## **5**<sup>TH</sup> **SEM** ./ **CIVIL** ./ **2022(W)**

## Th-5 Estimation & Cost Evaluation - II

Time- 3 Hrs Full Marks: 80

> Answer any five Questions including Q No.1& 2 Figures in the right hand margin indicates marks

1 Answer All questions 2 x 10

- What is Muster Roll a.
- b Differentiate between store and stock
- What do you mean by piece work agreement. c.
- d What is earnest money.
- What is drainage syphon e.
- f. Mention the function of coping and kerb in a culvert.
- Find out weight of a 12 mm dia bar of 1m length. g
- Write down the necessity of providing canal fall. h
- Define lead and lift. i.
- What do you mean by Notice Inviting Tender.

## 2 Answer **Any Six** Questions

6 x 5

- 1208161500 Calculate the area of the side slopes of portion of a bank for a length of 200 metre. The heights of bank at two ends being 2.50 m and 3.50 m and the ratio of the side slope 2:1. If the side slopes are to be provided with 15 cm thick stone pitching, calculate the cost of pitching at the rate of Rs. 150/- per cum.
- Calculate the quantity of main reinforcement required for a slab of 2.1mX 4.8m size provided with 20 mm dia main bars @ 15 cm C/C. In the slab alternate bars bent at 45° with end hooks.
- Find out the quantity of earthwork in excavation for drainage syphon from figure 1.
- Estimate the quantity of cement concrete work in foundation of a fall from figure 2 d
- e. What do you mean by administrative approval and technical sanction.
- f. An isolated column footing is of size 2.1 m x 2.1 m and of thickness 650 mm. Find out the volume of cement concrete work for the footing.
- Estimate the items involved for construction of a WBM road from the following data: Length of road =500 m.

Metalled width = 7 m.

Thickness of brick soiling = 7.5 cm.

Wearing coat of grade-II metal =12 cm thick loose and 8cm thick compacted surface to be finished with 2 coats of bitumen as given below:

First finishing coat = 12 mm chips @  $0.018 \text{ m}^3/\text{sgm}$  and bitumen @ 1.2 kg per  $\text{m}^2$  of road surface. Second finishing coat = 6 mm chips @ 0.009 m<sup>3</sup>/sqm and bitumen @ 1.2 kg per m<sup>2</sup> of road surface.

Consumption of fuel @ 0.3 kg per kg of bitumen.

3 Prepare a detailed estimate for earthwork for a portion of a road from the following data 10

Formation width of road is 10m, side slope 2:1 in banking and 11/2:1 in cutting

Dis ta nc e in me tre	0	100	200	300	400	500	600	700	80 0	90 0	100 0	110 0	120
R.L of GL	11 4.5	114. 75	115. 25	115. 20	116. 10	116. 85	118. 00	118. 25	11 8.1 0	11 7.8 0	117 .75	117. 9	119. 5
RL of FL	115 upward gradient 1 in 200							Downward gradient 1 in 400					

4 Write short notes on 10

- a. Measurement book
- b. Security money
- c. Temporary advance
- d. Acquittance Roll
- 5 Estimate the following items involved for septic tank shown in Figure 3

2+4+4

- a. 1st class brickwork in 1:4 cement

  b. Come 6
- 5+5

5+5

- b. Cement pointing 1:2
- a. Estimate the quantity of 1<sup>st</sup> class brickwork in 1:4 cement mortar of a 60 cm fall from Fig No 2
  - b. Estimate the quantity of cement pointing of a drainage syphon from Fig No 1

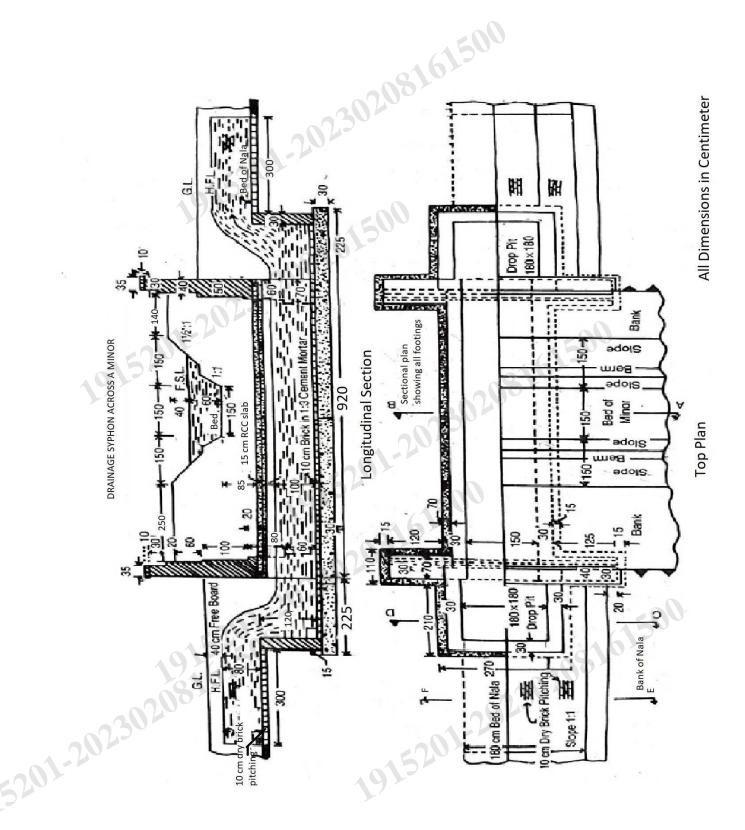


Figure 1

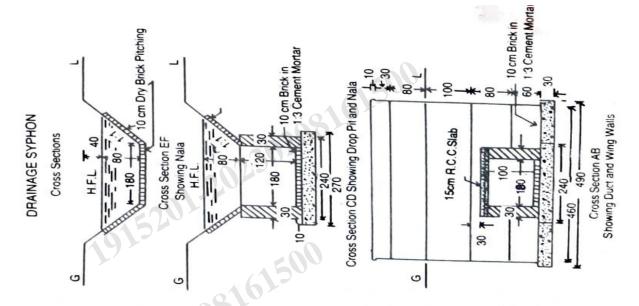


Figure 1

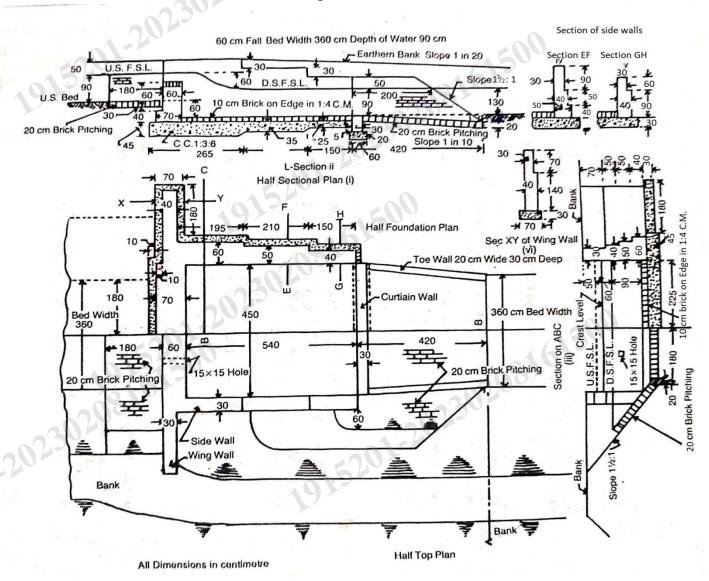


Figure 2

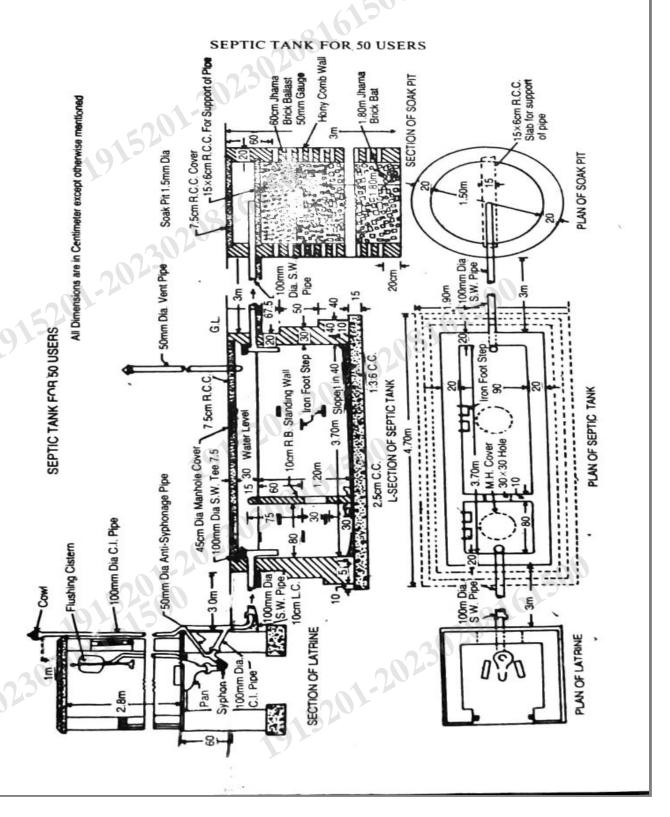


Figure 3

