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
*****

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]

Code No: **RT42011**   **R13**   Set No. 1

PART–B *(1x28 = 28 Marks)*

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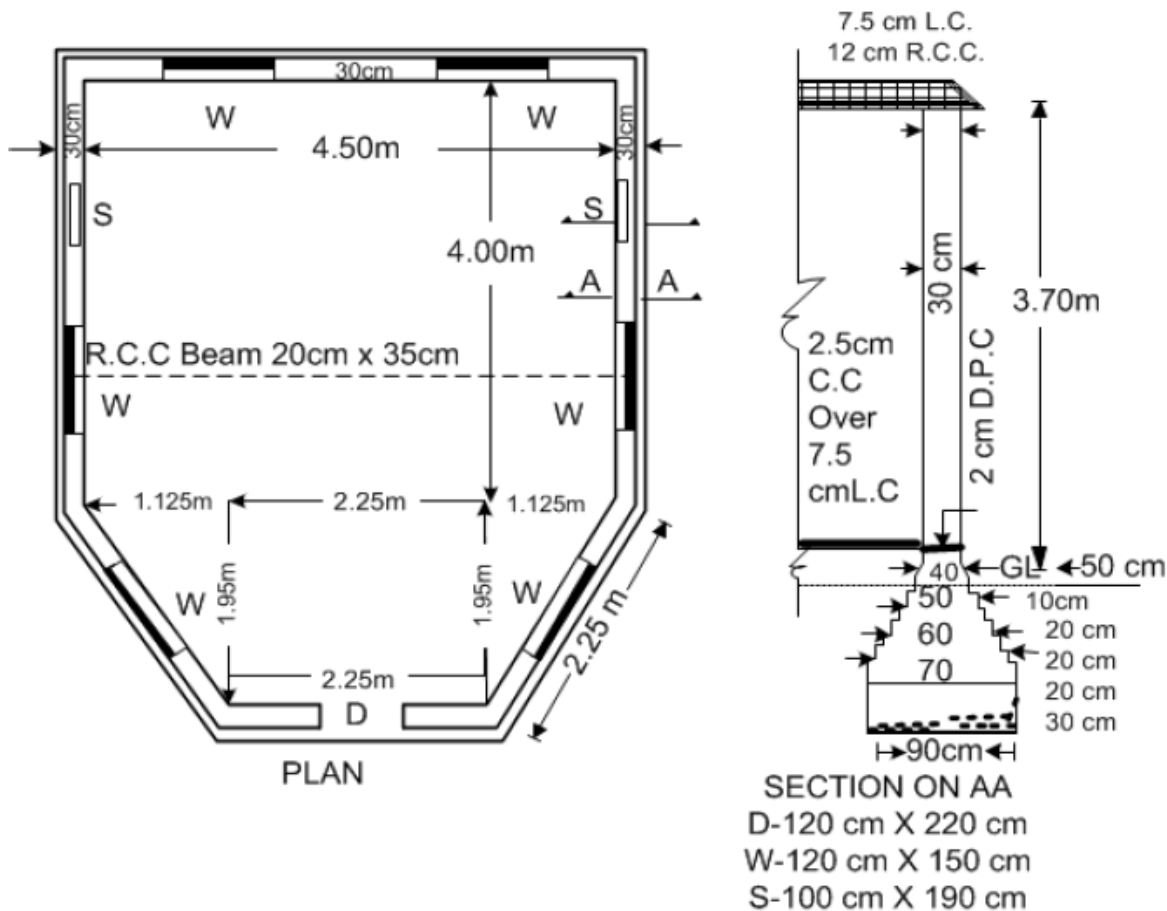   (d) Painting to Iron Works.

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
*****

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 $25m^3$ work
       (ii) Brick work in CM (1:6) using country Bricks for $15m^3$ of work if $0.38m^3$ of CM (1:6) is required for $1m^3$ 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 exaction in foundation
       (b) I Class Brick work
       (c) Painting and Polishing [14]

Code No: **RT42011**   **R13**   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.
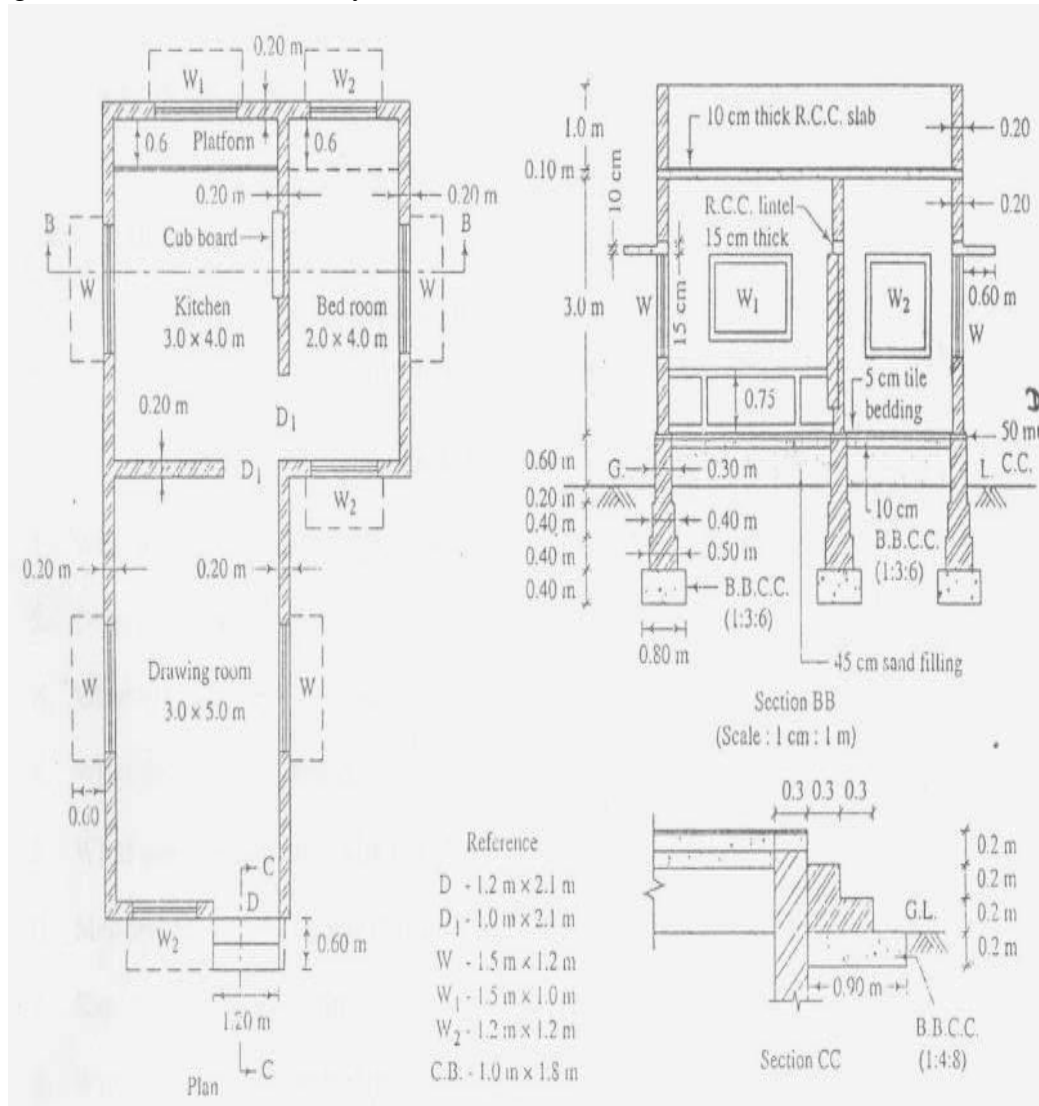

Figure (1)   [28]

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
*****

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]

Code No: **RT42011**   **R13**   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.
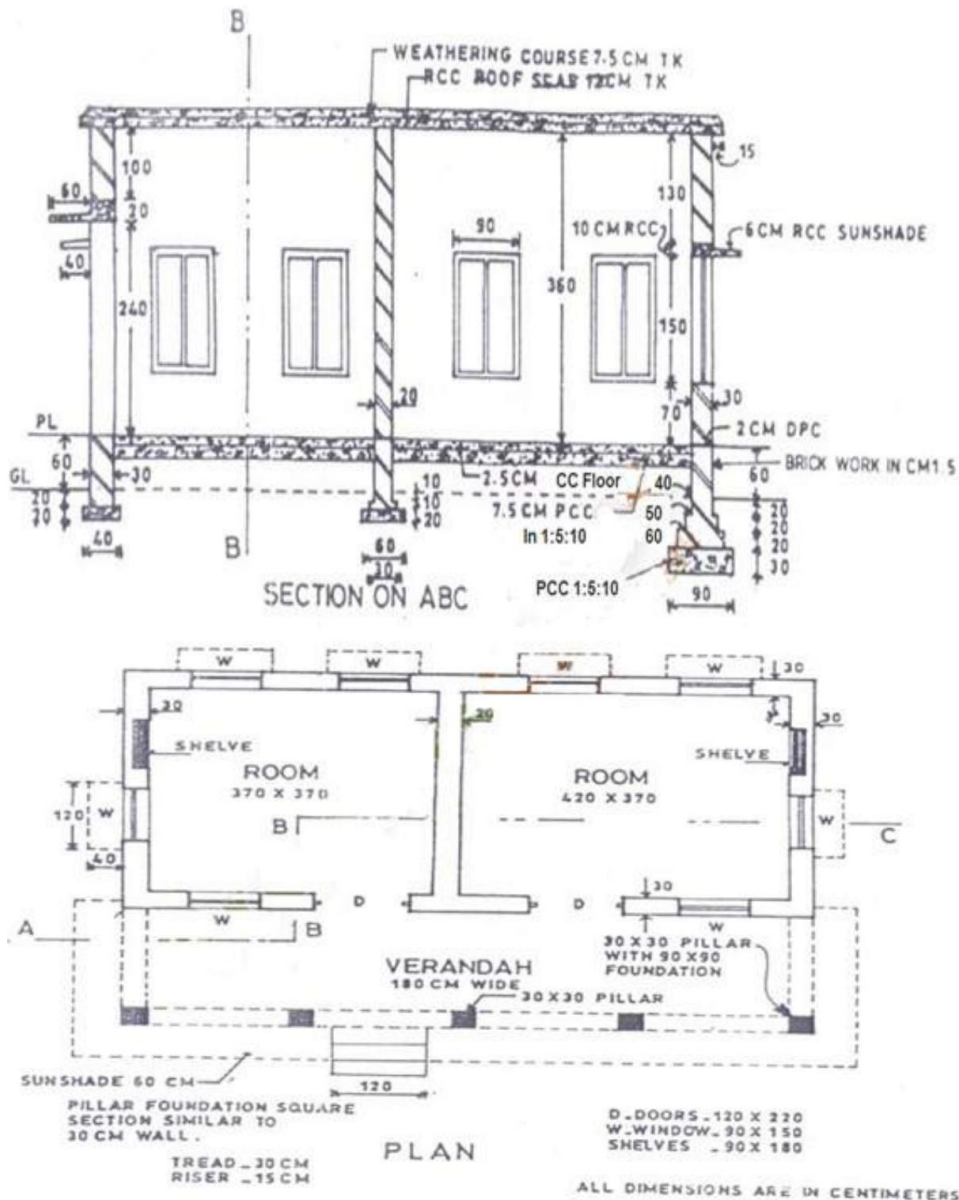

Figure (1)   [28]

Code No: **RT42011**   **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
*****

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^3
     (b) I class brickwork in foundation and plinth with $20 \times 10 \times 10$ cm bricks with 1:6 cement sand mortar per 1 m^3 [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]

Code No: **RT42011**   **R13**   Set No. 4

PART–B *(1x28 = 28 Marks)*

7. Give a detailed estimate of a Building given in Figure 1 using centre line method as shown in figure (1).
Assume necessary data if needed

GROUND FLOOR PLAN

Plinth Area 92.17 M2

Index:
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

Figure 1
Figure (1)   [28]