Q.P. Code: 19CE0115 **R19**

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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations July-2022

ESTIMATION, COSTING AND VALUATION

(Civil Engineering)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1 List and explain different types of estimates in detail. **L1** **12M**

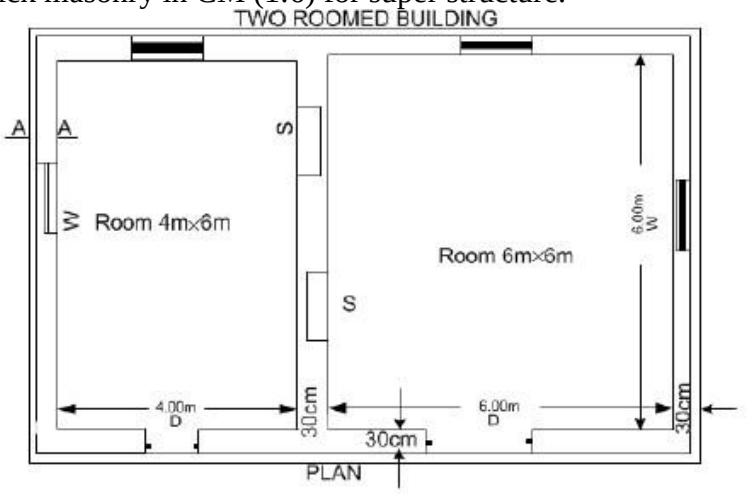
OR

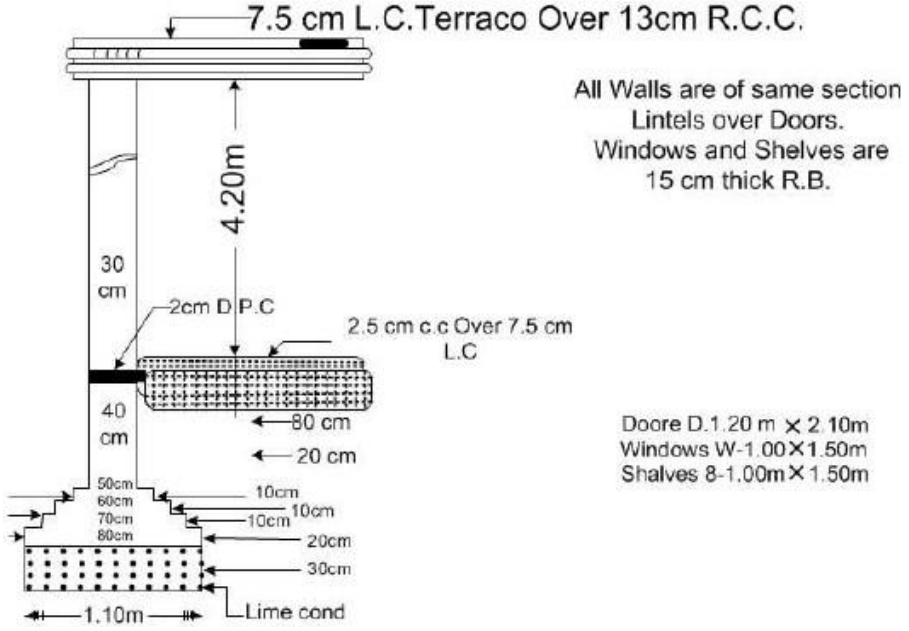
2 Calculate the quantities of the following items of work for the building shown in fig using long wall and short wall method. **L3** **12M**

(i) Earth work in excavation

(ii) PCC (1: 5: 10) below the foundation

(ii) Brick masonry in CM (1:6) for super structure.





UNIT-II

3 **a** Define *Lead* and *Lift.* **L1** **4M**

b A road portion of 200 m length is having heights 1.00 m and 1.60 m in banking at the two ends. The road portion in a uniform ground with a formation width 10 m and side slopes being 2:1 (horizontal: vertical). Assume that there is no transverse slope. **L3** **8M**

(i) Calculate the quantity of earthwork using *Mean Sectional Area Method and Prismoidal Formula Method.*

(ii) Compare *Mean Sectional Area Method* with *Prismoidal Formula Method* and report the difference of quantities in percentage.

(iii) If the side slopes are to be provided with a stone pitching of 15 cm thick, calculate the cost of pitching at the rate of Rs.520/- per cu.m

OR

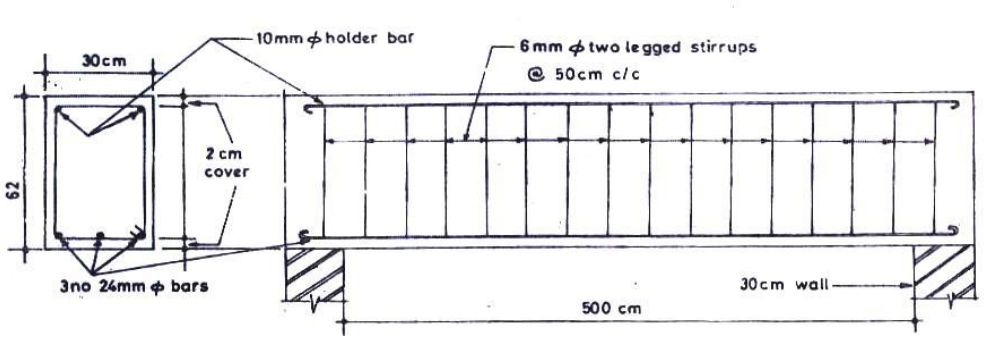
4 Calculate the quantity of earthwork of a portion of a channel with the following data: **L3** **12M**

Bed width = 3 m; Free board = 44 cm; Slope of digging is 1:1; Side slope of banking 1.5:1; Full supply depth = 1m; Top width of both the banks = 1.5 m.

Rd.(m)	Ground level (m)	Proposed bed level (m)
0	225.24	224.00
30	224.80	223.94
60	224.43	223.88
90	224.12	223.82
120	224.50	223.76
150	224.98	223.70

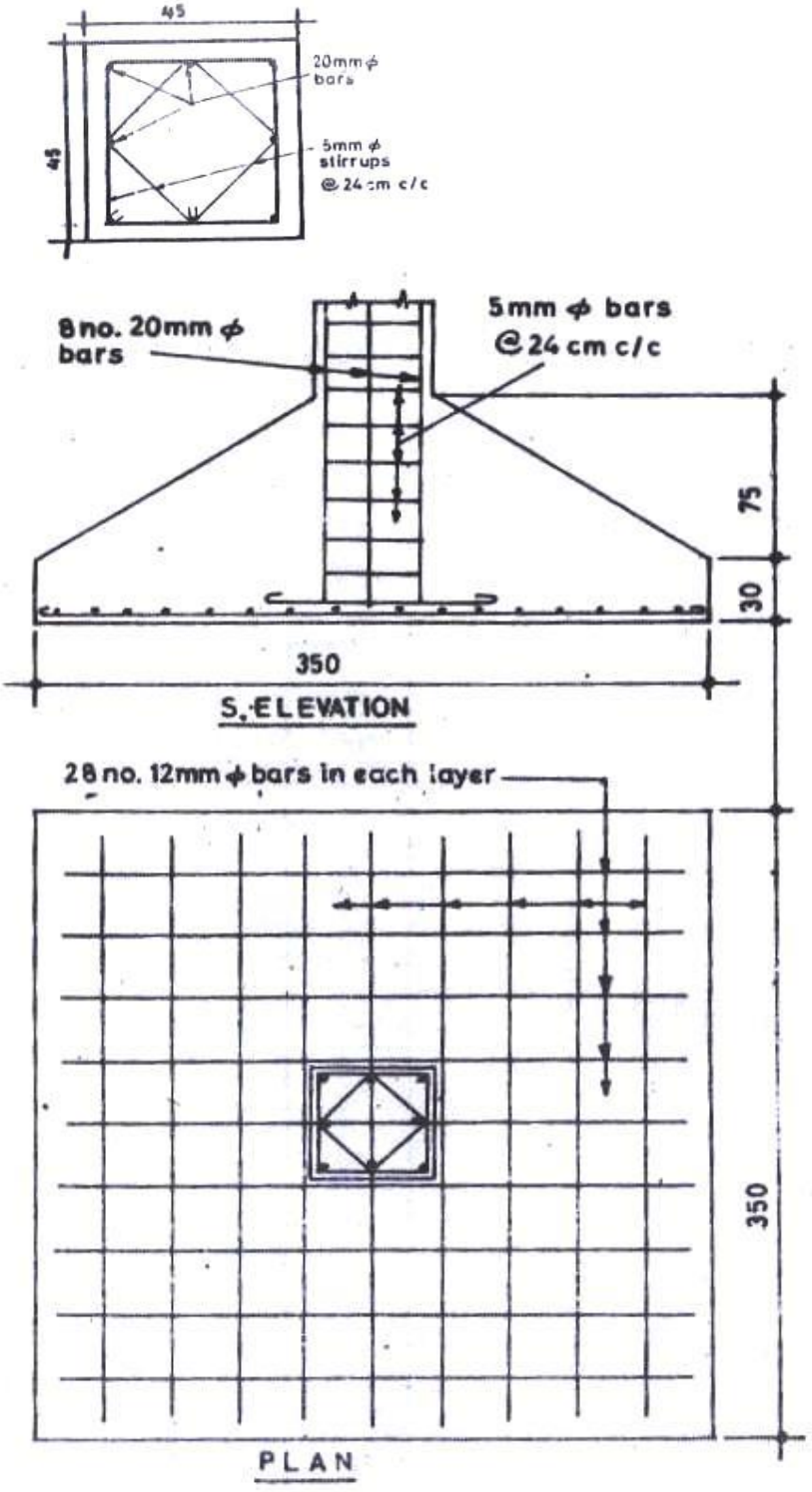
UNIT-III

5 The following figure shows the longitudinal section & cross-section of a simple beam of clear span 5.0m. The thickness of supporting wall is 300 mm. Workout the total quantity of the reinforcement in the beam. Also prepare the bar bending schedule. **L3** **12M**



OR

6 The following figures show the details of reinforcement of a column and its footing. The height of the column from the bottom level of the footing is 6.05m. Prepare the estimate of the total quantity of the reinforcement. Also prepare bar bending schedule. **L3** **12M**



UNIT-IV

7 **a** Arrive rate per sq.m for laying 2.5 cm thick 1:1.5:3 cement concrete as damp proof course. **L2** **6M**

b Prepare rate per cu.m for excavation for a basement in hard soil, depth 1.5 m and removing the material disposing at a distance of 50 m. **L2** **6M**

OR

8	**a**	Work out rate per cu.m for RCC work in beams with 1:1½:3 cement concrete.	**L3**	**6M**
	b	Arrive the rate per cu.m for I-class brickwork in superstructure with 20 x 10 x 10 cm size bricks with 1:6 cement mortar.	**L2**	**6M**

UNIT-V

9	**a**	Write detailed specifications for earth work excavation for foundations of residential building.	**L2**	**6M**
	b	Write detailed specification for paining to wood work for doors and windows.	**L2**	**6M**

OR

10	**a**	Define the following terms : (i) Net income (ii) Scrap value (iii) Sinking fund (iv) Capital Cost(v) Gross Income (vi)Outgoings	**L2**	**6M**
	b	A pump set with a motor has been installed in a building at a cost of Rs. 10,000/-. Assuming the life of pump as 15 years, work out the amount of annual installment of sinking fund required to be deposited to accumulate the whole amount at 6% compound interest.	**L2**	**6M**

*** END ***