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

(An Autonomous Institution affiliated to VTU, Belgaum)

Seventh Semester, B.E. - Civil Engineering

Semester End Examination; Dec - 2016/Jan - 2017

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 and UNIT - IV**.

UNIT - I

1. Work out the quantities and Individual cost for the following items of work from the Figure-1, using centre line method,
 - i) Earthwork in excavation for foundation in hard soil at Rs. 175 per m³ 8
 - ii) Plain cement concrete for bed in foundation @ Rs. 3800/m³ 8
 - iii) 1st class brick work in cement mortar 1 : 6 for walls of 3.5 m, height at Rs. 5600/m³ 8
 - iv) Size stone masonry is CM 1 : 5 @ Rs. 4800/m³ 8
 - v) Abstract of cost estimated quantities and cost. 8

UNIT - II

2. The details of a septic tank are given in Figure-2. Find the quantities of the following items,
 - i) Earth work in hard soil @ Rs. 175/m³ 5
 - ii) B.B.M. in CM 1 : 4 for walls @ Rs. 5600/m³ 5
 - iii) R.C.C. slab of 150 mm thick @ Rs. 6000/m³ 5
 - iv) 12 mm thick plastering in CM 1 : 3 @ 200 / m³ 5
- 3a. Define specification and write objective of writing specifications. 5
- b. Write detailed Technical specifications for any three of the following :
 - i) Earth work excavation
 - ii) First class brick in CM 1 : 6 for super structure 15
 - iii) Plastering for Brick walls with CM 1 : 6
 - iv) Cement concrete 1 : 2 : 4 for roof slab

UNIT - III

4. Workout from First principle the rate per unit of any four of the following,
 - i) CC 1 : 4 : 8 for foundation bed
 - ii) 1st Class Brick Work in CM 1 : 6 in superstructure 20
 - iii) Size stone masonry in cement mortar 1 : 6
 - iv) RCC roofing with 1 : 2 : 4 proportion
 - v) 12 mm thick plastering to wall with CM 1 : 6

5. Following table gives the R.L. of high alignment at different chainage. The formation width is 10 m. and side slope 2 : 1 in banking and 1.5 : 1 in cutting. Estimate the quantity of earth work using mean sectional area method. The cost of earth is Rs. 550/m³ in Banking and Rs. 630/m³ in cutting. Estimate the total cost of earth work. Up gradient is 1 in 100 from formation level 107 @ 110 chainage towards 'o' chainage and down gradient 1 in 80 from 110 chainage to end of the project chainage.

20

Chainage, m	0	30	60	90	120	150	180	210	240	270	300	330
R.L. of Ground	105.4	104	106.1	103.8	105.4	106.2	105.8	104.7	105.9	105.3	106	105.6

UNIT - IV

6. Write short notes on any four of the followings:

- i) Earnest money deposit and security deposit
- ii) Muster roll system
- iii) Measurement Book
- iv) Administrative Approval
- v) Technical sanction.

20

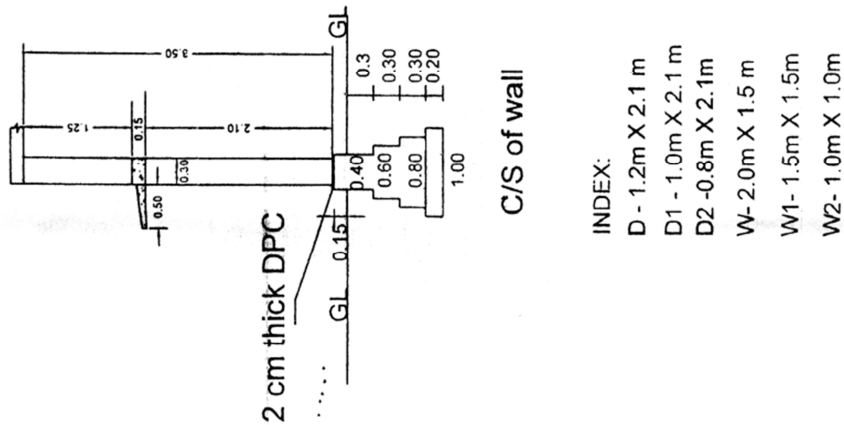
7a. What is Tender? Discuss different types of tenders.

6

b. Define contracts and briefly explain types of contracts.

8

c. Differentiate between Lumsum contract and Labour contract.



6

Question No - 01

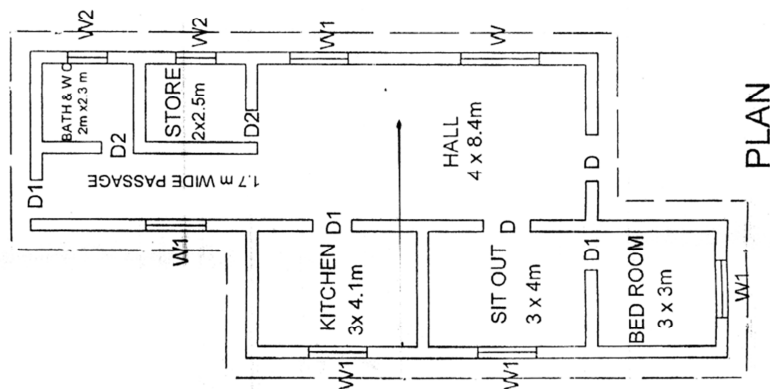


Figure -1

Question No.2

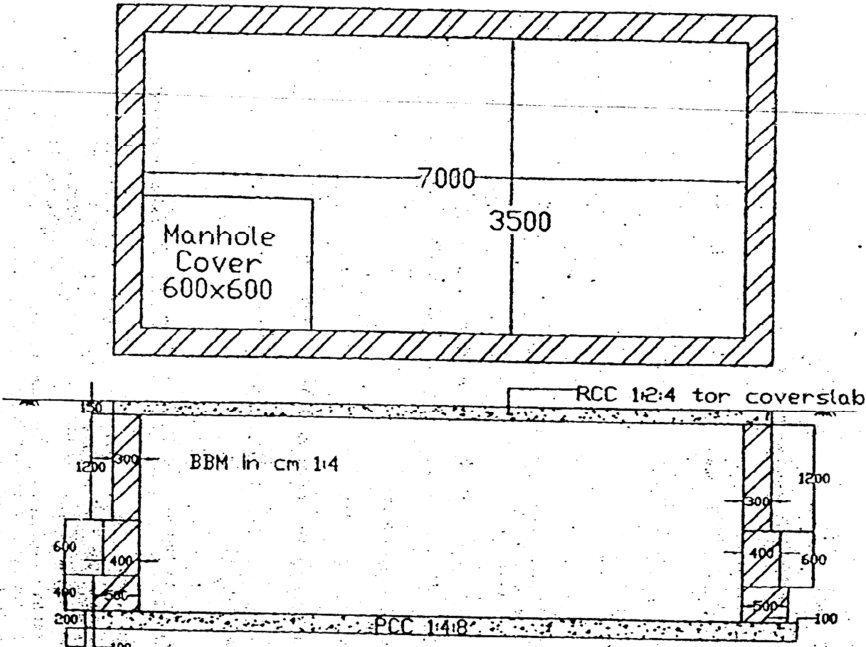


Figure:2- SKETCH OF SEPTIC TANK-PLAN AND SECTION

All dimensions are mm.

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