Estimating and Costing

Important 10mark questions

Unit I

1. Write down the stages in detailed estimation.
2. The cost of a building constructed is 4, 50, 000/-. The plinth area of the building is 90 m^2 and height of the building upto top of the roof from floor is 3. 2 m. Work out the plinth area rate and the cubic unit rate. If a similar building of plinth area 130 m^2 is to be constructed, Find the approximate cost of construction.

Unit II

1. The following offsets were taken at 15 m intervals from a survey line to an irregular boundary line: 3. 50, 4.30, 6.75, 5.25, 7.50, 8.80, 7.90, 6.40, 4.40, 3.25. Calculate the area by trapezoidal and Simpson's rule.
2. The cross-sectional areas of an embankment are as given below. Calculate the volume of the embankment by
   (I)   Trapezoidal rule   (ii)   Simpson's rule.

Distance (m)	0	20	40	60	80	100	120
Area (m^2)	10	40	64	72	160	180	26

Unit III

1. Prepare data for plan cement concrete 1:4:8 in foundation using 20mm size metal-10 m^3.
   <u>Materials and labour required:</u>
   Materials required for CM 1:4-1m^3

Materials	Quantity
Cement	360 kg
Sand	1m^3
Mixing charges	1 m^3

Materials and labour required for PCC 1:4:8 using 20mm metal 10m^3

Materials	Quantity
Broken stone 20mm	9.0 m^3
Cement mortar 1:4	4.5 m^3
Mason I class	1.80 Nos
Mason II class	17.7 Nos
Vibrating charges	10 m^3

Cost of Materials and labour:

1. Cement   -6000.00/ton
2. Sand   -800.00/m^3
3. Broken stone 20mm   -600.00/m^3
4. Mason I class   -600.00 each
5. Mason II class   -500.00 each
6. Mazdoor IInd class   -300.00 each
7. Mixing charges   -100.00/m^3
8. Vibrating charges   -200.00/m^3

2. Prepare data for brick work in CM 1.5 in super structure using second class brick in -10 m^3.

Materials and labour required:
Cement mortar 1:5-1m^3

Materials	Quantity
Cement	288 kg
Sand	$1m^3$
Mixing charges	$1\ m^3$

Brickwork in super structure using II class bricks in CM 1:5-10m^3

Materials	Quantity
Brick II class	5000 Nos
Cement mortar 1:5	2.2 m^3
Mason I class	3.5 Nos
Mason II class	10.6 Nos
Mazdoor I category	7.1 Nos
Mazdoor II category	21.2 Nos

Cost of Materials and labour:

9. Cement   -6000.00/ton
10. Sand   -800.00/m^3
11. Brick II class   -4000.00/1000 Nos
12. Mason I class   -600.00 each
13. Mason II class   -500.00 each
14. Mazdoor I class   -400.00 each
15. Mazdoor IInd class   -300.00 each
16. Mixing charges   -100.00/m^3

Unit IV

1. Take out the quantities of the following item of work involved in the construction of a small industrial building with A.C sheet roof on steel trusses shown in sketch 'A' by trade system.
   (a) (I)   Earthwork excavation.
   (b) (II)   RCC 1:2:4 for footing and plinth beam.
2. (I) Brick work in CM 1:4 for walls.

   (ii) Earth filling in basement.

Unit V

1. Take out the quantities of the following item of work involved in the construction of a residential building with two rooms with RCC flat roof shown in Sketch 'B' by group system.
   (a) PCC 1:5:10 in foundation.
2. RR masonry in CM 1:5 for foundation and basement.