Total No. of printed pages = 7

END SEMESTER EXAMINATION – 2020

Semester : 6th

Subject Code : CT - 601

ESTIMATION AND COSTING

Full Marks – 70

Time – Three hours

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

PART – A

Marks – 25

1. Fill in the blanks : 1×10=10

   (a) Payment of work charged establishment is done _____ basis.

   (b) Buying of medicines is considered as _____.

   (c) Annual maintenance estimate is prepared for _____ etc.

   (d) Revised estimate is prepared when expenditure exceed _____ of administrative approval.

[Turn over

(e) The unit of payment for earthwork is _____.

(f) Contractor's profit is considered as _____.

(g) In detail estimate preparation, whole work is divided into _____.

(h) General office expense comes under _____ cost.

(i) _____ payment provision is made for tools and plant (T&P)

(j) Provision of water charges in rate analysis is _____ of total cost.

2. Write true or false : 1×10=10

(a) Contingencies include taxes.

(b) Payment to labour is an overhead cost.

(c) Overhead cost includes supervision charge.

(d) Unit of concrete work is sqm.

(e) Unit of damp proof course is sqm.

(f) Supplementary estimate is prepared as an addition to detail estimate.

(g) Water charge is considered as 10%.

(h) Rate analysis is done under two heads.

(i) 1 bag of cement =1/30 cum.

(j) Centre line method is suitable for walls of different cross-sections.

3. Choose the correct answer : 1×5=5

(a) The dry volume of materials for 1 cum of wet volume for 100 sqm wall of 12 mm thickness is

(i) 1 cum (ii) 2 cum

(iii) 3 cum (iv) 4 cum

(b) The dry volume of materials for 1 cum of wet volume for 100 sqm wall of 20 mm thickness is

(i) 1 cum (ii) 2 cum

(iii) 3 cum (iv) 4 cum

(c) The dry volume of materials for 1 cum of wet volume for 100 sqm cement concrete floor of 25 mm thickness is

(i) 2.5 cum (ii) 2.75 cum

(iii) 4.125 cum (iv) 6.6 cum

(d) The dry volume of materials for 1 cum of wet volume for 100 sqm cement concrete floor of 40 mm thickness is

(i) 2.5 cum (ii) 2.75 cum

(iii) 4.125 cum (iv) 6.6 cum

(e) The dry volume of materials for 1 cum of wet volume for 100 sqm cement concrete floor damp proof course of 2.5 cm thickness is

(i) 2.5 cum (ii) 2.75 cum

(iii) 4.125 cum (iv) 6.6 cum

PART – B

Marks – 45

4. Prepare the estimate of the masonry platform from the given drawing and specification. 15

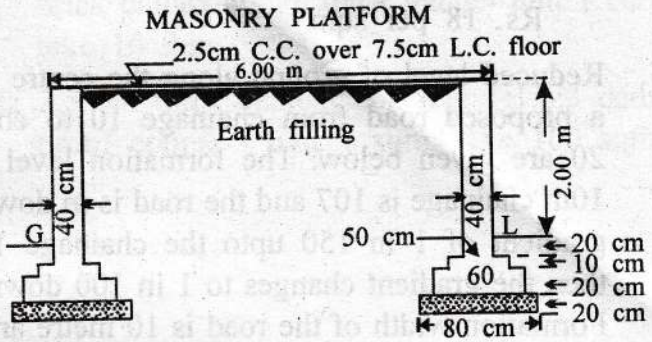
Specifications :

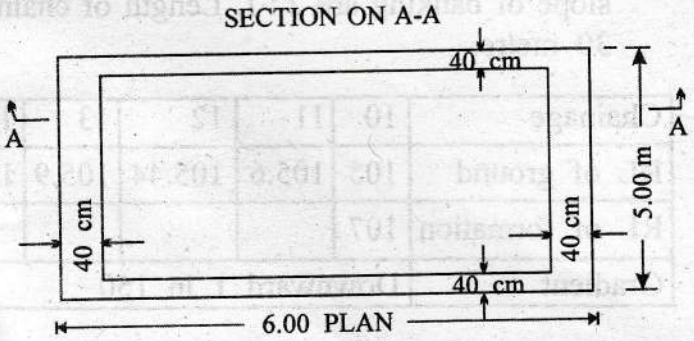
Foundation – Lime concrete.

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

Wall finishing – Outside 12 mm cement plastered 1 : 6

Flooring-2.5 cm cement concrete over 7.5 cm lime concrete, over wall only 2.5 cm cement concrete





Rates:

Earthwork in excavation @ Rs. 350 per % cum, Earthwork in filling @ Rs.275 per % cum, Lime concrete in foundation @ Rs. 220 per cum, 1st class brickwork in lime mortar @ Rs.300 per cum, 12 mm cement sand plastering @ Rs. 7 per sqm,

2.5 cm cement concrete floor over and including 7.5 cm lime concrete @ Rs.18.65 per sqm, 2.5 cm cement concrete floor @ Rs. 18 per sqm

5. Reduced level of ground along the centre line of a proposed road from chainage 10 to chainage 20 are given below. The formation level at the 10th chainage is 107 and the road is in downward gradient of 1 in 150 upto the chainage 14 and then the gradient changes to 1 in 100 downward. Formation width of the road is 10 metre and side slope of banking are 2 : 1. Length of chainage is 30 metre. 15

Chainage	10	11	12	13	14
RL of ground	105	105.6	105.44	105.9	105.42
RL of formation	107				
Gradient	Downward 1 in 150				

Chainage	15	16	17	18	19	20
RL of ground	104.3	105	104.1	104.62	104	103.3
Gradient	Downward 1 in 100					

Draw longitudinal section of the road and a typical cross-section and prepare an estimate of earthwork at the rate of Rs. 275 per % cum.

6. Analyse the rate of following : 7½×2=15

(i) Cement concrete 1:5:10 in foundation with brick ballast 40mm thick gauge- unit 1 cum, take 10 cum

(ii) 2.5 cm thick cement concrete 1:1.5:3 damp proof course - unit 1 sqm, take 100 sqm.