Code No: **R1942011** **R19** **Set No. 1**

IV B.Tech II Semester Regular Examinations, April– 2023

ESTIMATION SPECIFICATIONS AND CONTRACT

(Civil Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks
*****

UNIT I

1 a) Differentiate between the detailed estimate and abstract estimate [7]
b) Discuss about the necessity of specifications in detail. [8]

(OR)

2 a) Explain the Principles of working out quantities for detailed and abstract estimates. [7]
b) Explain about plinth area method of estimation. [8]

UNIT II

3 a) Explain the detailed procedure of carrying out rate analysis for a typical item in civil works. [7]
b) Discuss the circumstances under which rate analysis is required to be carried out even if SSR is available [8]

(OR)

4 a) Describe the procedure for calculation of rate per unit m^3 of first Class brick in the superstructure with 20×10×10 cm brick with cement sand mortar1:6. [9]
b) What is the need for contingent charges in estimate and how you make provision for the same? [6]

UNIT III

5 Calculate the quantity of earthwork in the embankment for a portion of the 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	224.80	224.43	224.12
Proposed bed level (m)	224.00	223.94	223.88	223.82

[15]

(OR)

6 Work out quantities of earth work for a section of road as given in table.

Chainage	0	30	60	90	120	150
Ground Level(m)	110	109	109.7	108.7	109.8	109.8

i) Formation level at 0.00 m Chainage = 110.00 m
ii) Gradient of formation line = 1 in 300, upwards
iii) Top width of formation = 10.00 M
iv) Side slope = 2:1 [15]

UNIT IV

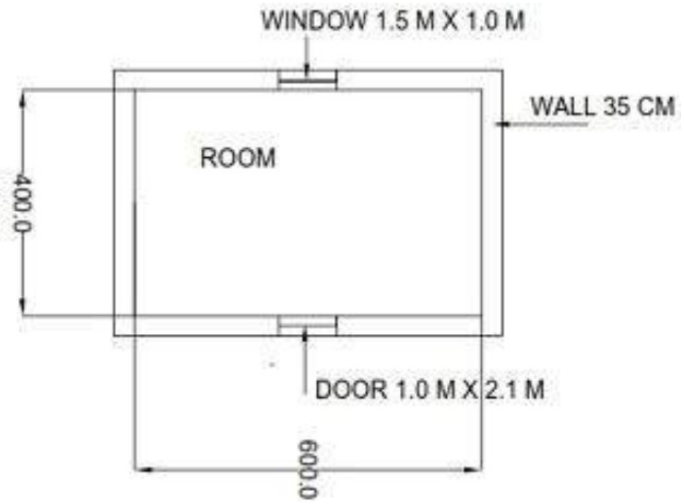
7 a) What is valuation? Explain briefly about the methods of valuation. [9]
b) Explain about Lump sum contract in detail with suitable Example? [6]

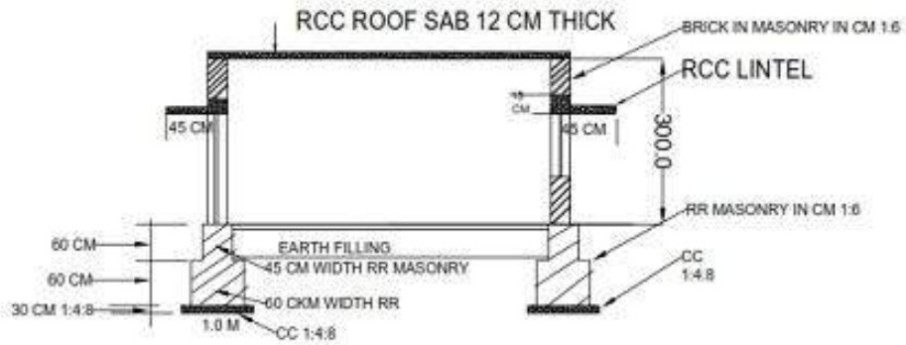
(OR)

8 a) Explain briefly about i) Earnest money deposit
ii) Salvage Value [5]
b) What are the various types of contracts? Explain them briefly. [10]

UNIT V

9 Prepare detailed estimate for the single room building shown in the sketch plan and section in the following figure.
Note: ***Make suitable assumptions wherever you feel necessary.***



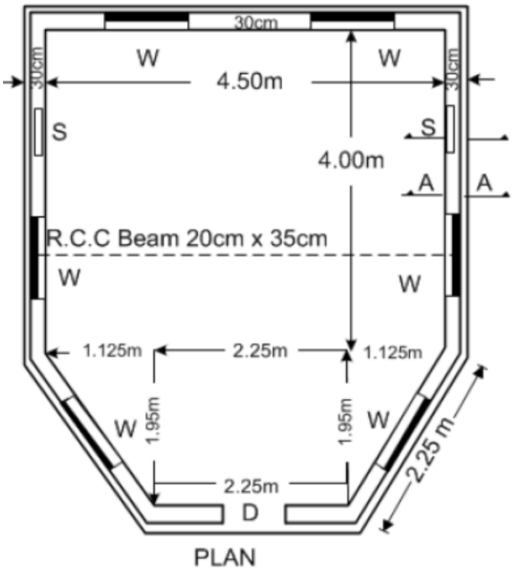


[15]

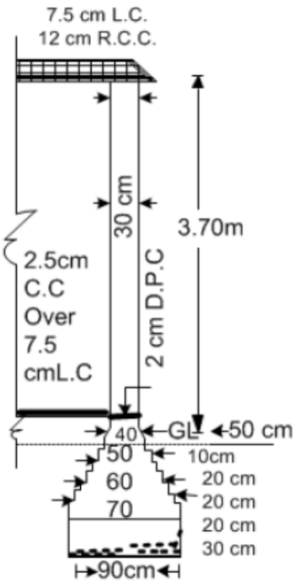
(OR)

10 Enumerate detailed specifications for the following items as shown in the following figure by centre line method

a) Earth work Excavation.
b) Brick masonry for walls
c) Plastering works.



PLAN



SECTION ON AA
D-120 cm X 220 cm
W-120 cm X 150 cm
S-100 cm X 190 cm

[15]

Code No: **R1942011** **R19** **Set No. 2**

IV B.Tech II Semester Regular Examinations, April– 2023

ESTIMATION SPECIFICATIONS AND CONTRACT

(Civil Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks

*****

UNIT I

1 a) Explain the uses of approximate estimates in civil engineering [7]

b) Explain the Principles of working out quantities for detailed and abstract estimates. [8]

(OR)

2 a) Explain the purposes of preparing estimation for civil engineering works. [7]

b) List the major information needed for enabling preparation of estimate for a building. [8]

UNIT II

3 Through Rate Analysis, find the cost of 1000 nos bricks at site if their cost at kiln is Rs.1500. The Lead is 10 km by M.R and 2 km by C.T. Assume cost of transport per km by M.R. to be INR 30/- [15]

(OR)

4 a) What is the need for contingent charges in estimate and how you make provision for the same? [7]

b) Analyze the rate of cement concrete of ratio 1:2:4 and 1:3:6. Assume necessary data. [8]

UNIT III

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 and1.5:1 in cutting.
Length of chain = 30m.
Formation level = 70m and having upward gradient of 1 in 200. [15]

Chainage	20	21	22	23	24	25	26	27	28
Ground Level (m)	71.20	71.25	70.90	71.25	70.90	70.45	69.10	69.45	69.70

(OR)

6 The ground levels along the center line of the canal are given below

Chainage (m)	0	50	100	150
Ground Level (m)	97.0	96.5	96.0	97.5

The canal is to be formed in embankment with the formation level at 100.00m throughout the length. If the canal width is10.0 m and the side slopes 2:1, calculate the quantity of earthwork required by Trapezoidal rule. Assume transverse slope as level. [15]

Code No: **R1942011** **R19** **Set No. 2**

UNIT IV

7 a) What are the different types of valuations? Explain them in detail. [10]
b) Distinguish between lump sum contract and item rate contract [5]

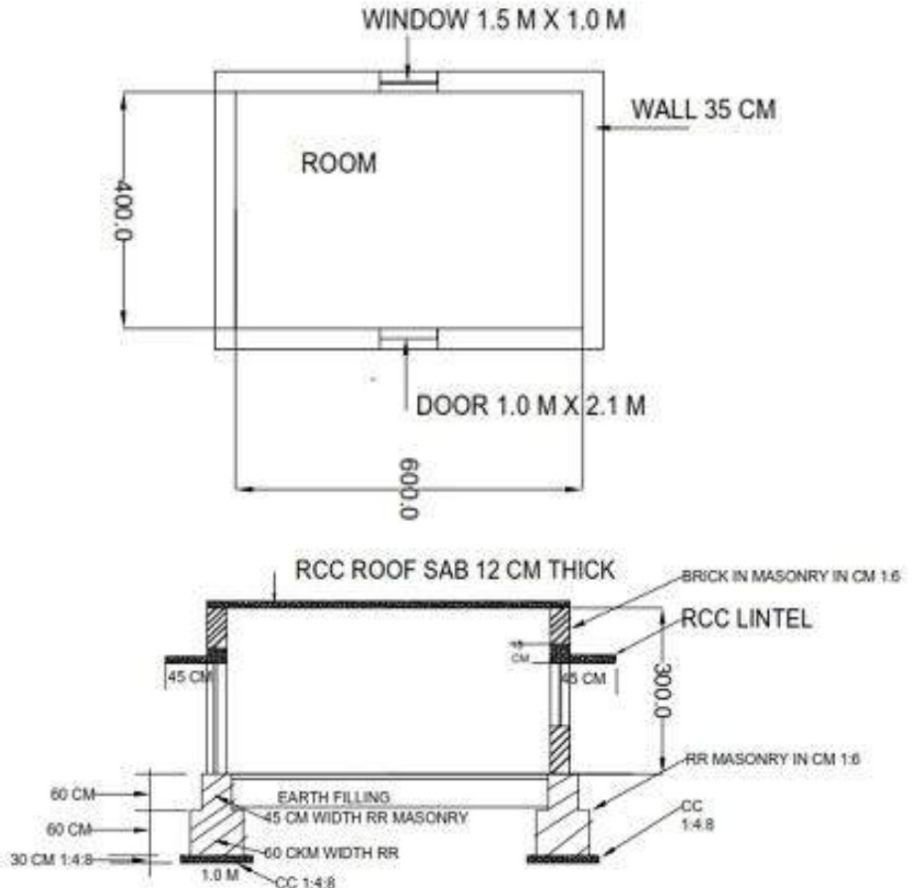
(OR)

8 a) Write the specifications for marble flooring in a residential building. [10]
b) Explain about the conditions of contract? [5]

UNIT V

9 Prepare detailed estimate for the single room building shown in the following figure by centre line method
a) Earth work Excavation
b) Brick masonry
c) Plastering works

Note: ***Make suitable assumptions wherever you feel necessary.***



[15]

(OR)

10 a) Explain the general specification for First, Second and Third class buildings. [10]
b) Describe the center line method of estimating the quantity of items [5]

Code No: **R1942011** **R19** **Set No. 3**

IV B.Tech II Semester Regular Examinations, April– 2023

ESTIMATION SPECIFICATIONS AND CONTRACT

(Civil Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks

*****

UNIT I

1 a) What is Estimation? Explain about Revised Estimate? [7]

b) State the different types of detailed estimates and their use. [8]

(OR)

2 a) Differentiate between the detailed estimate and abstract estimate [7]

b) Mention the standard units used in estimation for any 5 items of building works. [8]

UNIT II

3 a) Explain steps needed for carrying out rate analysis for a typical item in civil works. [7]

b) Explain the importance and requirements of rate analysis, and units of measurement preparation of rate analysis. [8]

(OR)

4 Calculate the materials, labour etc. required and work out the rate analysis for the following items.

a) RCC work in beams, slabs etc. 1:2:4 per 1 m^3

b) 1stclass brickwork in the foundation and plinth with 20×10×10 cm bricks with 1:6cement sand mortar per 1 m^3 [15]

UNIT III

5 Calculate the quantity of earthwork in the embankment for a portion of the channel with the following data:

Bed width = 3.25 m

Free Board = 35 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	224.80	224.43	224.12
Proposed bed level (m)	224.00	223.94	223.88	223.82

[15]

(OR)

6 Estimate the quantity of earthwork in cutting for a road of 10 m formation width the following data using mean sectional area method or trapezoidal formula method. Side slope is 2:1 (H:V) and no cross slope. If the cost of cutting is Rs.140/cu.m, estimate the total cost of work

Chainage (m)	0	30	60	90	120	150
Ground Level(m)	80.5	79.30	81.40	84.0	85.1	83.5

Formation level 75.0 Rising gradient of 1 in 30. [15]

UNIT IV

7 a) Write the proforma for contract document? [6]
b) What are the various types of contracts? Explain them briefly. [9]

(OR)

8 a) What is valuation? Explain briefly about the methods of valuation. [9]
b) What is Depreciation? Explain any two types of depreciation. [6]

UNIT V

9 Estimate the quantities of following items by using long wall and short wall method from Figure 1.
a) Earth work excavation for foundation
b) Plain cement concrete for foundation [15]

(OR)

10 Estimate the quantities of following items by using centre line method from Figure1.
a) Earth work excavation for foundation
b) Plain cement concrete for foundation [15]

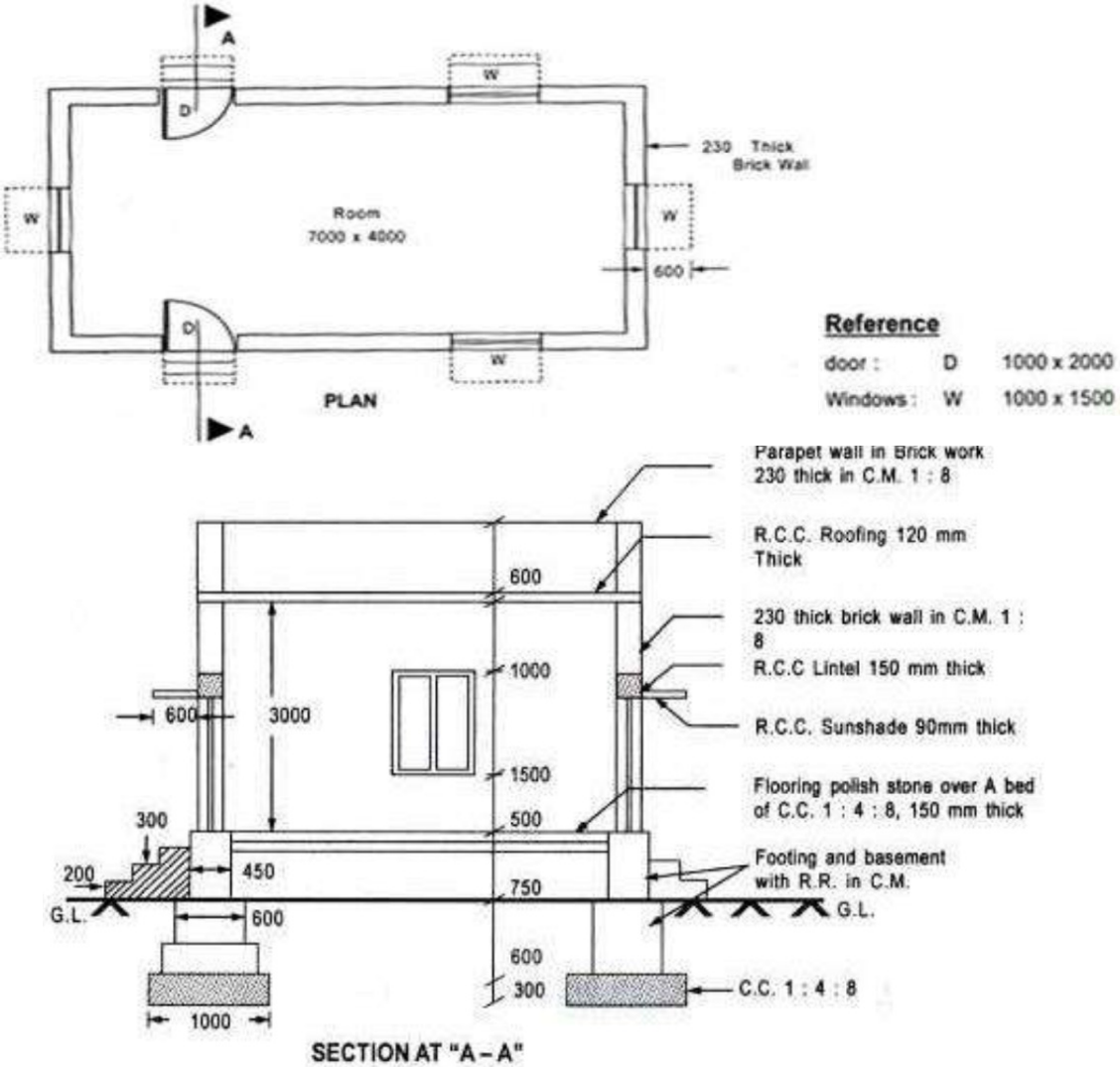


Figure 1.

Code No: **R1942011** **R19** **Set No. 4**

IV B.Tech II Semester Regular Examinations, April– 2023

ESTIMATION SPECIFICATIONS AND CONTRACT

(Civil Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any FIVE Questions
ONE Question from Each unit
All Questions Carry Equal Marks

*****

UNIT I

1 a) State different types of approximate estimate. Illustrate any one with example. [7]
b) List the major information/data needed for enabling preparation of estimate for a building. [8]

(OR)

2 a) Explain the uses of approximate estimates in civil engineering [7]
b) Discuss the various units of measurement used for estimation of civil works. [8]

UNIT II

3 a) Explain the detailed procedure of carrying out rate analysis for a typical item in civil works. [7]
b) Discuss about lead and lift? Explain about lead statement. [8]

(OR)

4 What do you mean by the schedule rates? Explain several factors which are affecting the schedule rates with suitable examples. [15]

UNIT III

5 With suitable example find out the bar-bending schedule for an R.C.C Beam? [15]

(OR)

6 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 and1.5:1 in cutting.
Length of chain = 30m.
Formation level = 70m and having upward gradient of 1 in 200.

Chainage	20	21	22	23	24	25	26	27	28
Ground Level (m)	71.20	71.25	70.90	71.25	70.90	70.45	69.10	69.45	69.70

[15]

Code No: **R1942011** **R19** **Set No. 4**

UNIT IV

7 a) What are the different types of valuations? [5]
b) Write the specifications for marble flooring in a residential building. [10]

(OR)

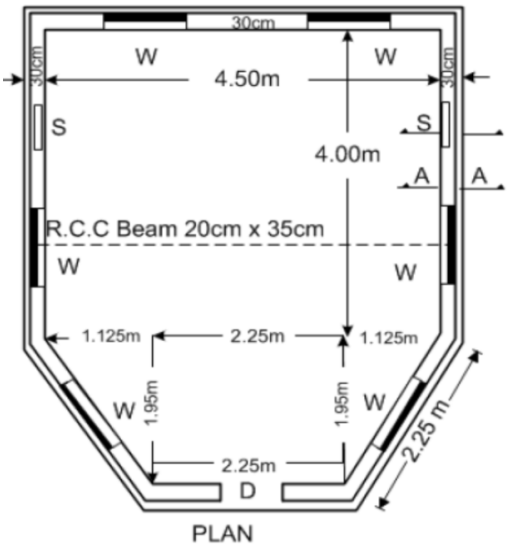
8 a) Explain about the standard specifications of various elements of a building. [5]
b) What are the various types of contracts? Explain them briefly. [10]

UNIT V

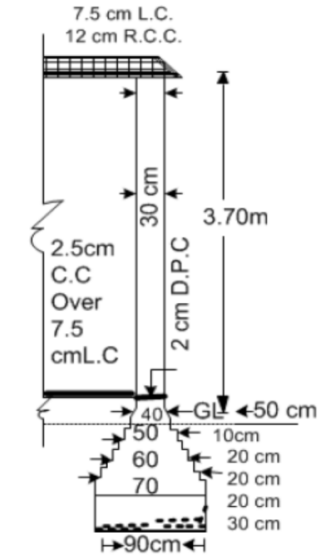
9 a) Explain the general specification for First, Second and Third class buildings. [9]
b) Describe the center line method of estimating the quantity of items [6]

(OR)

10 Enumerate detailed specifications for the following items as shown in the following figure by individual wall method
a) Random Rubble Masonry in Substructure.
b) Plastering of walls.



PLAN



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