

CEM54 Estimating & Costing - II

509

REG. NO

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (3 marks each)
 3. Answer any ONE question from each unit in PART-C (10 marks each)
 4. The question paper contains FOUR Pages and FOUR sketches.

PART-A (1x10=10)

1. State short specification for water?
2. State any one necessity of report.
3. State the formula to find the annual installment of sinking fund.
4. Write the formula for valuation of a building based on present value.
5. What is the free lead of earth work in trenches?
6. Define Abutment.
7. Estimate the earthwork excavation of dispersion trench shown in sketch (A).
8. Estimate the dry brick work in soak pit. Refer sketch (A)
9. Estimate the volume of toe wall. (Refer sketch B)
10. Estimate the quantity of C.C Bed block (Refer sketch 'Q')

PART-B (3x5=15)

UNIT-I

11. What are the necessity of specification?
12. Define report.

UNIT-II

13. Define years purchase.
14. An old building has been purchased at a cost of Rs. 20,00,000.00 Calculate the amount of annual sinking fund at 4% interest, assuming the future life of the building is 30 years and the scrap value of the building as 10% of the cost of purchase.

UNIT-III

15. Prepare data for providing and fixing 25mm diameter G.I pipes with white lead, oil etc. complete Rate for 1m.
16. Prepare data for R.C.C. column of size 230mmx230mm with reinforcement at 180kg per cu.m of concrete. Rate for 1m³

UNIT-IV

17. Estimate the volume of brick bats in soak pit (Refer sketch 'A')
18. Estimate the quantity of sand filling in soak pit (Refer sketch 'A')

UNIT-V

19. Estimate the quantity of pier portion including cutwater & ease water. (Refer sketch 'Q')
20. Estimate the quantity of parapet wall portion including parapet pillar & c.c coping (Refer sketch 'Q')

PART-C (10x5=50)

UNIT-I

21. Write short specification about WBM road.
22. Write a brief report on a proposed construction of a hospital building.

UNIT-II

23. Define the following terms.
 - (i) Sinking fund (ii) scrap value (iii) Obsolescence (iv) salvage value (v) outgoing
24. A building is newly constructed at a total cost of Rs.40,00,000 and plot of land costing Rs.20,00,000. The building cost includes sanitary & water supply works electrical etc. The owner expects 8% return on the construction cost and 5% return on the land cost. Calculate the standard rent if the life of the building is 60 years, sinking fund on 4% interest is Rs.62,000 Annual repairs 1% of construction cost other outgoings 30% of net return of the building.

UNIT-III

25. For constructing a man hole in the sewage line of a residence prepare data for (i) BW in CM 1:4 using counting bricks and (ii) plastering with CM 1:4 12mm thick Rate for $1m^3$ and $1m^2$ respectively.
26. Prepare data for supplying & fixing T.W windows fully glazed double leaf including all fittings. Rate for 1 no.

Data for different items of work:**(i) Providing & fixing 25mm ϕ GI pipes $\rightarrow 10m$**

25mm ϕ GI pipe	$\rightarrow 10m$
Fitting & wastage	$\rightarrow 10\%$ of pipe cost
White lead, oil, Hume	\rightarrow LS (750.00)
Plumber Ist class	$\rightarrow 0.83$ nos
Mazdoor Gr I	$\rightarrow 0.67$ nos
Cement, sand etc	\rightarrow LS (750.00)

(ii) R.C.C. column 230x230mm with 180kg of reinforcement $\rightarrow 1m^3$

c.c. 1:1.5:3	$\rightarrow 1m^3$
steel rods including fabricating changes	$\rightarrow 180kg$ cubic meter of concrete
centering	$\rightarrow 13.2$ sq.m
sundries	\rightarrow LS

(iii) A man hole in sewage line of residence $\rightarrow 1$ unit**a) Brick work in cm 1:4 using country bricks $\rightarrow 10m^3$**

Country bricks	$\rightarrow 6010$ nos
Cement mortar 1:4	$\rightarrow 2.80$ m^3
Mason I class	$\rightarrow 3.50$ nos
Mason II class	$\rightarrow 7.10$ nos
Mazdoor Gr I	$\rightarrow 7.10$ nos
Mazdoor Gr II	$\rightarrow 14.1$ nos

b) Plastering with CM 1:4 12mm tk $\rightarrow 10m^2$

CM 1:4	$\rightarrow 0.14$ m^3
Mason I class	$\rightarrow 1.10$ nos
Mazdoor Gr I	$\rightarrow 0.50$ nos
Mazdoor Gr II	$\rightarrow 1.10$ nos.

