F-2

7. Prepare analysis of rates per cubic meter for following item of works: CO3
   (i) Cement concrete in foundation with 1:4:8
   (ii) I Class brick work in super structure with 1:6.

UNIT – IV

8. (a) Discuss the organization of engineering department. (7M) CO4
   (b) Prepare a tender notice for construction of dam. (7M) CO4

(OR)

9. (a) Explain the different types of estimate. (7M) CO4
   (b) Differentiate between the following: (7M) CO4
      (i) Administrative approval and technical sanction
      (ii) Plinth area and floor area
      (iii) Earnest money and security money

****

Hall Ticket Number:

CE325(JOEL13) (R20)

B.TECH. DEGREE EXAMINATION, SEPTEMBER-2024

Semester VI [Third Year] (Supplementary)

QUANTITY ESTIMATION

Time: Three hours Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

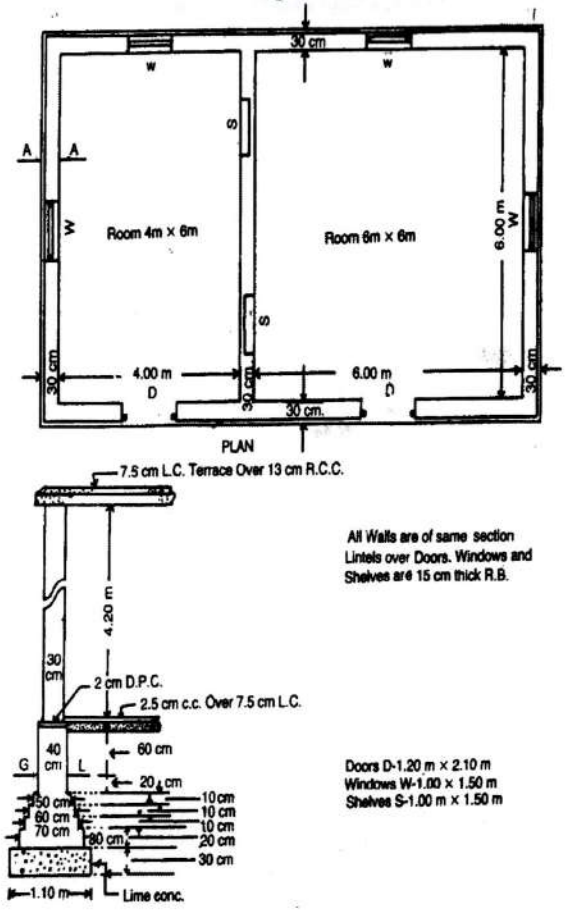
1. Answer the following:
   (a) Define Estimate. CO1
   (b) Define lump sum item. CO1
   (c) What is the percentage of the estimated cost is allotted to water supply and sanitary work? CO1
   (d) Give the unit of measurement of D.P.C. CO1
   (e) What is the total length of bar cranked at both ends at 45° and hooked at both ends? CO1
   (f) What do you mean by schedule of bars? CO1
   (g) What is balancing depth? CO2
   (h) What are the different methods for the computation of earthwork in roads? CO2
   (i) What is the importance of specifications? CO3
   (j) Define task. CO3
   (k) How many number of bricks required for 10 cu.m of brick work? CO3
   (l) What is measurement book? CO4
   (m) What is contract? CO4
   (n) Define floor area. CO4

UNIT – I

2. (a) Explain the method of detailed estimating. (7M) CO1
   (b) What are the various methods of estimating and explain about center line method with example. (7M) CO1

(OR)

3. Estimate the following quantities of a residential building from the given drawings by using long wall short wall method: CO1
   (i) Earth work in excavation in foundation
   (ii) Lime concrete in foundation
   (iii) 1st class brick work in lime mortar in foundation and plinth with 1:6
   (iv) D.P.C 2.5 cm thick with 1:2 cement mortar
   (v) 1st class Brick work in super structure



UNIT – II

4. Estimate the quantities of concrete and reinforcement for the R.C.C beam used over a clear span of 5.50 m. The walls supporting the beam are 450 mm and beam has 300 mm bearing over the wall on both sides, the size of beam is 250 mm x 550 mm. The beam has the following reinforcement: CO1
   (i) Main straight bars at bottom 20 mm ϕ - 2 Nos.
   (ii) Main bent up bars 22 mm ϕ - 2 Nos.
   (iii) Top bars 16 mm ϕ - 2 Nos.
   (iv) Stirrups bars 8 mm ϕ @ 150 mm c/c

(OR)

5. Estimate the quantity of earth work of a hill road in side-long ground, for a length of 200 m from 5 to 10 chainage, tangent of the angle of transverse slope of ground (Tan θ) is equal to 0.1 although as measured by Ghat tracer. The length of chain is 30 metre. The formation width of road is 8 meter and side slope of bank is 2:1. R.L of ground and formation level at the centre of the road as follows: CO2

Station	Distance	R.L of ground at centre	R.L of formation at centre
5	100 m	200.00	201.20
6	120 m	199.75	201.80
7	140 m	200.50	202.40
8	160 m	201.70	203.00
9	180 m	202.40	203.60
10	200 m	201.50	204.20

UNIT – III

6. (a) Explain the general specifications of I Class building. (7M) CO3
   (b) Explain the detailed specifications of R.C.C work. (7M) CO3

(OR)

F-1

7. Prepare analysis of rates per cubic meter for following item of works: CO3
   (i) Cement concrete in foundation with 1:4:8
   (ii) I Class brick work in super structure with 1:6.

UNIT – IV

8. (a) Discuss the organization of engineering department. (7M) CO4
   (b) Prepare a tender notice for construction of dam. (7M) CO4

(OR)

9. (a) Explain the different types of estimate. (7M) CO4
   (b) Differentiate between the following: (7M) CO4
      (i) Administrative approval and technical sanction
      (ii) Plinth area and floor area
      (iii) Earnest money and security money

****

Hall Ticket Number:

CE325(JOEL13) (R20)

B.TECH. DEGREE EXAMINATION, SEPTEMBER-2024

Semester VI [Third Year] (Supplementary)

QUANTITY ESTIMATION

Time: Three hours Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

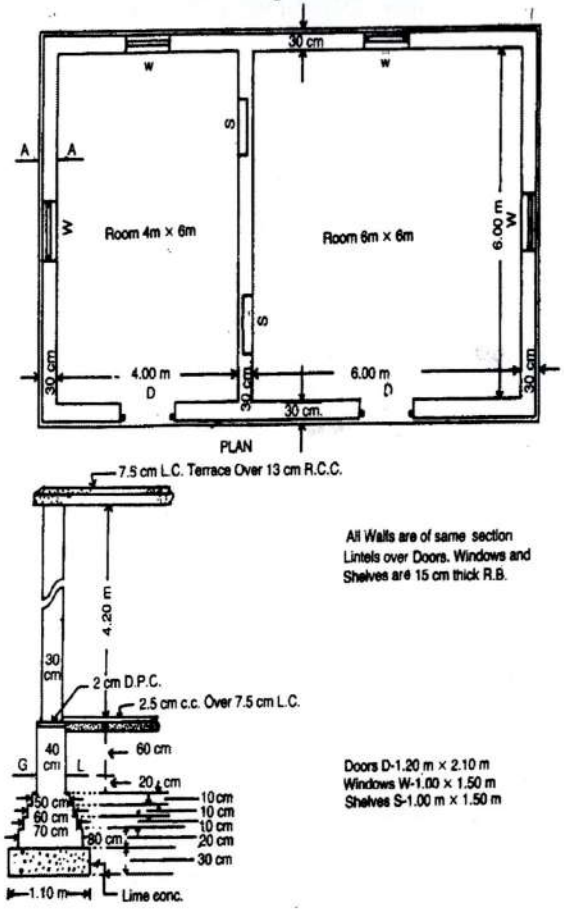
1. Answer the following:
   (a) Define Estimate. CO1
   (b) Define lump sum item. CO1
   (c) What is the percentage of the estimated cost is allotted to water supply and sanitary work? CO1
   (d) Give the unit of measurement of D.P.C. CO1
   (e) What is the total length of bar cranked at both ends at 45° and hooked at both ends? CO1
   (f) What do you mean by schedule of bars? CO1
   (g) What is balancing depth? CO2
   (h) What are the different methods for the computation of earthwork in roads? CO2
   (i) What is the importance of specifications? CO3
   (j) Define task. CO3
   (k) How many number of bricks required for 10 cu.m of brick work? CO3
   (l) What is measurement book? CO4
   (m) What is contract? CO4
   (n) Define floor area. CO4

UNIT – I

2. (a) Explain the method of detailed estimating. (7M) CO1
   (b) What are the various methods of estimating and explain about center line method with example. (7M) CO1

(OR)

3. Estimate the following quantities of a residential building from the given drawings by using long wall short wall method: CO1
   (i) Earth work in excavation in foundation
   (ii) Lime concrete in foundation
   (iii) 1st class brick work in lime mortar in foundation and plinth with 1:6
   (iv) D.P.C 2.5 cm thick with 1:2 cement mortar
   (v) 1st class Brick work in super structure



UNIT – II

4. Estimate the quantities of concrete and reinforcement for the R.C.C beam used over a clear span of 5.50 m. The walls supporting the beam are 450 mm and beam has 300 mm bearing over the wall on both sides, the size of beam is 250 mm x 550 mm. The beam has the following reinforcement: CO1
   (i) Main straight bars at bottom 20 mm ϕ - 2 Nos.
   (ii) Main bent up bars 22 mm ϕ - 2 Nos.
   (iii) Top bars 16 mm ϕ - 2 Nos.
   (iv) Stirrups bars 8 mm ϕ @ 150 mm c/c

(OR)

5. Estimate the quantity of earth work of a hill road in side-long ground, for a length of 200 m from 5 to 10 chainage, tangent of the angle of transverse slope of ground (Tan θ) is equal to 0.1 although as measured by Ghat tracer. The length of chain is 30 metre. The formation width of road is 8 meter and side slope of bank is 2:1. R.L of ground and formation level at the centre of the road as follows: CO2

Station	Distance	R.L of ground at centre	R.L of formation at centre
5	100 m	200.00	201.20
6	120 m	199.75	201.80
7	140 m	200.50	202.40
8	160 m	201.70	203.00
9	180 m	202.40	203.60
10	200 m	201.50	204.20

UNIT – III

6. (a) Explain the general specifications of I Class building. (7M) CO3
   (b) Explain the detailed specifications of R.C.C work. (7M) CO3

(OR)

Hall Ticket Number:

CE325(JOEL13) (R20)

B.TECH. DEGREE EXAMINATION, MAY-2024

Semester VI [Third Year] (Regular & Supplementary)

QUANTITY ESTIMATION

Time: Three hours Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:
   (a) What is the difference between actual cost and an estimated cost? CO1
   (b) What do you mean by contingencies? CO1
   (c) What is the percentage of the estimated cost is allotted to electrification work? CO1
   (d) Give the unit of measurement of masonry work in thin partition wall. CO1
   (e) How much percentage of steel is allotted for slabs if detailed drawings are not available for preparation of estimation? CO1
   (f) What do you mean by centering and shuttering? CO1
   (g) What is normal lead and normal lift? CO2
   (h) What are the different methods for the computation of earthwork in canals? CO2
   (i) Write the types of specification CO3
   (j) What is rate analysis? CO3
   (k) Define standard schedule of rates. CO3
   (l) What is the purpose of security money? CO4
   (m) What is tender? CO4
   (n) Define carpet area. CO4

UNIT – I

2. (a) Discuss the main items of work in building. (7M) CO1
   (b) What are the principles of units for various items of works? (7M) CO1

(OR)

3. (a) Explain the arch masonry calculations for various types of arches? (7M) CO1
   (b) Estimate the quantities of arch masonry work and cement plastering in the soffit of arch of culvert, subtend an angle of 120^0 at the center. The span of the arch is 5.00 m and the thickness of the arch is 50 cm. The length of the arch is 8.00 m from face to face. (7M) CO1

UNIT – II

4. Estimate of a R.C.C roof slab of 4 m clear span 5.5 m long and thickness of 13 cm. The slab has bearing of 400 mm on the walls on either side. The R.C.C slab has the following reinforcement. And prepare bar bending schedule.
   (i) 12 mm ϕ main bars @ 14.5 cm c/c
   (ii) 6 mm ϕ distribution bars @ 20 cm c/c CO2

(OR)

5. Estimate the earth work for an irrigation cannel of the following details. Bed width = 4 m, Top width of left bank = 2 m, Top width of right bank = 1.5 m, Side slope of the bank = 2:1, Height of the bank from bed level = 3 m, Longitudinal slope of bed = 1 in 200, R.L of bed level at station 1 is 92.40. CO2

Station	1	2	3	4	5
Chainage (m)	100	150	200	250	300
R.L of ground (m)	95.60	90.70	94.50	99.10	92.50

UNIT – III

6. (a) Explain the detailed specifications of I Class brick work. (7M) CO3
   (b) Explain the detailed specifications of plastering and Mosaic flooring. (7M) CO3

(OR)

7. Prepare analysis of rates per cubic meter for following item of works.
   (i) R.C.C work in slabs and beams with mortar proportion 1:2:4
   (ii) White washing (two coats) CO3

UNIT – IV

8. (a) Discuss the organization of engineering department. (7M) CO4
   (b) Discuss about the work charged establishment. (7M) CO4

(OR)

9. Write short note on the following terms CO4
   (i) Administrative approval and Technical sanction
   (ii) Earnest money and security money
   (iii) Revised estimate and Supplementary estimate
   (iv) Approximate estimate and Plinth area estimate
   (v) Plinth area and floor area

****

CE325(JOEL13) (R20)

(b) Describe the importance of rate analysis in controlling the budget of construction. (4M) CO3

(OR)

7. (a) Prepare a contract for constructing industrial building of size 60' x 60'. (10M) CO3
   (b) Describe Lumpsum Contract. (4M) CO3

UNIT – IV

8. (a) Describe the organization of engineering department in a municipal corporation. (7M) CO4
   (b) Compare tendering system for different types projects. (7M) CO4

(OR)

9. Prepare a tender document for a three storied building as been constructed on a plot of land measuring 1500 m^2. The plinth area of each storey is 1200 m^2. The life of the building structure may be taken as 75 years. The building fetches a gross rent of Rs 10000/- per month. Calculate the capitalized value of the property on the basis of 14% net yield. For sinking fund 5% compound interest may be assumed. Cost of land may be taken as Rs 800/- per m^2, other data required may be assumed suitably. CO4

****

F-2

Hall Ticket Number:

CE325(JOEL13) (R20)

B.TECH. DEGREE EXAMINATION, NOVEMBER-2023

Semester VI [Third Year] (Supplementary)

QUANTITY ESTIMATION

Time: Three hours Maximum Marks: 70

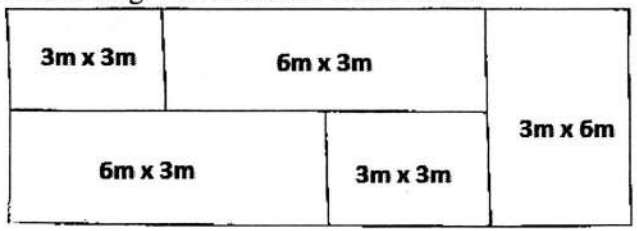
Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:
   (a) Define estimation. CO1
   (b) What is the comfortable rise and thread for steps in commercial building? CO1
   (c) List types of buildings. CO1
   (d) Differentiate RCC and PCC. CO2
   (e) What is overlap length for steel? CO2
   (f) Draw a neat sketch of canal. CO2
   (g) Name the types of pavements. CO3
   (h) Write the specifications for brickwork and cc floor for class I building. CO3
   (i) Describe the specifications for plastering in commercial buildings. CO3
   (j) What is out-turn work? CO3
   (k) Claim the major difference in rate analysis for RCC and PCC. CO4
   (l) What is earnest money deposit? CO4
   (m) Define plinth area. CO4
   (n) Define negotiated tender. CO4

UNIT – I

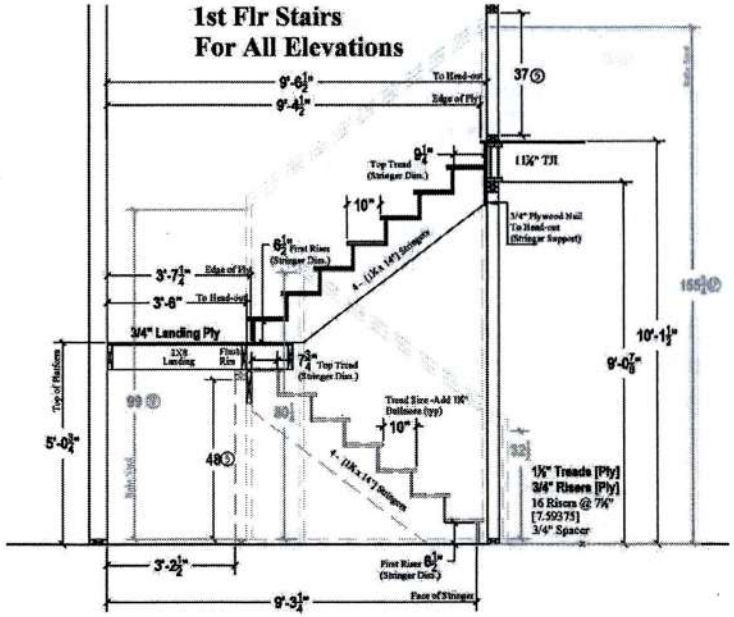
2. Estimate the quantity of (i) Earth work excavation (ii) Footing concrete (iii) Masonry in footing (iv) D.P.C and (v) Brickwork for super structure of the building from the given plan and section having following size using

center line method: Wall thickness = 230 mm, head room height = 3.00 m, footing concrete = 1.0 m x 0.3 m, I step footing = 0.7 m x 0.3 m, II step footing = 0.5 m x 0.3 m, Plinth wall = 0.4 m x 0.4 m, flooring concrete = 150 mm, floor finish in cm 1:3 = 25 mm, D.P.C = 20 mm, roof slab thickness = 125 mm, weathering course L.C = 75 mm, assume the base of a footing is 1.10 m below the ground level. Use long wall and short wall method. CO1



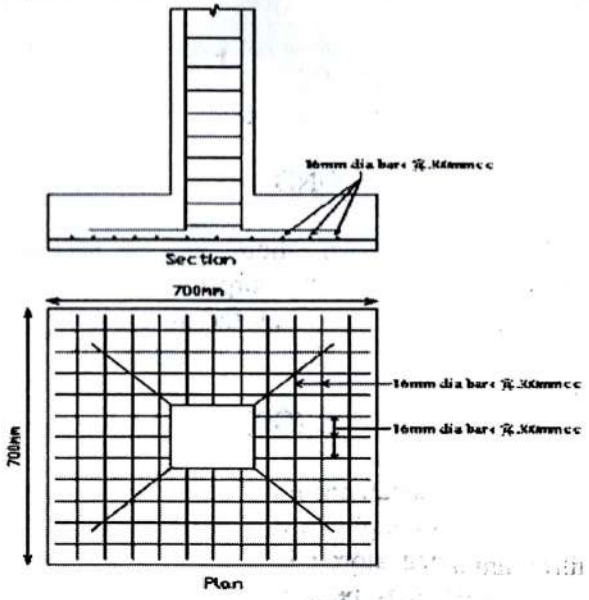
(OR)

3. Estimate the quantities for RCC and Brickwork for a stair case as given in the following figure. CO1



UNIT – II

4. Prepare a detailed estimate for the column with the following reinforcement detail. CO2



(OR)

5. Estimate the quantity of earth work for a portion from the following data. Road width at the formation is 8 m, side slopes is 2:1 in banking and 1.5:1 in cutting. Length of chain is 30 m. Formation level of 105 and Upward gradient in 1:200 CO2

Chainage	20	21	22	23	24	25	26	27	28	29
R.L	98.23	98.52	99.26	101.36	103.28	105.16	106.94	107.34	106.78	104.63

UNIT – III

6. (a) Prepare a rate analysis for the following. (10M) CO3
   (i) RCC work for M20 grade
   (ii) 12 mm Plaster with 1:3 cement mortar

7. (a) Evaluate the cost of the following items of work as per SSR. (7M) CO3
   (i) Brick masonry in CM (1:6) for superstructure
   (ii) Plastering in CM (1:4), 12 mm thickness
   (iii) White washing with 3 coats including primary coat for walls
   (b) Write a comparative report on rate analysis for M25 and M50 Grades of concrete. (7M) CO3

UNIT – IV

8. (a) Describe the process of tendering. (7M) CO4
   (b) An invitation for constructing a residential apartment is been advertised, suggest the process of forming a tender and getting the contract. (7M) CO4

(OR)

9. (a) Define a Contract. Write the conditions of contract for railway project. (7M) CO4
   (b) Write a brief note on following: (7M) CO4
   (i) BOOT
   (ii) BOLT
   (iii) DOT

****

File-2

Hall Ticket Number:

CE325(JOEL13) (R20)

B.TECH. DEGREE EXAMINATION, JULY-2023

Semester VI [Third Year] (Regular)

QUANTITY ESTIMATION

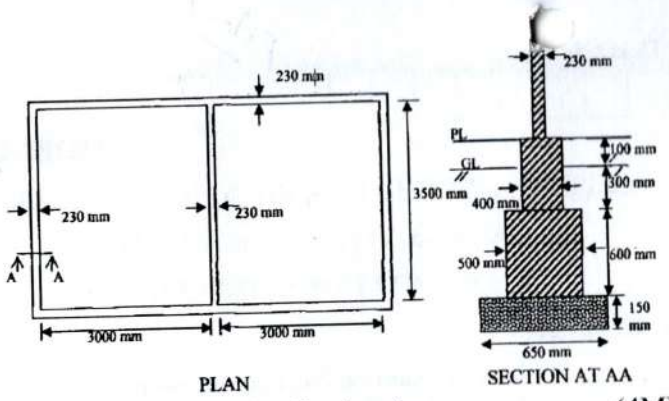
Time: Three hours Maximum Marks: 70

Answer Question No.1 compulsorily. (14 x 1 = 14)
Answer One Question from each unit. (4 x 14 = 56)

1. Answer the following:
   (a) List any five main items of works in building construction. CO1
   (b) What is centreline method? CO1
   (c) Define lump sum item. CO1
   (d) What is slide slope? CO2
   (e) What is overlap distance in steel reinforcement? CO2
   (f) What is the importance of upward gradient in ghat roads? CO2
   (g) Define the purpose of specifications for building. CO3
   (h) List the factors affecting rate analysis. CO3
   (i) Define rate analysis. CO3
   (j) Name different classifications of the buildings. CO3
   (k) Write a brief note on PPP. CO4
   (l) List the types of approximate estimation. CO4
   (m) What is tender? CO4
   (n) Define carpet area. CO4

UNIT – I

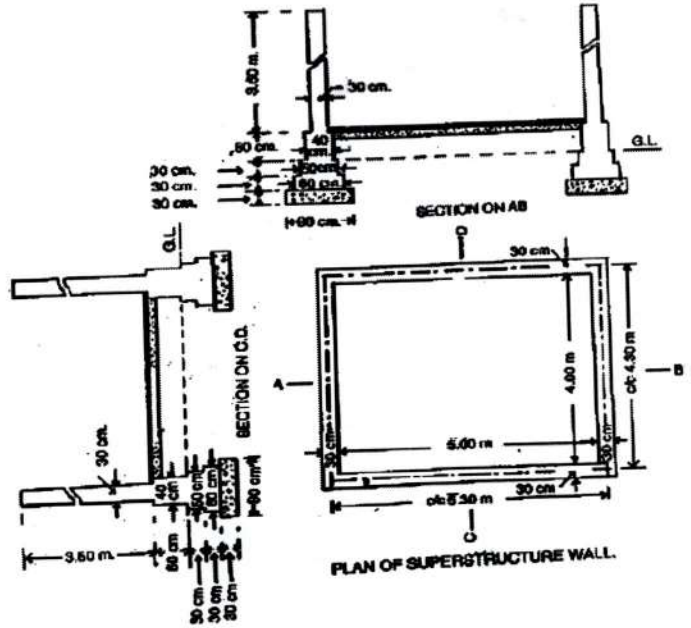
2. (a) Estimate the following items for the plan and section shown in figure, using long wall and short wall method: (10M) CO1
   (i) Earthwork for excavation
   (ii) I-class brickwork for sub structure
   (iii) Inside plastering in CM (1:5) with 12 mm thickness.



(b) Explain the methods of estimation. (4M) CO1

(OR)

3. Estimate by centre line method the quantities of the following items of a single room building in the following figure, using centre line method: CO1
   (i) Earthwork excavation in foundation
   (ii) P.C.C. in foundation
   (iii) Brick work in foundation and plinth
   (iv) Brick work in superstructure



UNIT – II

4. (a) Estimate the quantity of earth work for 200 m length for a portion of a road in a uniform ground, the heights of banks at the two ends being 1.00 m and 1.60 m. The formation width is 1.0 m and side slopes 2:1 (H:V). Assume that there is no transverse slope. Use the following methods and justify which method is good: (10M) CO2
   (i) Mid - sectional area method and
   (ii) Prismoidal formula.
   (b) Explain the following terms with neat sketches. (4M) CO2
   (i) Cutting
   (ii) Banking

(OR)

5. Prepare a detailed estimate for construction of a new state highway for 1 km length. The formation width of the road is 10 m, average height of the bank is 1 m and side sloes are 2:1. The metal width is 3.7 m with bottom layer PCC 1:4:8 with 150 mm thick and top layers CC 1:1.5:3 with 300 mm thick. CO2

UNIT – III

6. (a) Describe the general specification for second class buildings. (7M) CO3
   (b) Calculate the rate analysis as per the SSR for the following items: (7M) CO3
   (i) RCC 1:2:4 for footing
   (ii) Brick Masonry in CM 1:6 with 230 mm thick for superstructure for 1st floor
   (iii) Plastering in CM 1:4 with 20 mm thick for 1st floor.

(OR)