



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Seventh Semester, B.E. - Civil Engineering

Semester End Examination; February - 2022

Quantity Surveying and Estimation

Time: 3 hrs

Max. Marks: 100

Note: i) UNIT - I is compulsory.

ii) Answer **THREE** full questions by selecting **ONE** full question from UNIT-II, UNIT-III & UNIT-IV.

UNIT - I

- 1 a. List different methods that are generally adopted to carry out Estimation and explain any three of them. 8
- b. Workout the quantities for the following items of work for a residential building shown in Fig. 1(b) (By centre line method):
 - i) S.S.M. in C.M. 1:8 for foundation 10
 - ii) B.B.M. in C.M. 1:6 for super structure 10
 - iii) Plastering interior walls with C.M. 1:6 and lime rendering finish 6
 - iv) Enamel painting for fully pannelled doors and windows 6

UNIT - II

- 2 a. Details of a septic tank are given in Fig. 2(a), find the quantities of the following items:
 - i) Earth work excavation in ordinary soil 3
 - ii) Quantity of B.B.M. in C:M. 1:4 9
- b. Following are the depth of cuts of a portion of road of length 180 m with regular intervals of 20 m. The formation width of the road is 12 m with side slopes of 1.5:1. Calculate the quantity of volume of cutting by mid sectional area method: 0.2 m, 0.3 m, 0.2 m, 0.4 m, 0.5 m, 0.2 m, 0.4 m, 0.6 m, 0.4 m and 0.5 m. 8
- 3 a. Following are the data obtained from the portion of a road work for a length of 320 m at a regular interval of 40 m.

Chainage	0	40	80	120	160	200	240	280	320
R-L of Ground field in mm	90.6	91.0	90.2	90.8	90.6	90.2	90.4	90.2	90.2
R-L of format level in mm	92.00	----->Falling Gradient of 1 in 200 ----->							

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Formation width of the road is 10 m. Side slopes in banking 2:1 and side slopes in cutting 1.5:1. Compute the volume of Earthwork to be done by,

- i) Trapezoidal formulae method
- ii) Prismoidal formulae method

b. Compute the quantities of the following items of a septic tank shown in Fig. 3(b).

- | | |
|-------------------------------|---|
| i) 200 mm thick 1:4:8 P.C.C | 6 |
| ii) Plastering interior walls | |

UNIT - III

4 a. From the first principle, workout rate per unit of;

- | | |
|--|----|
| i) 1:4:8 P.C.C. using 40 mm down size course aggregate | 12 |
| ii) 12 mm thick plastering using C.M. 1:6 | |

b. Write a detailed specifications for;

- | | |
|------------------------------|---|
| i) Ordinary port land cement | 8 |
| ii) 1:2:4 R.C.C. for beams | |

5 a. Carryout rate analysis for the following items:

- | | |
|--|----|
| i) First class burnt brick masonry in C.M. 1:6 | 12 |
| ii) 1:2:4 R.C.C. for columns a beams with 2% steel | |

b. Draw the detailed specifications for;

- | | |
|--|---|
| i) Earth work excavation in hard solid with blasting | 8 |
| ii) Painting exterior walls with distemper | |

UNIT - IV

6 a. What is contract? List and briefly explain types of contract.

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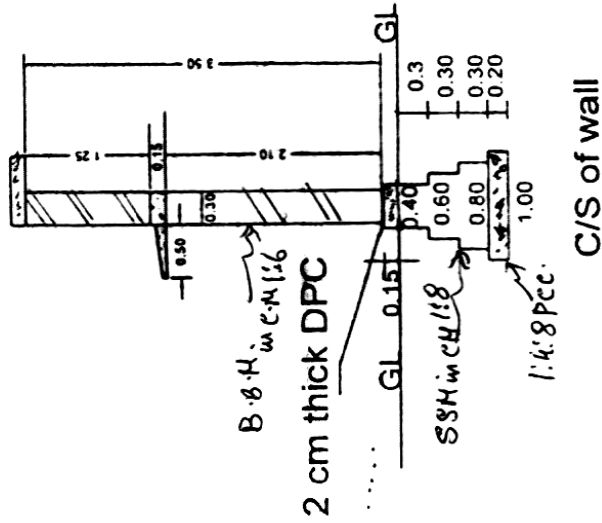
b. Write a brief note on;

- | | |
|--|---|
| i) Earnest money deposits and security deposit | 8 |
| ii) Measurement book | |

7. Write short notes on any four of the following:

- | | | |
|------------------------------|------------------------------|----|
| i) Nominal Muster roll | ii) Technical sanction | 20 |
| iii) Tender and Tender forms | iv) Gross and Net Income | |
| v) Outgoings | vi) Scrap and Salvage values | |

Question No-01



INDEX:

- D - 1.2m X 2.1 m
- D1 - 1.0m X 2.1 m
- D2 - 0.8m X 2.1m
- W - 2.0m X 1.5 m
- W1 - 1.5m X 1.5m
- W2 - 1.0m X 1.0m

NOTE: All dimensions are in m

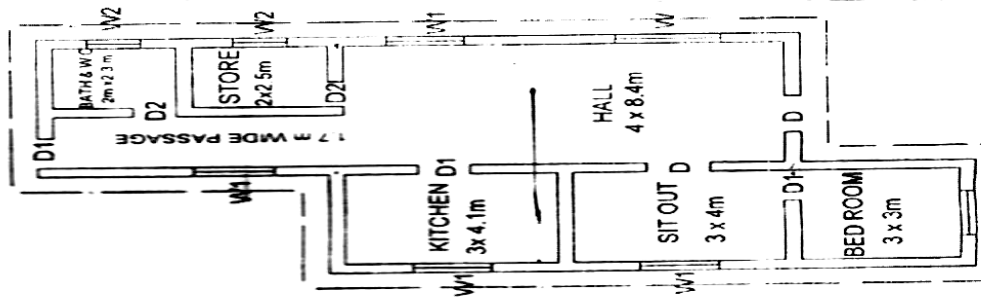


Fig-1(b)

Question No-2 & 3.

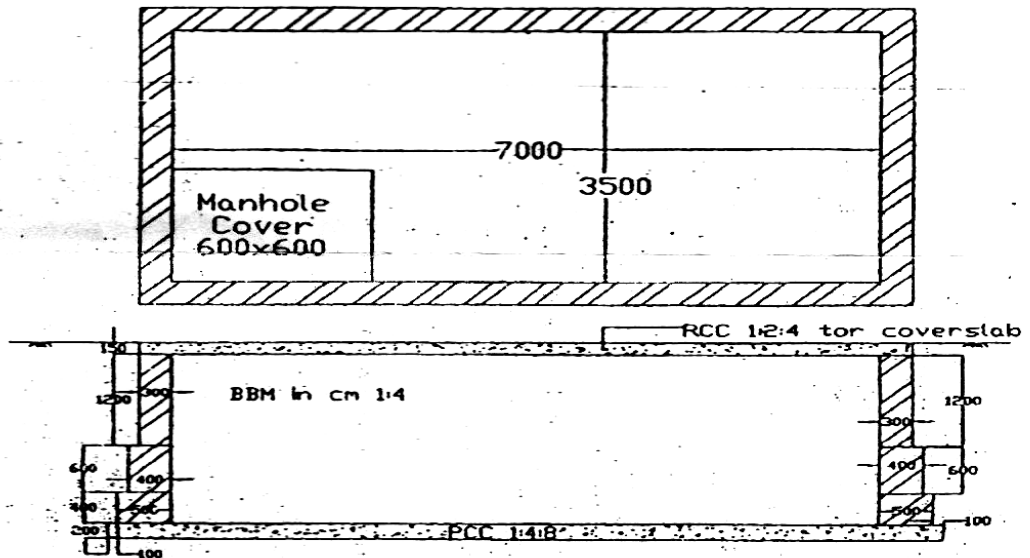


Figure: 2 - SKETCH OF SEPTIC TANK-PLAN AND SECTION

2(b) x 3(b)

All dimensions are in mm
