

Th-5 Estimation & Cost Evaluation - II

Full Marks: 80

Time- 3 Hrs

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

- 1 Answer **All** questions 2 x 10
- a. What is Muster Roll
- b. Differentiate between store and stock
- c. What do you mean by piece work agreement.
- d. What is earnest money.
- e. What is drainage syphon
- f. Mention the function of coping and kerb in a culvert.
- g. Find out weight of a 12 mm dia bar of 1m length.
- h. Write down the necessity of providing canal fall.
- i. Define lead and lift.
- j. What do you mean by Notice Inviting Tender.
- 2 Answer **Any Six** Questions 6 x 5
- a. 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.
- b. 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.
- c. Find out the quantity of earthwork in excavation for drainage syphon from figure 1.
- d. Estimate the quantity of cement concrete work in foundation of a fall from figure 2
- 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.
- g. 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 m³/sqm and bitumen @ 1.2 kg per m² of road surface.
Second finishing coat = 6 mm chips @ 0.009 m³/sqm and bitumen @ 1.2 kg per m² 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 1½:1 in cutting

Distance in metre	0	100	200	300	400	500	600	700	800	900	1000	1100	1200
R.L of GL	114.5	114.75	115.25	115.20	116.10	116.85	118.00	118.25	118.10	117.80	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

- Measurement book
- Security money
- Temporary advance
- Acquittance Roll**

5 Estimate the following items involved for septic tank shown in Figure 3

2+4+4

- Earthwork in excavation
- I class brick work in 1:4 cement mortar
- 12 mm thick inside plastering.

6 Estimate the following items of work of a slab culvert from Fig No 4.

5+5

- 1st class brickwork in 1:4 cement mortar
- Cement pointing 1:2

7

- Estimate the quantity of 1st class brickwork in 1:4 cement mortar of a 60 cm fall from Fig No 2
- Estimate the quantity of cement pointing of a drainage syphon from Fig No 1

5+5

