

CBCS SCHEME

USN

18ENG74

Seventh Semester B.Arch. Degree Examination, Dec.2023/Jan.2024

Specification, Quantity and Costing of Buildings

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. What is Estimation? Explain the need for Estimation and Costing. (10 Marks)
- b. Write a note on detailed estimate. (10 Marks)

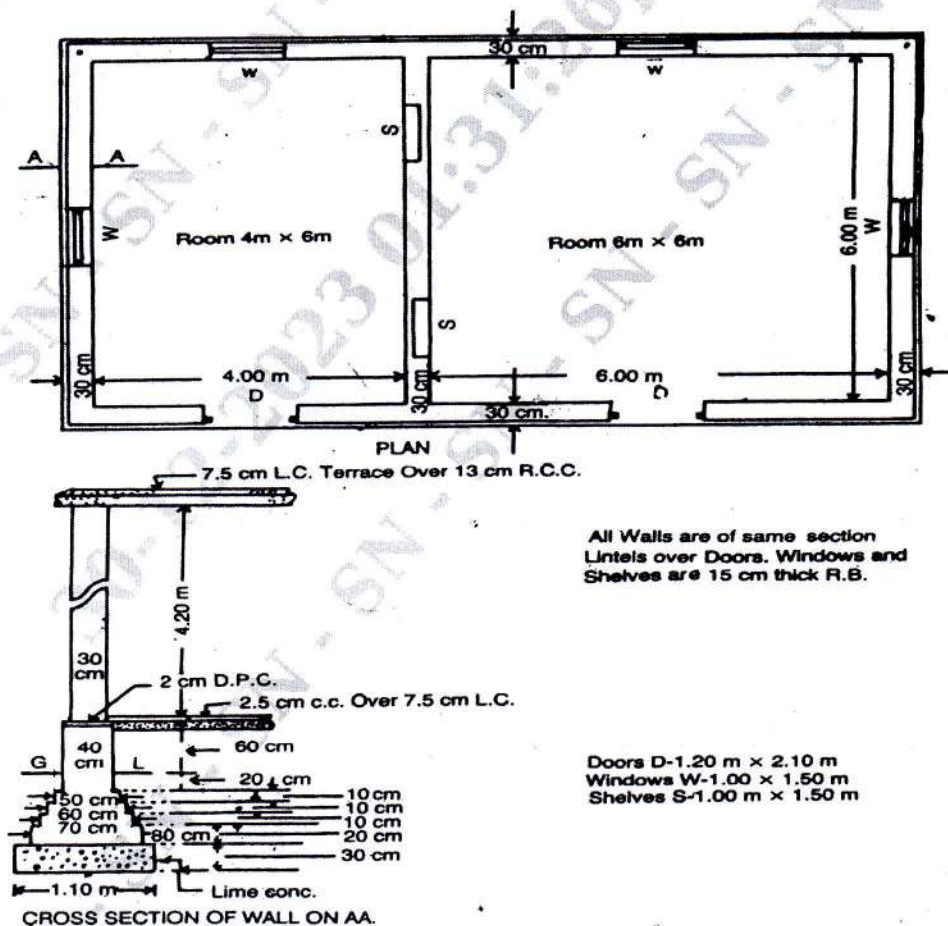
OR

- 2 a. Explain at least three standard test results considered as a part of specification and their inclusion in the bill of quantities. (10 Marks)
- b. With a note on material security and workers safety considered in specification. (10 Marks)

Module-2

- 3 Estimate the quantities of the following item of a two roomed building from Fig.Q3.
 - i) Earth work in excavation in foundation
 - ii) Cement concrete in foundation
 - iii) Size stone masonry in CM 1 : 6 for foundation and plinth
 - iv) 2.5 CM DPC
 - v) First class brick work in CM 1 : 4 for super structure.

Use Long wall – Short wall method. (20 Marks)



Note : — No beam has been shown in the plan as the object of this example is to explain the method of estimating the walls only.

Fig.Q3

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.

OR

- 4 a. What is Tender? What are the constants of a tender? (08 Marks)
 b. Write short notes on the following :
 i) Administrative sanction and technical sanction
 ii) Security retention and earnest money deposit
 iii) Measurement book and its importance
 iv) Valuation and different methods of valuation. (12 Marks)

Module-3

- 5 Write a detailed specification for the following :
 a. Earth work in excavation for foundation
 b. First class brick work in CM (1 : 6)
 c. Cement plastering in (1 : 6)
 d. 25cm thick cement concrete flooring (1 : 2 : 4). (20 Marks)

OR

- 6 Prepare a detailed estimate of a R.C.C roof slab of 3m clear span 12cm thickness and 6m clear long slab bearing on masonry in 150mm around reinforcement consists of 12 mm diameter main bars 12cm c/c alternate bent up and distribution 6mm diameter at 18cm c/c R.C.C work in centering and shuttering but excluding reinforcement is Rs.7500/m³. Providing and tying reinforcement is R-S 90 per kg. Do sketching and prepare schedule of bars. Assume $d^2/162$ to drive weight of all bars in kg per meter, where d is the diameter of the bar in mm and 7850 kg per count as density. (20 Marks)

Module-4

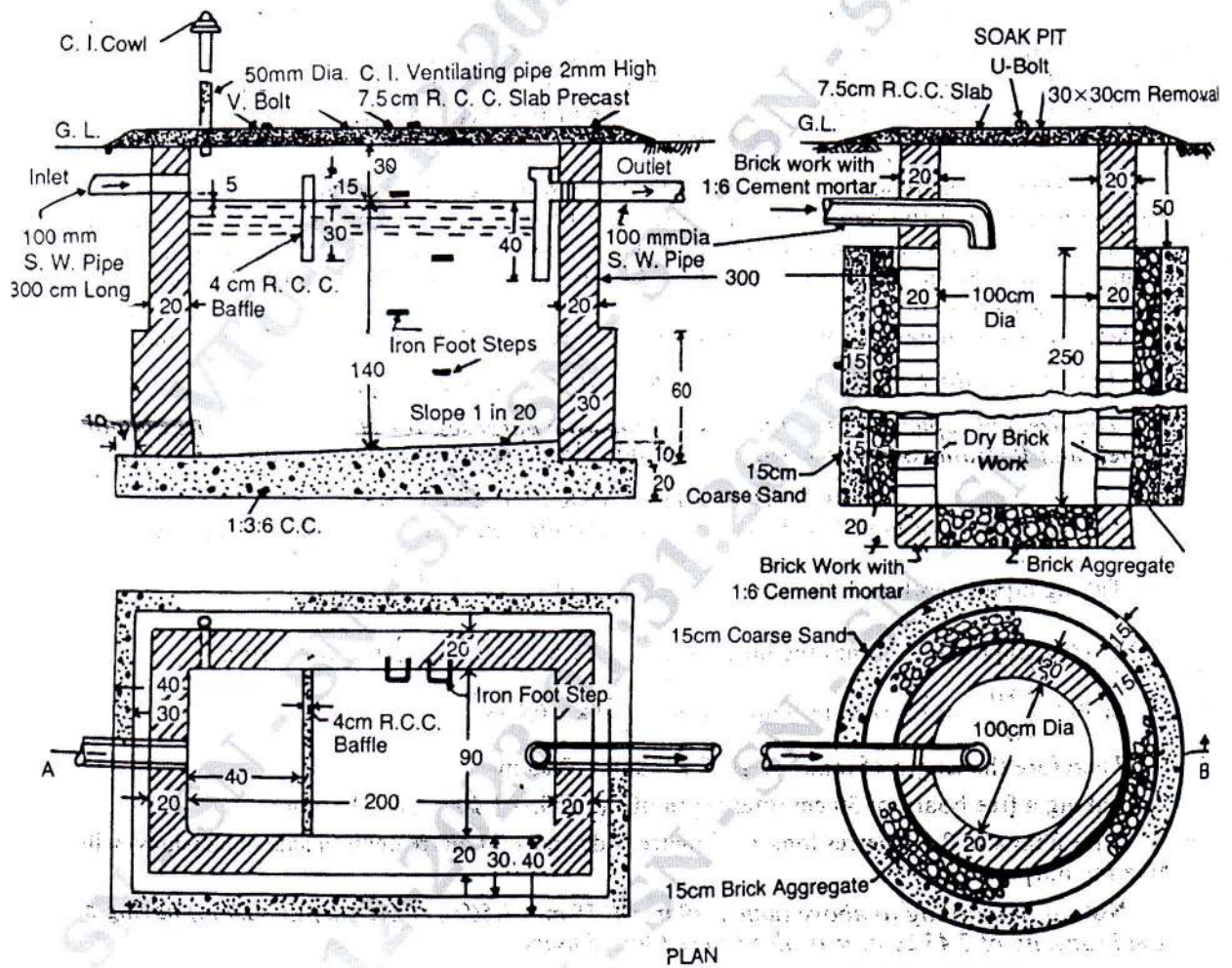
- 7 From first principle work out the rate per unit for the following.
 Given: Cement = Rs. 320/bag fine aggregate = Rs.120/m³ and coarse aggregate = Rs. 750/m³.
 i) Cement concrete of 1 : 4 : 8 for foundation bed
 ii) First class brick work in CM 1 : 6 super structure
 iii) Random stone masonry in cm 1 : 6 for foundation
 iv) 12mm thick internal plastering in cm 1 : 4 for brick wall. (20 Marks)

OR

- 8 a. What is rate analysis? Describe the factor affecting rate analysis of an item. (10 Marks)
 b. Write short notes on :
 i) Schedule of rates
 ii) Unit rate and lump sum rate. (10 Marks)

Module-5

- 9 Prepare a detailed estimate for a septic tank with soak pit shown in Fig.Q9 for the following items of work.
- Earth work in excavation
 - First class brick work in CM 1 : 4 for side wall
 - R.C.C (1 : 2 : 4) for cover slab with 1% steel reinforcement for septic tank and sock pit.



PLAN
All Dimensions in Centimetre unless otherwise Specified,

Fig.Q9

(20 Marks)

OR

- 10 Define the following :
- Certificate of vertical completion
 - R.A bill and final bill
 - Liquidated damages
 - Payment certificate.

(20 Marks)
