

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations February-2024

ESTIMATION, COSTING AND VALUATION

(Civil Engineering)

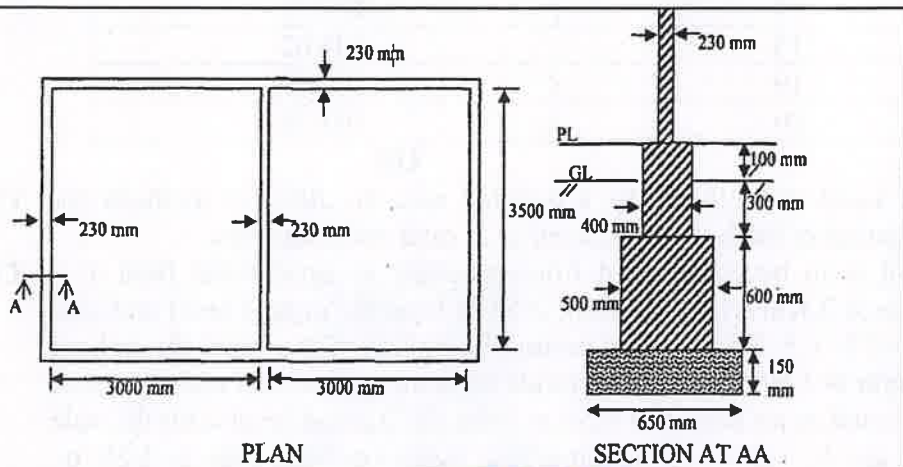
Time: 3 Hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

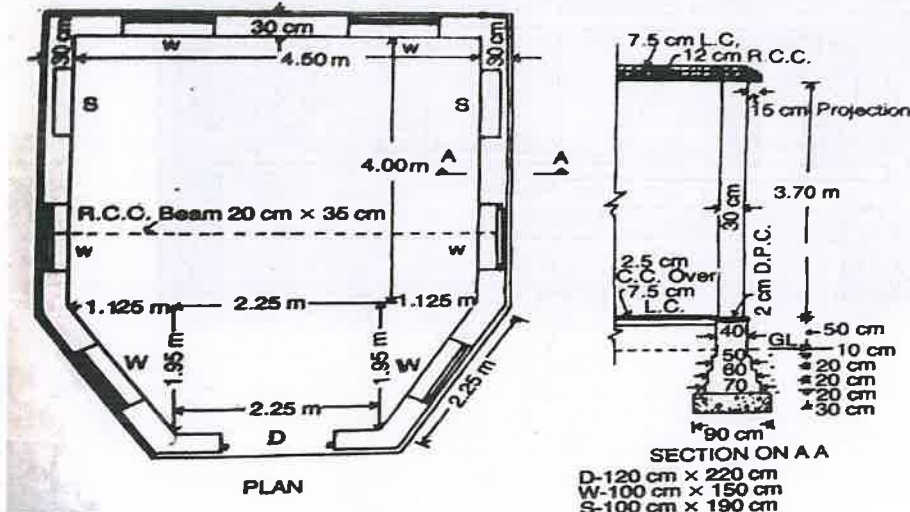
UNIT-I

- 1 a What are the different methods of estimate? Explain long wall and short wall method and centre line method in detail. **CO1 L1 6M**
- b Estimate the following items for the plan and section given in Fig Use long wall and short wall method. **CO1 L2 6M**
- (i) Earthwork for excavation
- (ii) I class brickwork for sub structure
- (iii) Inside plastering in CM (1 : 5) with 12 mm thickness.
- (iv) Cement concrete flooring in cc (1:1:2) with 20 mm thick



OR

- 2 Estimate the detailed quantity for the following building from the given plan and cross section as shown in Fig by using center line method. **CO1 L2 12M**
- i) Earth work excavation.
- ii) Brick work in CM (1:4) for substructure up to plinth level.
- iii) R.C.C. slab with (1:1.5:3)
- iv) Inside Plastering in cm (1:5) with 12 mm thick.



UNIT-II

- 3 Reduced level (R.L.) of ground along the centre line of a proposed road from chainage 10 to chainage 20 are given below. The formation level at the 10th chainage is 107 and road is in downward gradient of 1 in 150 up to the chainage 14 and then the gradient changes to 1 in 100 downward. Formation width of road is 10 m and side slopes of banking are 2:1 (H:V). Length of the chain is 30 m. Prepare an estimate of earth at the rate of Rs.275% cu.m

CO2 L3 12M

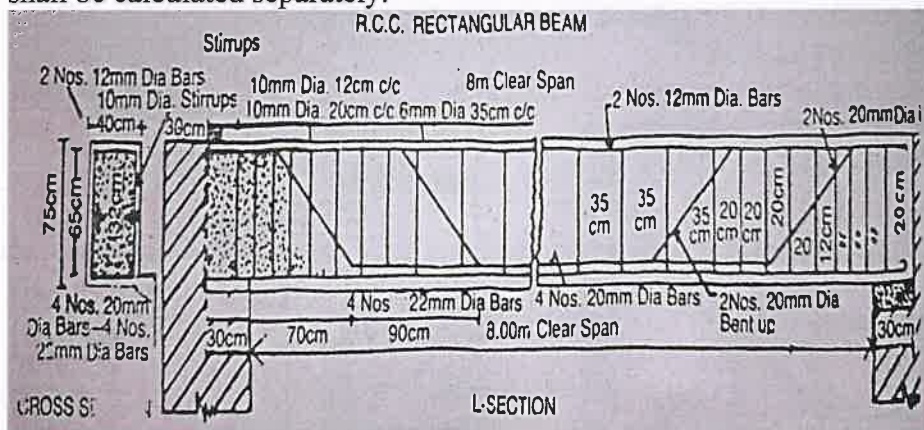
Chainage	RL of ground (m)
10	105.00
11	105.60
12	105.44
13	105.90
14	105.42
15	104.30
16	105.00
17	104.10
18	104.62
19	104.00
20	103.30

OR

- 4 a Define Lead and Lift. Write a detailed note on different methods for computation of earth work excavation in road embankments. CO2 L2 6M
- b A canal is to be constructed from reservoir to agricultural field at a distance of 3 Km with a depth of 2.50 m from the ground level and side slopes of 1: 1.5. Maintain the bottom bed width of the canal throughout the length is 3.50 m and also provide banking on both left and right side of the canal at an height of 1.50 m from the ground level with the side slopes are 1: 1.5. Take banking bed width on both side is 3.50 m. Calculate the quantity of earth work on banking and cutting of the canal. CO2 L3 6M

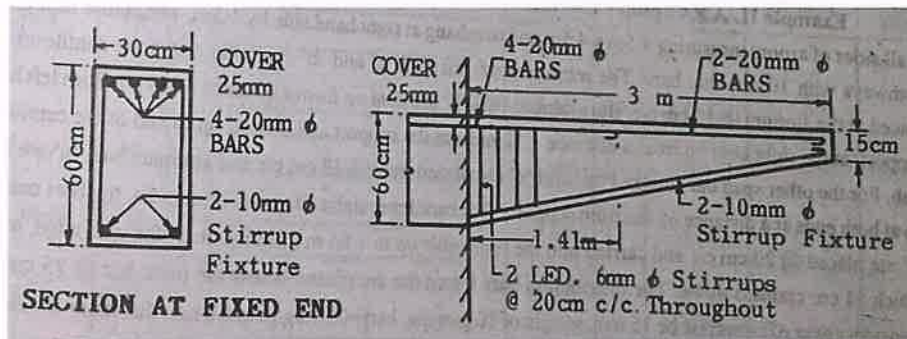
UNIT-III

- 5 Prepare a detailed estimate of a RCC beam of 8 m clear span and 75 cm x 40 cm in section from the given drawings. Steel in detail and RCC work shall be calculated separately. CO3 L3 12M



OR

- 6 A cantilever RC beam projects beyond the fixed end by 3 m and is 30 cm x 60 cm at fixed end and reduced to 30 cm x 15 cm at the free end. At the fixed end the beam is reinforced with 4 bars 20 mm dia at the top and 2 bars are curtailed at a distance of 1.41 m from the fixed end, but the remaining 2 bars continued up to the free end. The beam is provided with 6 mm dia two legged stirrups 20 cm centre to centre for the entire length. At the bottom there are 2 bars 10 mm dia as stirrup fixture. Weight of bars are 20 mm = 2.47 kg/m, 10 mm = 0.62 kg/m, 6 mm = 0.22 kg/m. assume 25 mm clear cover and the main bars are suitably anchored, but is not needed in the estimate. Estimate the quantity of reinforcement.



UNIT-IV

- 7 a Prepare the rate analysis for random rubble stone masonry in cement mortar (1:6) for superstructure. CO4 L3 6M
 b Prepare rate analysis for damp proof course (DPC) in cement concrete (1:1:3) over the basement wall. CO4 L3 6M
- OR
- 8 a What is lead statement ? Illustrate the procedure to prepare the lead statement with help of table. CO4 L1 6M
 b What are the factors affecting the rate analysis ? Describe briefly the procedure of rate analysis. CO4 L1 6M

UNIT-V

- 9 Calculate the standard rent of a Government residential building newly constructed from the following data – CO6 L3 12M
 (i) Cost of land –Rs.10,000.00
 (ii) Cost of construction of the building –Rs.40,000.00
 (iii) Cost of roads within the compound, and fencing –Rs.20,00.00
 (iv) Cost of sanitary and water supply works – 8% of the cost of building
 (v) Cost of electric installation including fans – 10% of the cost of building
 (vi) Municipal House tax – Rs.400.00 per annum
 (vii) Water tax – Rs.250.00 per annum
 (viii) Property tax – Rs.140.00 per annum
- OR
- 10 a Write the types of specification. Give their advantages and disadvantages CO5 L2 6M
 b A building in an A class city is let out @ 12000/- P.M. The total outgoings of the property is estimated to be 18% of the gross income, calculate the capitalized value of the property if the present rate of interest is 9% and life of the property is 50 years CO6 L3 6M

*** END ***

