Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular Examinations December-2021

ESTIMATION, COSTING AND VALUATION

(Civil Engineering)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	Explain long wall and short wall method and center line method in detail, with an example.	**L1**	**12M**

OR

2	For the residential building shown in Fig. estimate the following: (i) Earthwork in excavation (ii) C.R. masonry in C.M (1:6) in the basement (iii) Brick masonry in C.M. (1:5) in super structure (iv) R.C.C (1:2:4) in chajja, lintel and roof slab	**L3**	**12M**

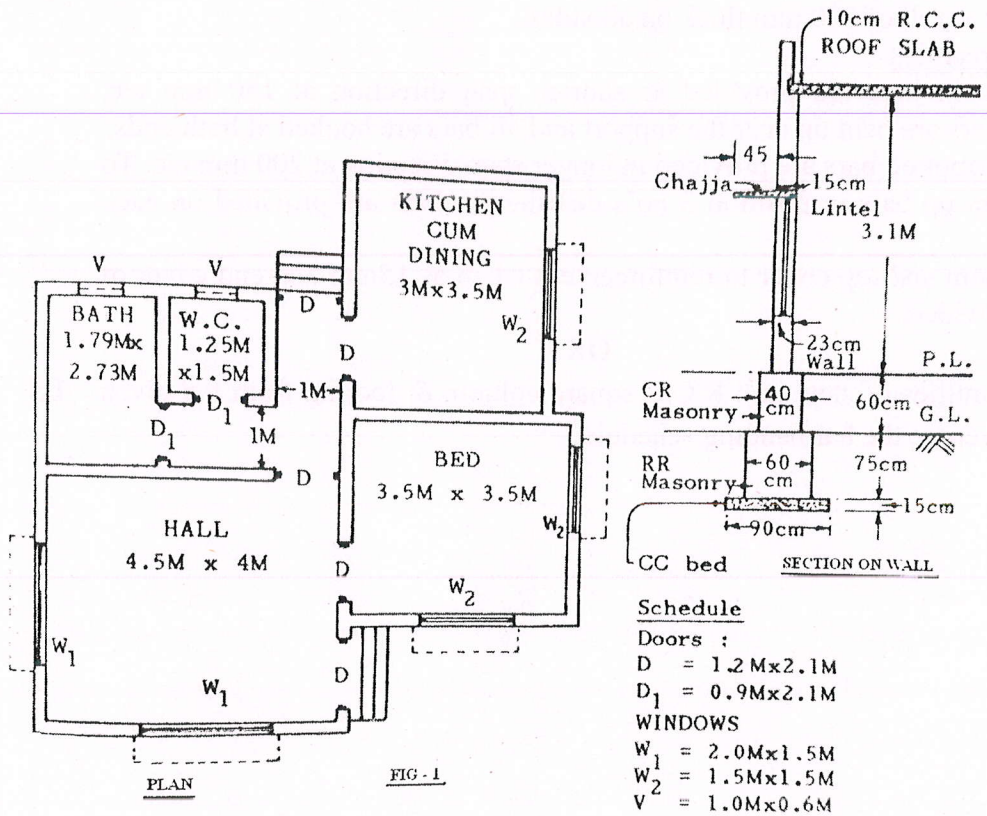


FIG - 1

UNIT-II

3 Explain in detail on different methods of estimating earthwork in construction. L1 12M

OR

4 Calculate the quantity of earthwork 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 slop of ground (tanθ) is equal to 0.2 although as measured by Ghat Tracer. The length of chain is 20 m. The formation width of the road is 7 m and slope bank is 2:1. R.L. of ground and formation level at the center of the road are as follows: L3 12M

Chainage	Distance (m)	RL of ground at center(m)	RL of formation at center(m)
5	100	200.00	201.20
6	120	195.75	201.80
7	140	200.50	202.40
8	160	201.70	203.00
9	180	202.40	203.60
10	200	201.50	204.20

UNIT-III

5 Calculate the quantity of steel reinforcement required for a roof slab of 3m x 6m and fully resting over a wall of 300 mm thick on all sides. L3 12M

Details of reinforcement

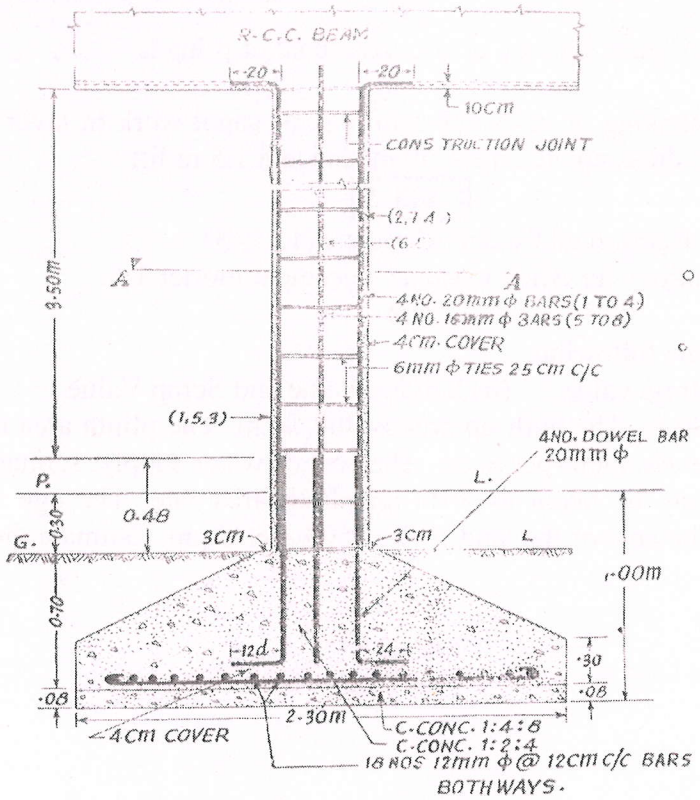
(i) 10mm dia main bars are provided in shorter span direction at 150 mm c/c. Alternative bars are bent up near the support and all bars are hooked at both ends.

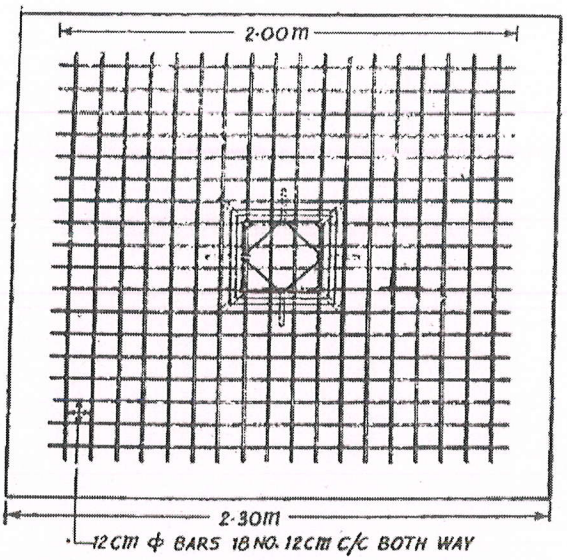
(ii) 8mm dia distribution bars are provided in longer span direction at 200 mm c/c. To hold the bent up bars in position 3 no's distribution bars are provided on each side at top.

(iii) Cover: Bottom and top cover to reinforcement taken as 15mm and end cover of 25mm is provided.

OR

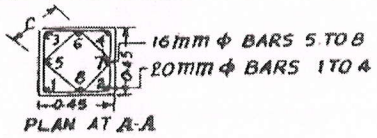
6 Calculate the quantities of steel in a R.C.C square column & footing from the given drawings. Also prepare the bar bending schedule. L3 12M





DETAIL OF FOOTING SHOWING THE DETAILS OF REINFORCE

BOTTOM PLAN



PLAN AT A-A

UNIT-IV

7 **a** Prepare the rate per cu.m for random rubble stone masonry in super structure in 1:6 cement sand mortar. **L3** **6M**

b What is the rate per sq.m for constructing 12 mm thick cement plastering in ceiling with 1:3 cement sand mortar? **L2** **6M**

OR

8	a	Prepare rate per sq.m for painting Two coats over a coat of primer.	L3	6M
	b	Prepare earthwork in banking or in exaction in road or canal work in layer of 20 cm including ramming, dressing etc., up to 30 m lead and 1.5 m lift.	L2	6M

UNIT-V

9	a	Write specification for Reinforced Cement Concrete (1:1½:3)	L2	6M
	b	Write detailed specifications for Brick masonry in cement mortar 1:6.	L2	6M

OR

10	a	Differentiate between the following. (i) Book value and Distress value. (ii) Salvage value and Scrap Value	L2	6M
	b	A plot measures 500 Sq.m, The built up area is 300 Sq.m. The plinth area rate of this 1st class building is Rs.6000/-per Sq.m. The cost of water supply, sanitary and electric installations may be taken as 30% on plinth area rate. The age of the building is 40 years. The cost of the land is Rs. 1500/-per Sq.m. Estimate the total value of the property	L3	6M

*** END ***