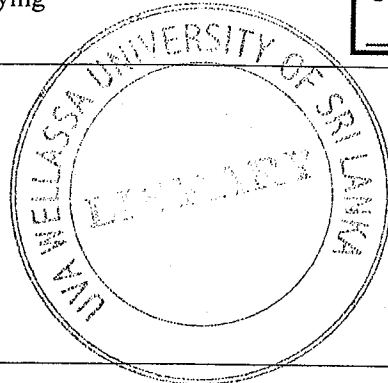
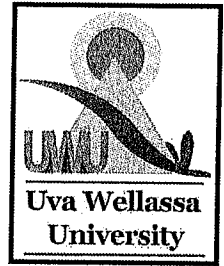


Uva Wellassa University of Sri Lanka
 Faculty of Science and Technology
 Department of Science and Technology
 300 Level 2nd Semester 2018
 MRT 363-2 Quantity Surveying
 End Semester Examination



Instructions to candidates

Duration Two (02) hours

Number of Questions: Four (04)

Answer All Questions

Marks: 100 marks

1. Prepare a BOQ for underground water tank from given detailed drawing. (Figure 01). The tank is designed to store 42,750L. The major items of works are: Excavation, Foundation, R.C.C. walls, R.C.C. slab and Plastering (Internal and External).

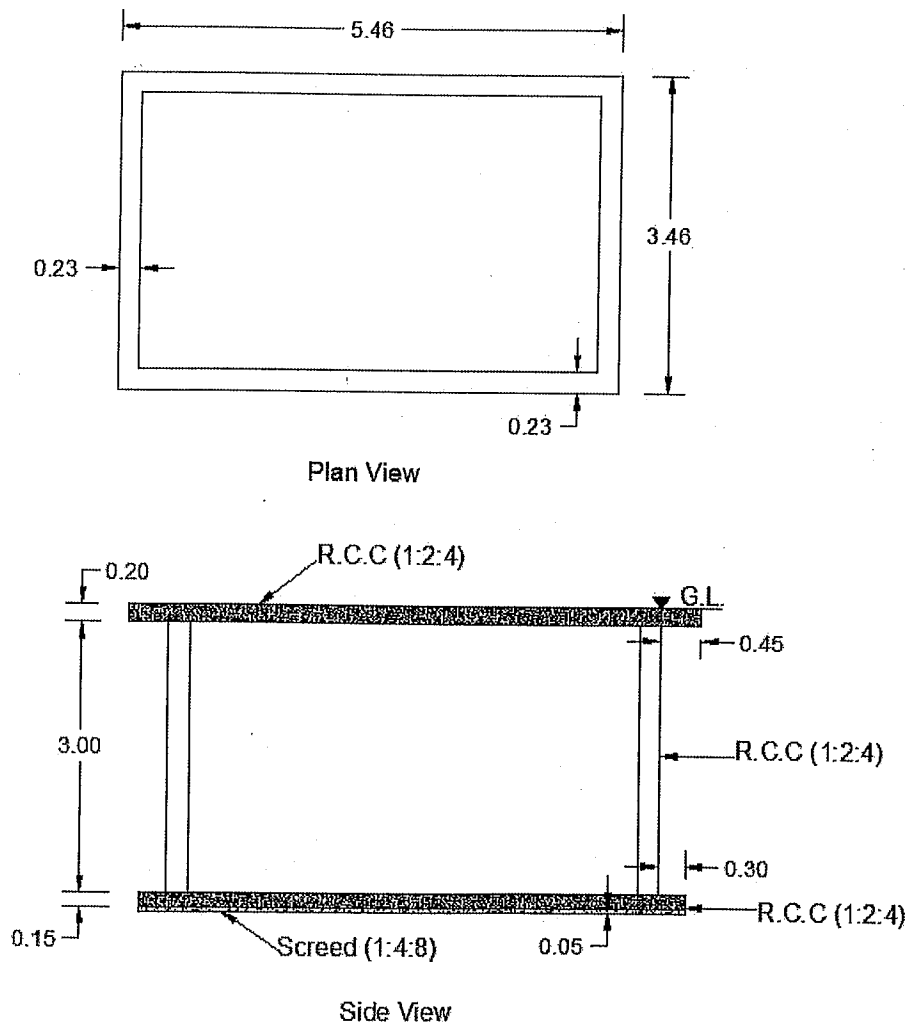


Figure 01

(25 Marks)

2.

- i.) Calculate the dry materials required for 2.5 m³ concrete 1:3:6 in foundation and estimate the material cost

(Density of cement = 1440 kg/m³, 1 bag of cement = 50 kg, density of water = 1000 kg/m³, w/c = 0.45)

Material	Cost (Rs.)
1 Bag of Cement	1150.00
1 m ³ of Sand (Fine aggregates)	6500.00
1 m ³ of Metal (Coarse aggregates)	8700.00
1 m ³ of Water	25.00

Material	Wastage factor
Cement	5%
Sand	8%
Metal	10%
Water	10%

(15 Marks)

- ii.) List down the major processes of Project Cost Management. (04 Marks)

- iii.) Briefly explain the importance of "Cost Estimation" and "Cost Control" for a large construction project. (06 Marks)

(Total 25 marks)

3.

- i. Estimate the quantities of brickwork and 16 mm thick plastering (1:5 cement-sand) required for a wall 4 m long, 3m high and 30 cm thick.

Material	Wastage factor
Cement	10%
Sand	10%
Brick	10%
Water	10%

(Size of brick: L=220 mm, W=105 mm, H=65 mm, density of brick = 1400 kg/m³, density of cement = 1440 kg/m³,
Weight of a bag of cement = 50 kg, density of water = 1000 kg/m³, w/c = 0.6)

(15 Marks)

II. Write a short note on following topics.

- a) Labour cost
- b) Material cost
- c) Production analysis
- d) Plant rate analysis

(10 Marks)

(Total 25 marks)

4.

i.) Estimate the unit rate for Random Rubble Masonry in cement mortar 1:4, 10 m³ for the basement.

Material	Quantity	Unit Rate (Rs.)
Rubble	10 m ³	2200/m ³
Sand	2 m ³	900/m ³
Cement	12 bag	950/bag
Mason	3.5 persons	1400/person
Unskilled Labour	8 persons	900/person

(15 Marks)

ii.) Write the unit of measurements of each item given below.

- a) DPC of 25mm thickness specified
- b) Supply of bricks
- c) Reinforced cement concrete (R.C.C) in column
- d) Plastering of brick wall
- e) Excavation of foundation
- f) Earth filling

(05 Marks)

iii.) What are the traditional roles done by Quantity Surveyor?

(05 Marks)

(Total 25 marks)

