

Total No. of printed pages = 4

CT-601/E&C/6th Sem/2017/N

ESTIMATION AND COSTING

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks
for the questions.

PART – A

1. Answer the following questions : 5×2=10
- (a) Write down the definition of estimate.
 - (b) What are the units of payment of earthwork and concrete ?
 - (c) How the abstract of estimate is prepared ?
 - (d) What are the methods of building estimate ?
 - (e) What do you mean by approximate estimate ?

[Turn over

2. Answer the following questions : $5 \times 3 = 15$
- What are the methods of preparing approximate estimate ?
 - What are the methods of calculating earthwork in roadwork estimate ?
 - The rates of particular item of work depend upon what points ?
 - What are the important specifications of a 1st class building ?
 - What are the differences between centre line method and long wall short wall method ?

PART - B

3. Estimate the quantity of earthwork for a portion of road from the following data :

Chainage	0	1	2	3	4	5	6	7	8	9
RL of GL	7.5	7.7	7.5	7.25	6.85	6.95	6.7	6.45	6.35	5.95

The formation level at chainage 0 is 8 and having a raising gradient of 1 in 100. The top width is 12m and side slopes 2H and 1V. Calculate the earthwork.
Take 1 chain = 30m. 15

4. Prepare the detailed estimate of the masonry water tank of 7m×5m from the given drawing and specification. 20

Specifications :

Foundation – Lime concrete.

Masonry – 1st class brickwork in cement mortar 1:6.

Wall finishing – Inside 12 mm cement plastered 1:2 with coarse sand.

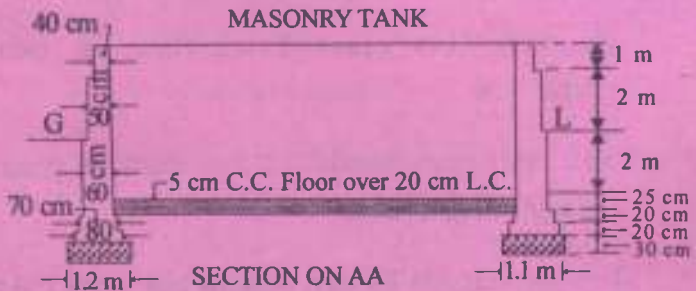
Top and outside 12 mm cement plastered 1:4 with local sand.

Flooring – 5 cm cement concrete 1:1.5:3 over 20 cm lime concrete with neat cement finishing.

Rates :

- Earthwork in excavation @ Rs. 350 per cum
- Lime concrete in foundation and floor @ Rs. 220 per cum
- 1st class brickwork in 1:6 cement mortar @ Rs. 320 per cum
- 12 mm cement plaster 1:2 with coarse sand @ Rs 8.50 per sqm
- 12 mm cement plaster 1:4 with local sand @ Rs. 8 per sqm

- (vi) 5 mm cement concrete 1:1.5:3 floor @ Rs. 55 per sqm.



5. Prepare an approximate estimate of building with total plinth area of all building is 800 sqm and from following data : 10
- (i) Plinth area rate Rs. 4500 per sqm.
 - (ii) Cost of water supply @ 7.5% of cost of building.
 - (iii) Cost of sanitary and electrical installation each @ 7.5% of cost of building.
 - (iv) Cost of architectural features @ 1% of cost of building.
 - (v) Cost of roads and lawns @ 5% of cost of building.
 - (vi) Cost of PS and contingencies @ 4% of cost of building.

Determine total cost of building project.