

R18

Code No:157BM

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech IV Year I Semester Examinations, February/March - 2022

ESTIMATION, COSTING AND PROJECT MANAGEMENT

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

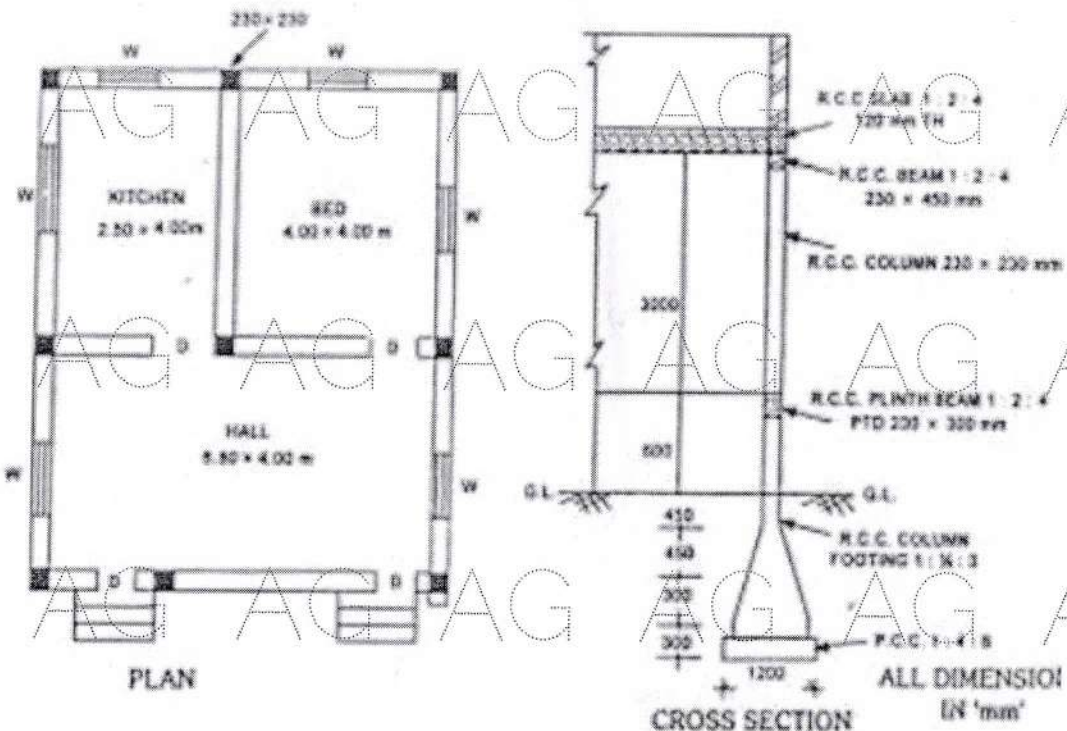
1. Prepare the approximate cost of building project (group Housing)

- a) No. of houses = 150
- b) Plinth area of each dwelling = 600m^2
- c) Plinth area rate = Rs. 5,000/-per m^2
- d) Cost of water supply & sanitary arrangements @ $12\frac{1}{2}\%$
- e) Electrification at $7\frac{1}{2}\%$ of cost of building.
- f) Cost of roads & Lawns @ 5%
- g) Cost of P.S. & contingencies @ 4% .

[15]

2. Prepare the detailed estimate for the following items of work for the building shown in figure. a) R.C.C. (1:1.5:3) in columns upto ground level only. b) R.C.C. (1:2:4) in plinth Beams.

[15]



3. Calculate the volume of earth work for part of a road from the following data: [15]

| | | | | | | | | | | | |
|-----------------|-------|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Chainage in mts | 600 | 630 | 660 | 690 | 720 | 750 | 780 | 810 | 840 | 870 | 900 |
| RL in mts | 61.20 | 61.25 | 60.90 | 61.25 | 60.80 | 60.45 | 60.20 | 60.35 | 59.10 | 59.45 | 59.7 |
| FL in mts | 60.00 | ← Upward gradient 1 in 200 → | | | | | | | | | |
| | | 60.15 | 60.30 | 60.45 | 60.60 | 60.75 | 60.90 | 61.05 | 61.20 | 61.35 | 61.50 |

4. A RCC beam of 8m length, 0.35m breadth and 0.45m depth is reinforced with 2No. of diameter 12mm @ top, 4No. of diameter 20mm @ bottom, stirrups 2L diameter 8mm @ 175mm c/c is provided throughout its length. Estimate the cost of RCC beam. [15]

5. Calculate the quantity of materials for the following items.

a) C.M. (1:4) for 1m^3 of work

b) CM(1:6) for 1m^3 of work. [7+8]

6. Calculate the quantity of Cement required in bags for the following items of work.

a) C.C. (1:4:8) use 40mm HBG metals for 30m^3 of work

b) RR masanry in CM(1:5) very 0.34m^3 of CM for 1m^3 of masanry for 20m of work. [7+8]

7. Explain the terms a) Administrative Approval b) Technical sanction c) Budget provision d) Expenditure sanction. [15]

8. An equipment that was purchased at a cost of Rs 20 lakhs, six years age is considered for replacement. The existing equipment can be sold at a price of Rs. 5 lakhs and if kept for another six years will have salvage value of Rs. 1 lakh. The challenger has annual operating cost of Rs. 50000/- and its salvage value is Rs. 5 lakhs at the end of 12 years. Rate of interest is 10%. Decide whether to continue services of existing equipment or replace it. [15]