c) Environmental impact assessment (d) Details about the contractor's background | 1 | K1 | CO3 |
| 7. Which tender allows anyone to submit a tender to supply the goods or services that are required?
(a) Selective tendering (b) Framework tendering
(c) Open tendering (d) Close tendering | 1 | K1 | CO4 |
| 8. Which of the following is NOT a method of tendering?
(a) Open tendering (b) Single-stage tendering
(c) Negotiated tendering (d) Indirect tendering | 1 | K1 | CO4 |
| 9. Which of the following is NOT typically a criterion for evaluating bids?
(a) Contractor's past performance (b) The lowest bid price
(c) Contractor's financial stability (d) Personal relationship with the project owner | 1 | K1 | CO5 |
| 10. Which is the Scrap Value of a building?
(a) The value of the building after its useful life
(b) The current market value
(c) The resale value of the building in its prime condition
(d) The cost of reconstructing the building | 1 | K1 | CO6 |

PART - B (12 × 2 = 24 Marks)

Answer ALL Questions

- | | | | |
|---|---|----|-----|
| 11. Differentiate detailed and abstract estimates. | 2 | K2 | CO1 |
| 12. List out the software used for estimation. | 2 | K1 | CO1 |
| 13. What is schedule of rates? | 2 | K1 | CO2 |
| 14. What are the unit of measurements for weathering course and painting? | 2 | K1 | CO2 |
| 15. What is specification? | 2 | K1 | CO3 |

- | | | | |
|-------------------------------------|---|----|-----|
| 16. Write the definition of report. | 2 | K1 | CO3 |
| 17. Write the types of tenders? | 2 | K1 | CO4 |
| 18. Explain TTT Act. | 2 | K2 | CO4 |
| 19. Define valuation. | 2 | K1 | CO5 |
| 20. What is Contract? | 2 | K1 | CO6 |
| 21. What is scrap value? | 2 | K1 | CO5 |
| 22. What is capital cost? | 2 | K1 | CO6 |

PART - C (6 × 11 = 66 Marks)

Answer ALL Questions

23. a) Formulate the detailed estimate for the following items of works given in Figure 1. 11 K2 CO1
Size of door 1.1x2.07m and assume the necessary data.

- Stone masonry in sub structure.
- Roof concrete with M20 grade concrete.

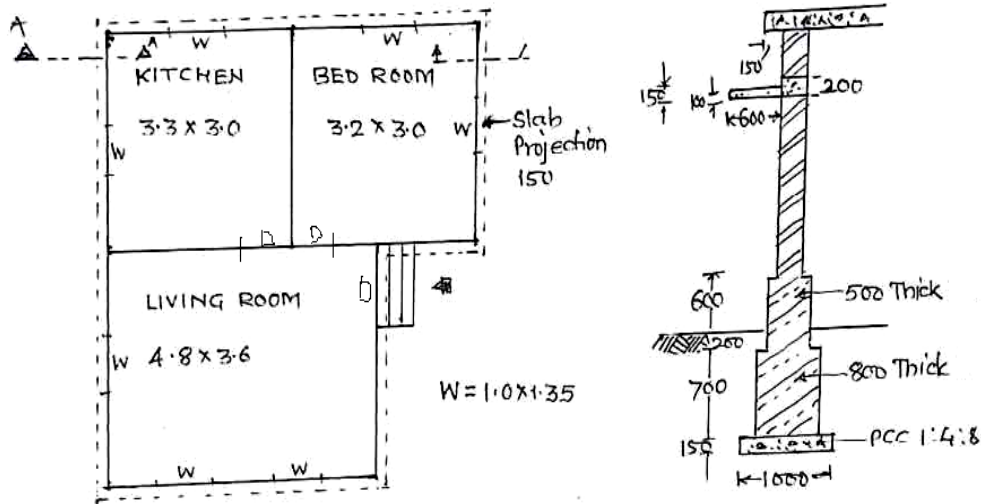


Figure 1

OR

- b) Formulate the quantity of the following item of works for the building shown in Figure 2. 11 K2 CO1

- Earthwork for excavation and Plain Cement concrete for foundation 1:4:8.
- First Class Brick work in Super Structure. Take height of the floor as 3m

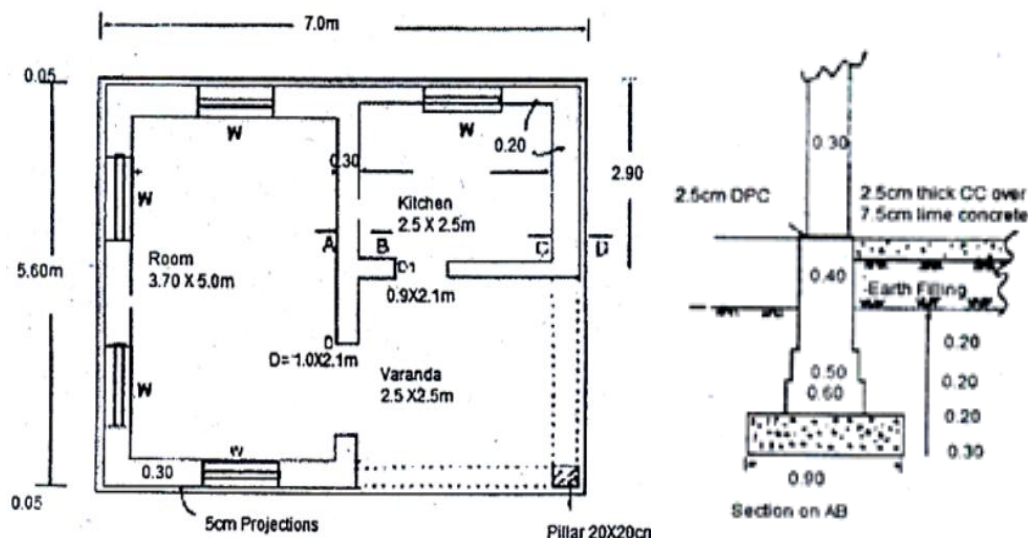


Figure 2

24. a) Identify the rate for centering and shuttering, concreting with M20 grade concrete for a RCC beam of 15 cm x 30 cm for a span of 6 m. Assume 4.0 m as the height of room. Use HYSD bars. 11 K3 CO2

OR

- b) Identify the rate of the following item of works in respect of underground tank shown in figure 3. 11 K3 CO2
- (i) Earthwork excavation, P.C.C bed concrete 1:4:8
- (ii) Brickwork with cement mortar 1:6, Roof concrete with M20 grade concrete.

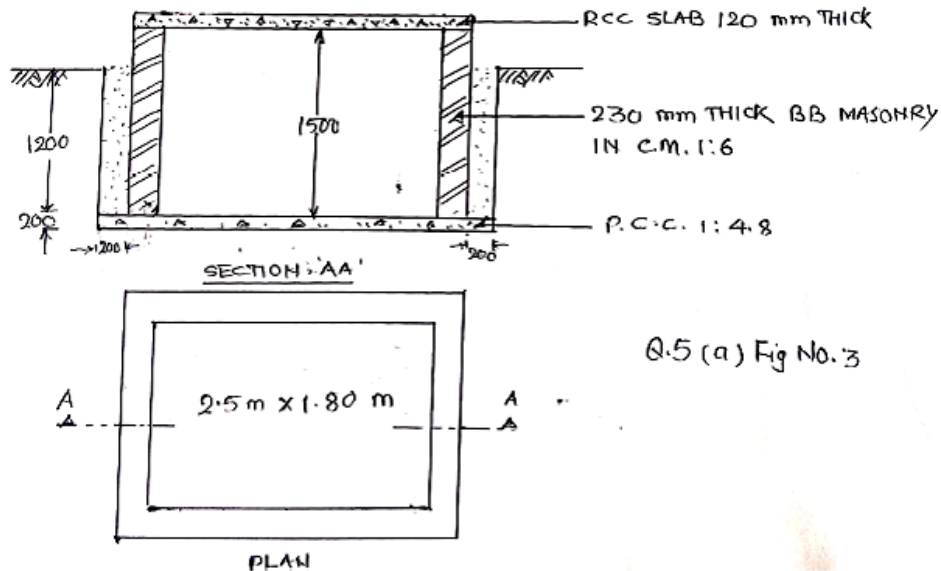


Figure 3

25. a) Explain the different types of specifications with example. 11 K2 CO3

OR

- b) Illustrate a detailed report on estimation of culvert. 11 K2 CO3

26. a) Illustrate a tender notice and document for a road project. 11 K2 CO4

OR

- b) Outline the process of e-tendering and explain in detail. 11 K2 CO4

27. a) Explain in detail about the preparation of Contract document with all content. 11 K2 CO5

OR

- b) Explain Arbitration, litigation and legal requirements. 11 K2 CO5

28. a) In a plot of land costing Rs.25,00,000 a building has been newly constructed at a local cost of Rs.65,00,000 including sanitary and water supply works, electrical installation, etc. The building consists of four flats of four tenants. The owner expects 8% return on the cost of construction and 5% of return on the land. Calculate the standard rent for each flat of the building. Assuming, the life of the building is 60 years and the sinking fund will be created on 4% interest basis, Annual repair cost 1% of the cost of construction, and other outgoings including taxes at 30% of the net return on the building. 11 K2 CO6

OR

- b) Summarize the role of the rental method and development method in property valuation. 11 K2 CO6