

## Seventh Semester B.E. Degree Examination, July/August 2021

### Estimation and Valuation

Time: 3 hrs.

Max. Marks:100

- Note: 1. Answer any ONE full question from PART-A.**  
**2. Answer any TWO full questions from PART-B**  
**and TWO full questions from PART-C.**

#### PART - A

- 1 Estimate the following quantities and determine the cost refereeing to Fig.Q.1.
- Earth work excavation in foundation at Rs.200/cum.
  - Bed concrete for foundation in C.C. 1:3:6 at Rs.4800/cum.
  - U.C.R. Masonry for foundation and plinth in C.M. 1:6 at Rs.4500/cum.
  - D.P.C. in C.C. 1:1.5:3, 2cm thick at Rs.350/sqm.
  - 1<sup>st</sup> class B.B.M. in C.M. 1:6 for superstructure at Rs.5500/cum.
  - Plastering of inside and outside walls in C.M.1:6 with 20mm thick plaster at Rs.600/sqm.
  - R.C.C. for slab in C.C. 1:2:4 at Rs.7500/cum.
  - Wood work for doors at Rs.8500/sqm.
  - Wood work for windows at Rs.500/sqm.
  - Painting of doors and windows at Rs.750/sqm.

(40 Marks)

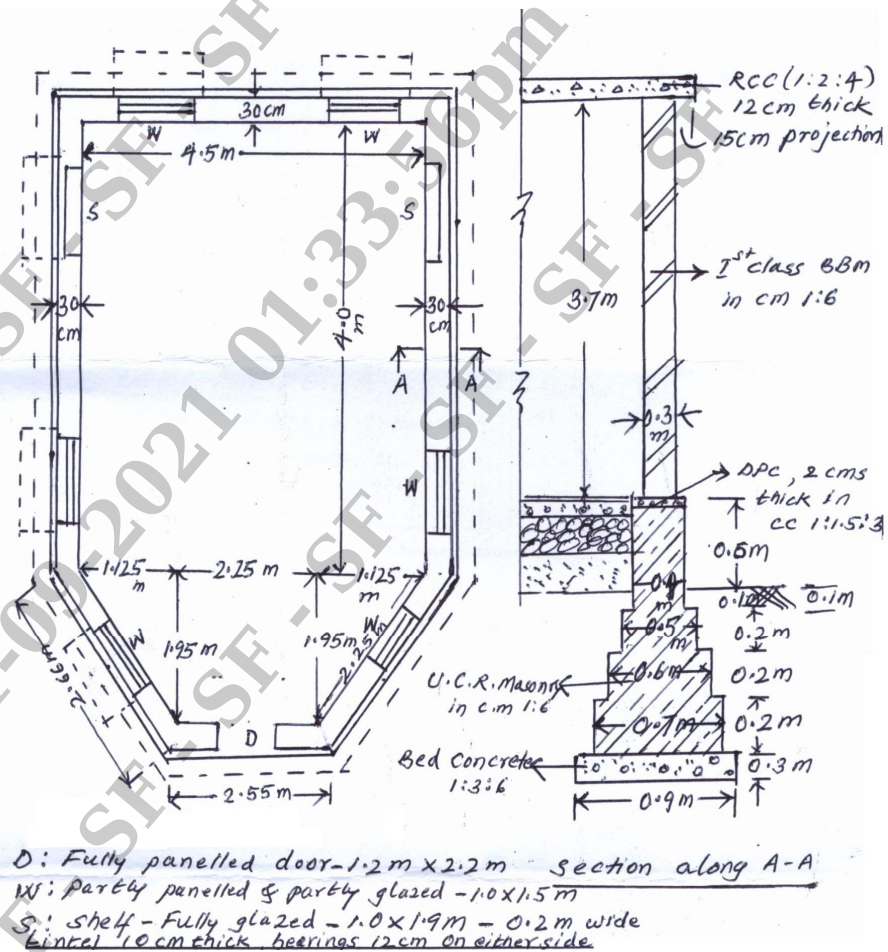


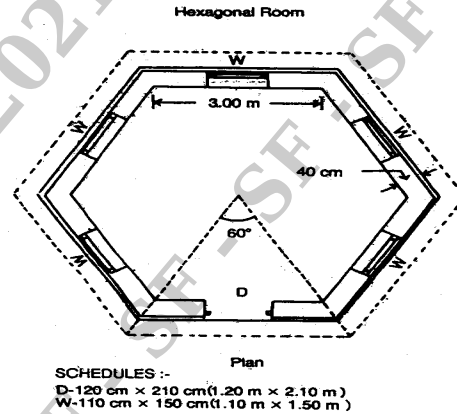
Fig.Q.1

2 The plan and part cross-section of a hexagonal room are given in Fig.Q.2. Estimate any eight of the following quantities and determine the cost.

- i) Earthwork excavation in hard soil at Rs. 150/-cum
- ii) Bed concrete in C.C 1 : 4 : 8 at Rs. 3200/- cum
- iii) U.C.R masonry for foundation and plinth at Rs. 3000/cum
- iv) 2 cm thick DPC in C.C 1 : 1.5 : 3 at Rs. 500/- sqm
- v) I<sup>st</sup> class BBM for super structure in CM 1 : 6 at Rs. 4500/- per cum
- vi) Plastering in cm 1 : 6 for inner and outer faces with thickness 12 mm at Rs. 450 per sqm
- vii) RCC for lintels in CC 1 : 2 : 4 at Rs. 4500/- cum
- viii) RCC for slab in CC 1 : 2 : 4 at Rs. 5000/- cum
- ix) RCC for Chejja in 1 : 2 : 4 at Rs. 1250/- sqm
- x) Flooring at Rs. 1400/- sqm.

(40 Marks)

Fig.Q.2

**PART - B**

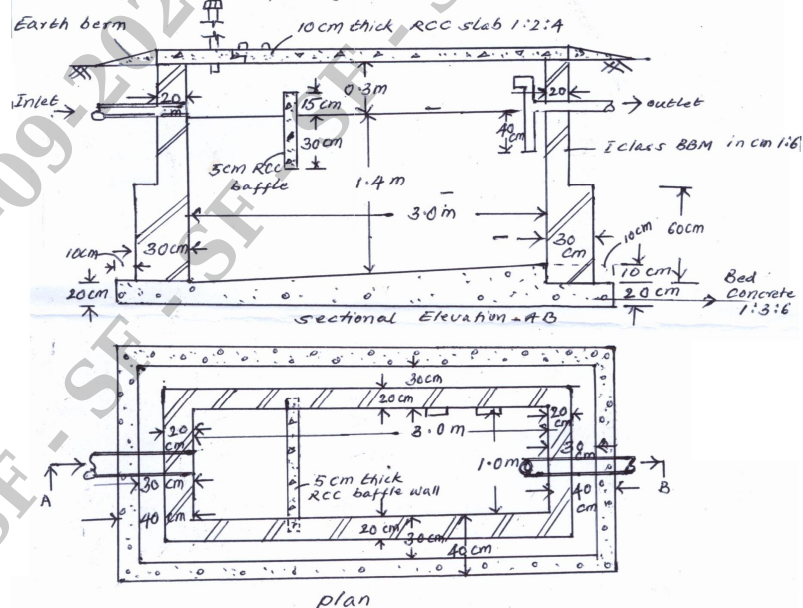
3 Name different types of approximate estimates and explain any five methods. (15 Marks)

4 From the given plan and section estimate the following quantities for the septic tank. Refer Fig.Q.4.

- i) Earth work excavation for foundation and septic tank.
- ii) Bed concrete for foundation in C.C. 1:3:6.
- iii) I<sup>st</sup> class B.B.M. for walls in C.M. 1:6.
- iv) Plastering of inside face of walls and floor in C.M. 1:6 with water proofing compound.
- v) R.C.C. for slab and baffle wall in C.C.1:2:4 (Bearing of baffle wall 10cms on either side).

(15 Marks)

Fig.Q.4



5 Write detailed specifications of any three of the following:

- Earth work excavation for foundation.
- Bed concrete for foundation in C.C. 1:3:6.
- I<sup>st</sup> class B.B.M. for superstructure in C.M. 1:6.
- Random Rubble masonry for foundation.
- I.P.S. (Indian Patent Stone) flooring.



(15 Marks)

6 The details of a septic tank are given in Fig.Q.6. Find the quantities of the following items.

- Earthwork in excavation for foundation in hard soil
- BBM in CM 1:4 for side walls
- P.C.C. 1:2:4 for cover slab.

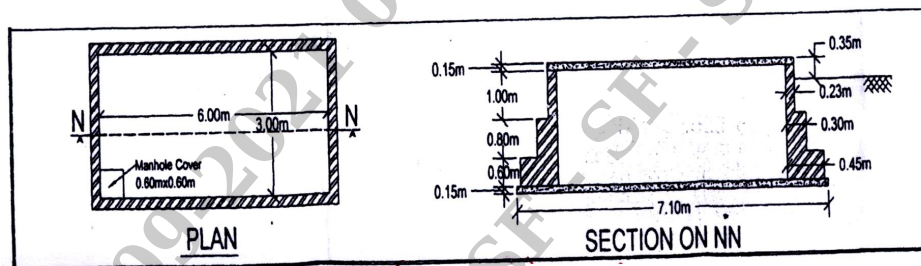


Fig.Q.6

(15 Marks)

7 Write short notes on any three of the following:

- Administrative sanction and Technical sanction
- Earnest money deposit and security deposit
- Lump-sum contract and item rate construct
- Nominal master roll and measurement book

(15 Marks)

### PART - C

8 Analyze the rate of any three of the following items:

- I<sup>st</sup> class BBM in C.M. 1:6.
- U.C.R. masonry for foundation in C.M. 1:6.
- Plastering in C.M. 1:6, with 20mm thick plaster.
- Mosaic tiled flooring over a bed of 7.5cm thick C.C 1:3:6 concrete.
- White washing – 3 coats.

(15 Marks)

9 Estimate the cost of earthwork at Rs.200/cum for banking and Rs.250/cum for cutting for a portion of road for 100m length from the following data:

Formation width of road = 10m, side slopes 2:1 in banking and 1.5:1 in cutting.

Distance m	0	100	200	300	400	500	600	700	800	900	1000	1110	1200
R.L. of ground m	114.5	114.75	115.25	115.20	116.10	116.85	118.0	118.25	118.10	117.80	117.75	117.90	119.5
R.L. of formation m	Downward gradient of 1 in 200						118.0	Downward gradient 1 in 400					

(15 Marks)

10 a. What is a contract? Briefly explain types of contract.

(07 Marks)

b. Explain the following terms:

- Administrative approval
- Technical sanction
- Sinking fund
- Depreciation.

(08 Marks)

- 11 Analyze the rate of any three items from first principles :
- Lime concrete in foundation with 40mm gauge brick ballast in L.C 1 : 2 : 6
  - Cement concrete in C.C 1 : 2 : 4 for RCC works
  - 1<sup>st</sup> class BBM in C.M 1 : 6 for super structure
  - 20mm thick cement plastering in C.M 1 : 6.

(15 Marks)

- 12 a. Explain lead and lift with reference to earth work. (04 Marks)
- b. Estimate the quantity of earth work for the portion of a road 400m length from the following data :  
Formation width of road = 10 m side slopes are 2 : 1 in banking and 1.5 : 1 in cutting.

Station	25	26	27	28	29	30	31	32	33	34	35
Distance in m	1000	1040	1080	1120	1160	1200	1240	1280	1320	1360	1400
RL of ground	51.0	50.9	50.5	50.8	50.6	50.7	51.2	51.4	51.3	51.0	50.6
RL of formation	52.0	Downward gradient of 1 in 200									

(11 Marks)

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