

TH5 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. Mention the need of kerb and coping in culverts.
 - b. Under which circumstances, fall is provided in canal ?
 - c. What are the components of a drainage siphon ?
 - d. Differentiate between original work and repair work.
 - e. Differentiate between lumpsum contract & item rate contract.
 - f. Define security money deposit(EMD).
 - g. What is the weight of a 20 mm diameter reinforcing bar of 3 m length ?
 - h. Define standard measurement book.
 - i. What is RERA and name two development authorities of Odisha.
 - j. Define setback of buildings.

2. Answer **Any Six** Questions. 5 X 6
 - a. An RCC slab of 5m x 3m x150 mm is reinforced with 10 mm dia bars along shorter span with alternate bent ups at 100 mm spacing c/c. 8 mm bars are used straight along longer span at 200 mm spacing c/c. 6 nos of 8 mm bars used as binder to support bent up bars along longer span 3 nos on each side. The slab is having a bottom cover of 20 mm and side cover of 15 mm. No end hooks are provided in any reinforcing bar in this slab. Estimate the quantity of reinforcing bar used in this slab.
 - b. Define measurement book(MB). Mention the procedure for making entries of measurement of work in an MB.
 - c. Estimate the quantities of following items from Figure.1. 2.5x2
 - i. Earthwork in excavation
 - ii. 1st class brickwork in 1:4 cement mortar
 - d. Write short notes on technical sanction(TS).
 - e. Elaborate the method of execution of work through contractors and Engineering Department.
 - f. Estimate the quantities of following items from Figure.2. 2.5x2

- i. Earthwork in excavation
- ii. Hume pipe heavy type 60 cm dia
- g Explain building byelaws and mention the objectives of it.

Answer **Any Three** Questions.

3. Estimate the cost of earthwork for a portion of a road of 1.5 km length from the following data. The cost of earthwork is Rs.900/- for banking and Rs. 1050/- for cutting. Also draw the longitudinal section and typical section. Formation width of the road is 10 m and side slope is 2:1 in banking and 1.5:1 in cutting. Length of the chain is 30 m. 10

Station	25	26	27	28	29	30	31	32	33	34	35
RL of ground	52.00	51.90	51.50	51.80	51.60	51.70	52.20	52.40	52.30	52.00	51.60
RL of formation	53.00	Downward gradient of 1 in 200-----									

4. Estimate the quantities of following items from Figure-1. 5x2
- i. 1st class brickwork in 1:4 cm
 - ii. Cement Pointing in 1:6
5. Estimate the quantities of following items from Figure-2. 5x2
- i. 1st class brickwork in 1:4 cm
 - ii. Cement Pointing in 1:6
6. Estimate the quantities of following items from Figure-3. 5x2
- i. Earthwork in Excavation
 - ii. Foundation Concrete in (1:3:6)
7. Write short notes on. 2.5x4
- i. Administrative approval
 - ii. Technical Sanction
 - iii. Measurement Bill
 - iv. RA Bill

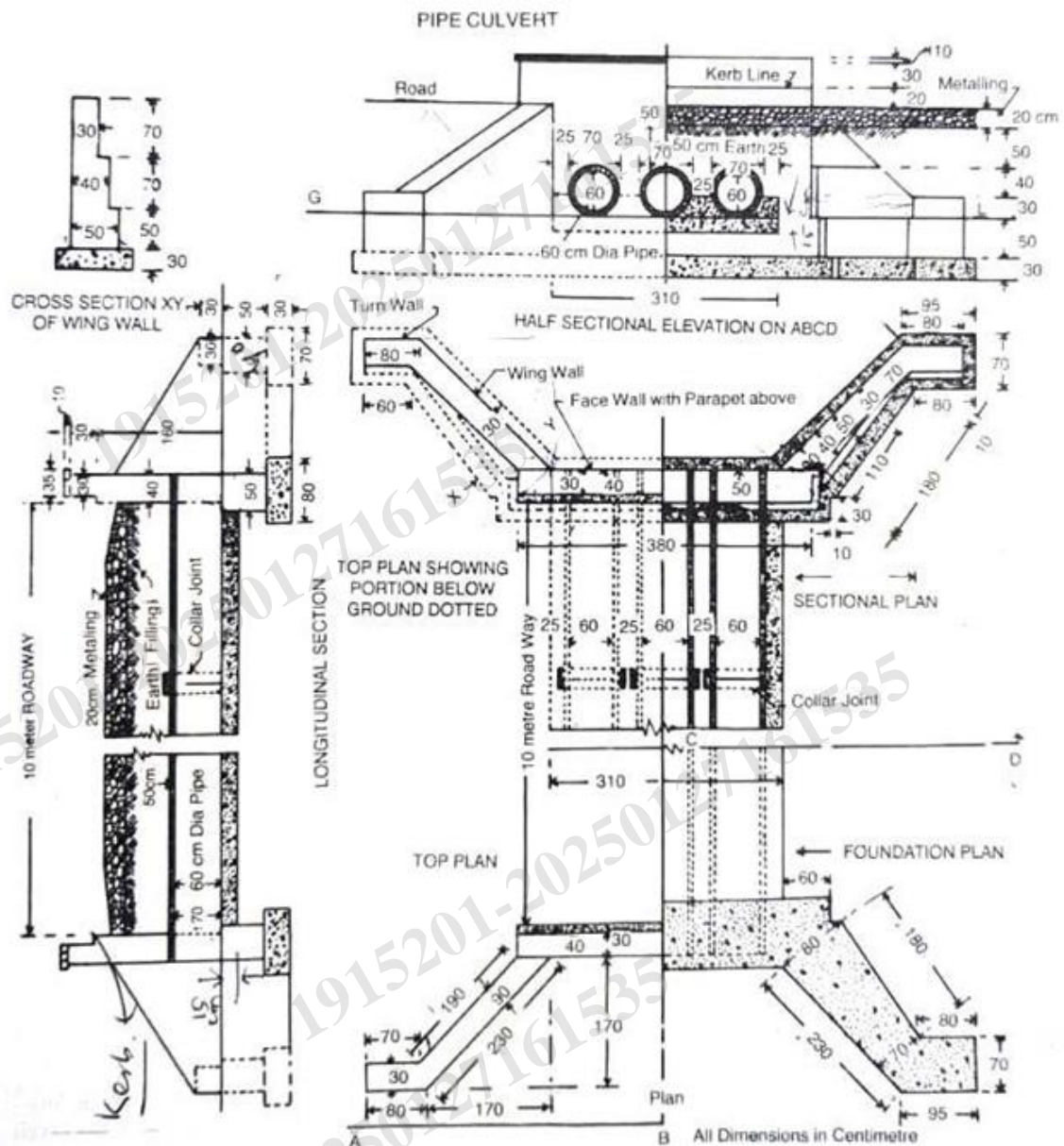


Figure-2

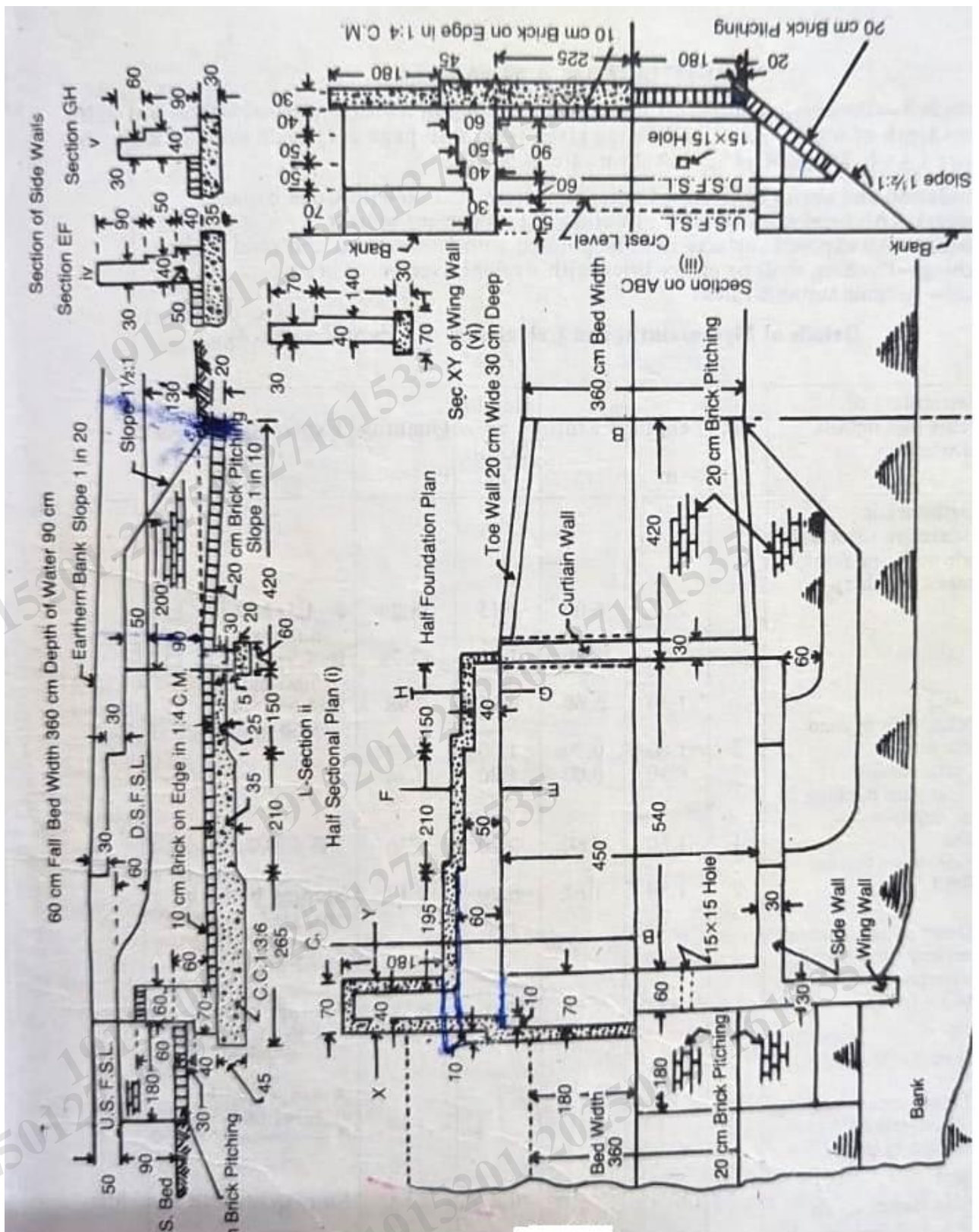


Figure-3