

Code No: RT42011

**R13****Set No. 1**

IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018

**ESTIMATING, SPECIFICATIONS & CONTRACTS**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer any THREE questions from Part-A**Part-B is compulsory*

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**PART-A** (3x14=42 Marks)

1. a) Differentiate between detailed estimate and abstract estimate [7]  
b) Explain the use of approximate estimate in civil engineering [7]
2. a) Explain steps needed for carrying out rate analysis for a typical item in civil Works. [7]  
b) What is the need for contingent charges in estimate and how you make provision for the same? [7]
3. Calculate the quantity of earthwork in embankment for a portion of channel with the following data:  
Bed width = 3.75 m  
Free Board = 40 cm  
Side slope of banking = 1:1  
Full supply depth = 1 m  
Top width of both banks = 1.2 m  

|                        |        |        |        |        |
|------------------------|--------|--------|--------|--------|
| Distance (m)           | 0      | 30     | 60     | 90     |
| Ground Level (m)       | 225.24 | 224.8  | 224.43 | 224.12 |
| Proposed bed level (m) | 224    | 223.94 | 223.88 | 223.82 |

 [14]
4. What are the different types of valuations? Explain in detail. [14]
5. Give standard specifications for the items in the construction of class 'B' residential building: (a) Footing and plinth. (b) Super structure. (c) Roofs. (d) D.P.C [14]
6. With an example, prepare a detailed estimate of a RCC Rectangular beam including centering and shuttering and steel reinforcement. Also prepare schedule of bars [14]

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**PART-B** (1x28 = 28 Marks)

7. Enumerate detailed specifications for the following items as shown in figure.1:
- Random Rubble Masonry in Sub structures.
  - Plastering of walls.
  - Painting to wood works.
  - Painting to Iron Works.
- [28]

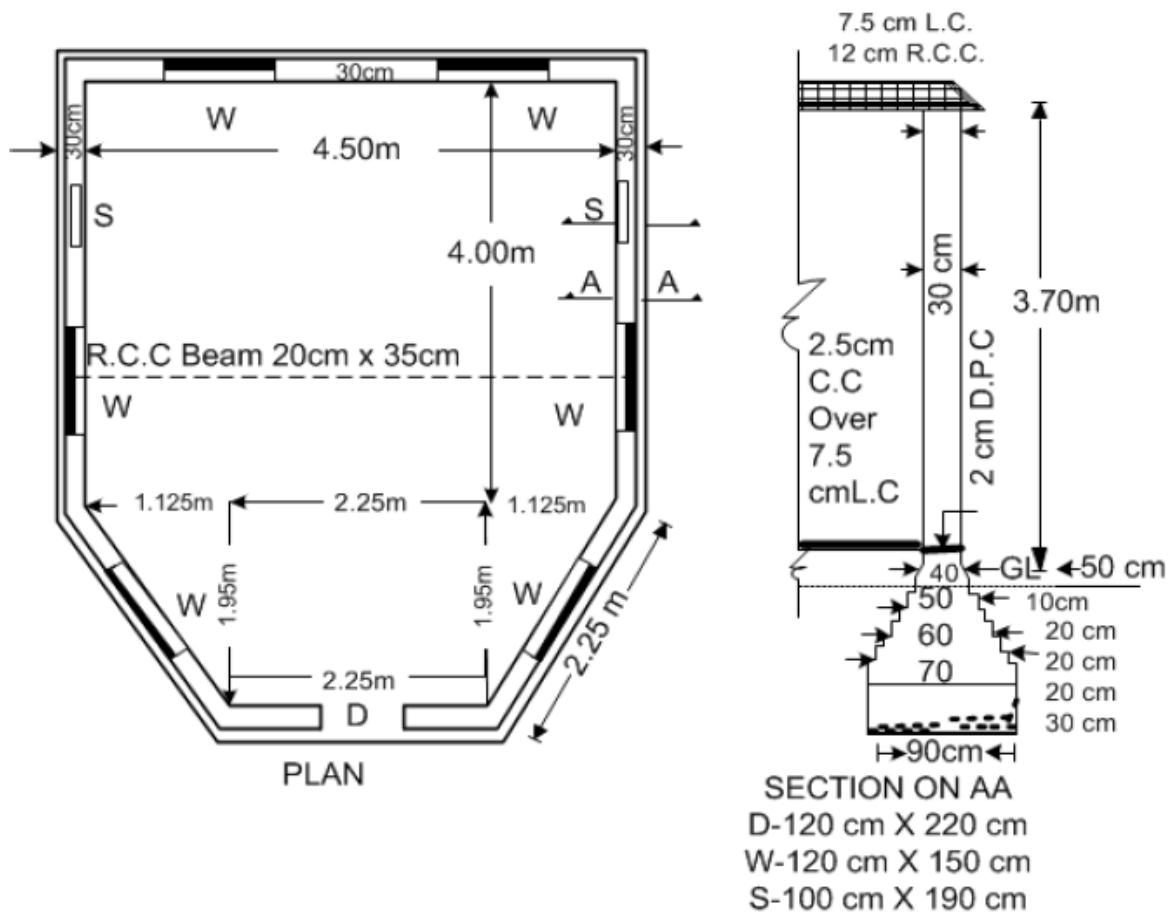


Figure.1

Code No: **RT42011****R13****Set No. 2****IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018****ESTIMATING, SPECIFICATIONS & CONTRACTS****(Civil Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer any THREE questions from Part-A**Part-B is compulsory*

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**PART-A (3x14=42 Marks)**

1. a) List the major information needed for enabling preparation of estimate for a building. [7]  
b) Explain about plinth area method of estimation. [7]
- 2 Give methods for calculation of earth work and explain them? [14]
- 3 a) Calculate the Cement contents for the following  
(i) C.C. (1:5:10) using 40mm H.B.G Metal for 25m<sup>3</sup> work  
(ii) Brick work in CM (1:6) using country Bricks for 15m<sup>3</sup> of work if 0.38m<sup>3</sup> of CM (1:6) is required for 1m<sup>3</sup> of brick work [7]  
b) Explain method of valuation based on profit with an illustrative example. [7]
- 4 Estimate the quantity of steel for a foundation with column and tabulate the bar bending schedule with neat sketch. [14]
- 5 a) Explain the standard specification of class 'B' type buildings with different item of works in construction. [8]  
b) Write on work order and scrap value. [6]
- 6 Write in detail about the specifications of following items of work  
(a) Earth work in excavation in foundation  
(b) I Class Brick work  
(c) Painting and Polishing [14]

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**Set No. 2**

**PART-B (1x28 = 28 Marks)**

7. Prepare detailed estimate for the building using center line method as shown in figure (1). Assume necessary data if needed.

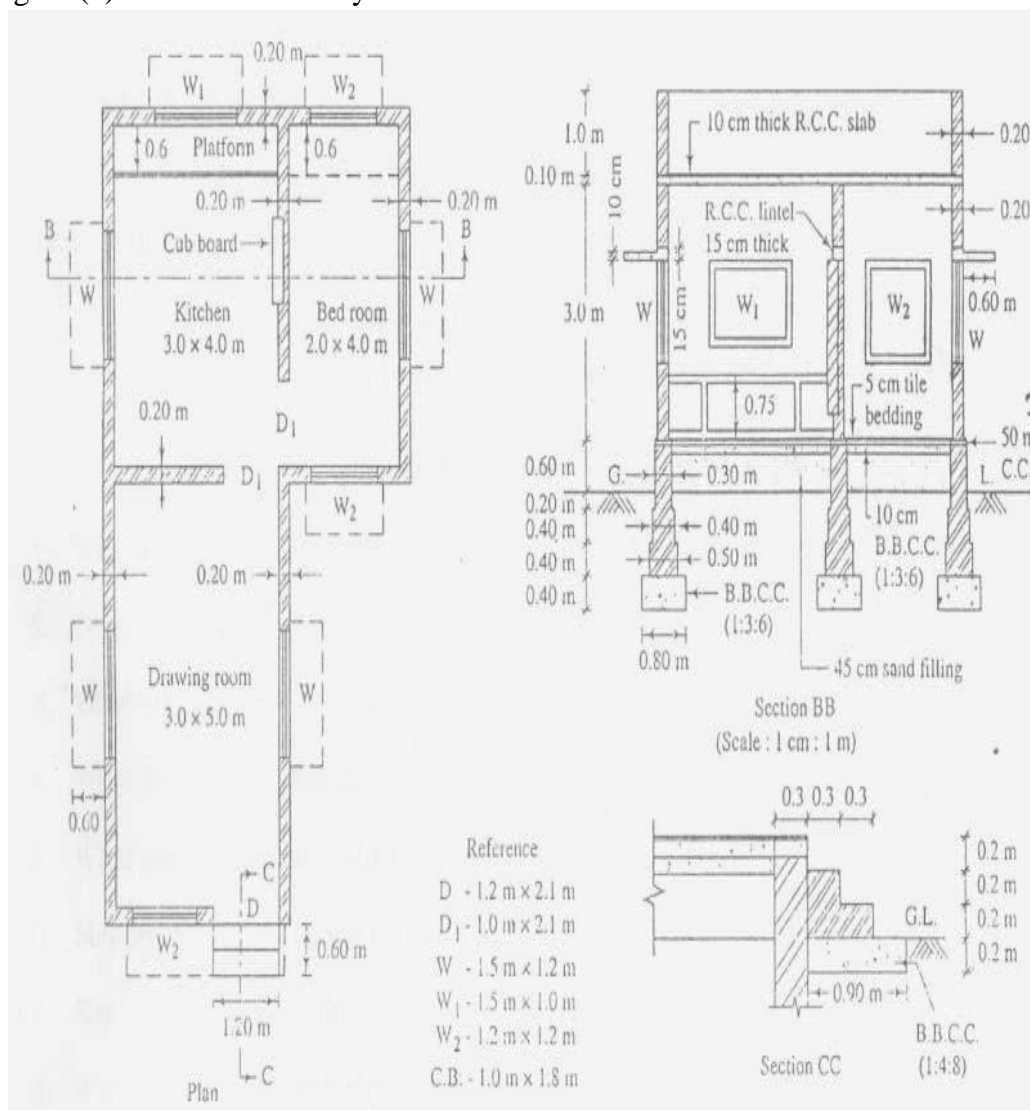


Figure (1)

[28]

Code No: **RT42011****R13****Set No. 3****IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018****ESTIMATING, SPECIFICATIONS & CONTRACTS****(Civil Engineering)****Time: 3 hours****Max. Marks: 70***Question paper consists of Part-A and Part-B**Answer any THREE questions from Part-A**Part-B is compulsory*

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**PART-A (3x14=42 Marks)**

1. a) Explain the principle units for various items of civil works [7]  
b) Explain purposes of preparing estimation for civil engineering works. [7]
- 2 Explain in detail schedule rates. Explain factors affecting schedule rates. [14]
- 3 Estimate the quantity of earthwork for the portion of a road from the following data. Road width at the formation surface 8m. Side slopes 2:1 in banking and 1.5:1 in cutting. Length of chain is 30m. Formation level is 70 and having upward gradient of 1 in 200.  

|              |       |       |       |       |       |       |       |       |       |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chainage     | 20    | 21    | 22    | 23    | 24    | 25    | 26    | 27    | 28    |
| Ground Level | 71.20 | 71.25 | 70.90 | 71.25 | 70.90 | 70.45 | 69.10 | 69.45 | 69.70 |

 [14]
- 4 List and explain the various types of contracts in detail. [14]
- 5 a) List different types of valuation and explain any one method. [8]  
b) Write the various contract conditions. [6]
- 6 Explain the quantity of steel for a slab with an example and mention the bar bending schedule with neat sketch. [14]

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**Set No. 3**

**PART-B (1x28 = 28 Marks)**

7. Prepare a detailed estimate of Building shown in Figure using long wall and short wall method as shown in figure (1). Assume necessary data if needed.

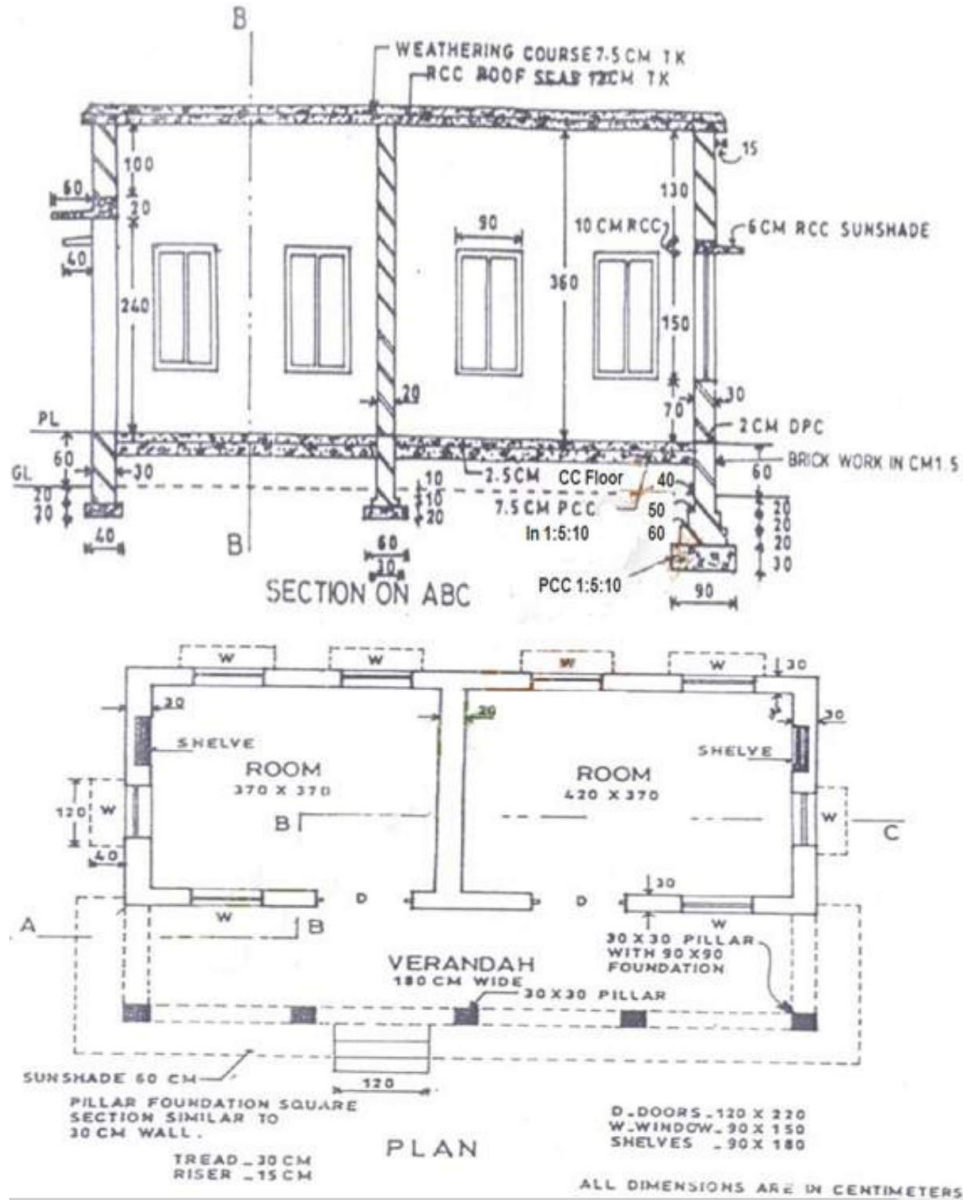


Figure (1)

[28]

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**R13****Set No. 4**

IV B.Tech II Semester Regular/Supplementary Examinations, April - 2018

**ESTIMATING, SPECIFICATIONS & CONTRACTS**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer any THREE questions from Part-A**Part-B is compulsory*

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**PART-A (3x14=42 Marks)**

1. a) Explain in detail about all available estimates for a civil engineering structures. [7]  
b) Discuss the various units of measurement used for estimation of civil works. [7]
- 2 Explain in detail about the three cases of canal structures with neat sketches. [14]
- 3 Calculate the materials, labour etc. required and work out the rate analysis for following items.  
(a) RCC work in beams, slabs etc. 1:2:4 per 1 m<sup>3</sup>  
(b) I class brickwork in foundation and plinth with 20×10×10 cm bricks with 1:6 cement sand mortar per 1 m<sup>3</sup> [14]
- 4 a) Explain the standard specification of class 'A' type of building. [7]  
b) Explain capitalized value of building considering sinking fund. [7]
- 5 Estimate the quantity of earthwork for the portion of a road from the following data. Road width at the formation surface 8m. Side slopes 2:1 in banking and 1.5:1 in cutting. Length of chain is 30m. Formation level is 70 and having upward gradient of 1 in 200.

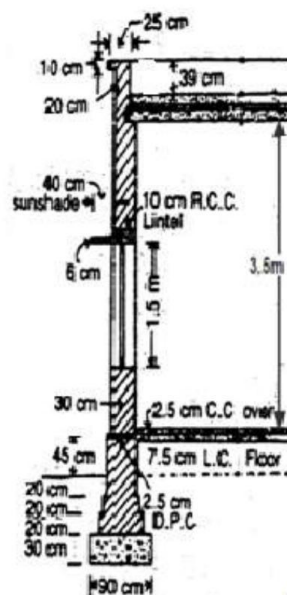
|              |       |       |       |       |       |       |       |       |       |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chainage     | 22    | 23    | 24    | 25    | 26    | 27    | 28    | 29    | 30    |
| Ground Level | 70.90 | 71.25 | 70.80 | 70.45 | 70.20 | 70.35 | 69.10 | 69.45 | 69.70 |

 [14]
- 6 Write in detailed specifications of the following items of work.  
(a) Cement concrete and RCC work  
(b) Farm work [14]



## Set No. 4

Plinth Area ..... 92.17 M2



Doors : D = 100 cm x 210 cm  
D1 = 90 cm x 210 cm  
Windows : W2 = 100 cm x 100 cm  
W3 = 150 cm x 150 cm  
Ventilator : V2 = 60 cm x 30 cm

[28]