Reg. No. : | | | | | | | | | | | | |

Question Paper Code: 1037074

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV/ DEC 2024
Seventh Semester
Civil Engineering
U20CE701 – ESTIMATING, COSTING AND VALUATION ENGINEERING
(Regulation 2020)

Time: Three Hours Maximum: 100 Marks

Answer ALL questions

PART – A (10 x 2 = 20 Marks)

1. Generalize the duties of quantity surveyor.

2. List out the types of estimate.

3. How will you analyze a rate of particular item?

4. Write a short note on standard schedule of rates.

5. List out the different types of roofs.

6. List the components of king post truss.

7. Write down the volume formula of Prismoidal method.

8. What is the role of baffle wall in a septic tank?

9. Define detailed specification.

10. Define the term arbitration.

PART – B (5 x 16 = 80 Marks)

11. (a) Calculate a detailed estimate for the following works in Fig- 1. (16)
(i) Earthwork for Excavation
(ii) Lime concrete for foundation
(iii) 1st Class brick work in foundation

(OR)

(b) Calculate a detailed estimate for the following works in Fig- 1. (16)
(i) Earth filling for flooring
(ii)Concrete for flooring
(iii)1st Class brick work in super structure

12. (a) Prepare the analysis of rate for.
(i)Lime concrete in foundation with 40mm brick ballast per cum. (8)
(ii)Internal plastering of 12mm thickness with CM 1:6. (8)

(OR)

(b) Prepare the analysis of rate for.
(i) 2.5cm thick cement concrete flooring (8)
(ii)External plastering of 14mm thickness with CM 1:4. (8)

13. (a) Estimate the cost of residential building in Fig-2. Take rate for the following items.
i. Earthwork in foundation – Rs.350/cum
ii. Cement concrete 1:3:6 – Rs.300/cum
iii. Earthwork in Filling in plinth – Rs.275/cum
iv. Sand Filling– Rs.30/cum

(16)

(OR)

(b) Estimate the cost for 100m length of the retaining wall of the given cross section in Fig-3. (16)
Take rate for the following items
i. Cement concrete – Rs.120/cum
ii. Course rubble masonry – Rs.100/cum
iii. CC coping – Rs.10/Sqm
iv. Cement pointing – Rs.6/Sqm

14. (a) Prepare a detailed estimate for earthwork for a portion of a road from the following data. (16)

Distance in m	0	100	200	300	400	500	600	700	800	900	1000	1100	1200
R.L of Ground	114.50	114.75	115.25	115.20	116.10	116.85	118.00	118.25	118.10	117.80	117.75	117.90	117.50
R.L of Formation	115.00	Upward Gradient of 1 in 200 upto 600m						Downward Gradient of 1 in 400					

Formation width of Road is 10m, side slope 2:1 in banking and 1.5:1 in Cutting. Adopt suitable rates.

(OR)

(b) Prepare a detailed estimate of septic tank and soak pit in Fig-4. Assume suitable data. (16)

i. Earthwork in Excavation – Rs.350/% cum
ii. CC 1:3:6 – 300/cum
iii. 1st Brick work – Rs.345/cum
iv. 2nd Brick work – Rs.310/cum

15. (a) Explain the general specifications of I Class residential building. (16)

(OR)

(b) i. Explain in detail about various methods of valuation. (8)
ii. Describe the various methods of calculating depreciation. (8)

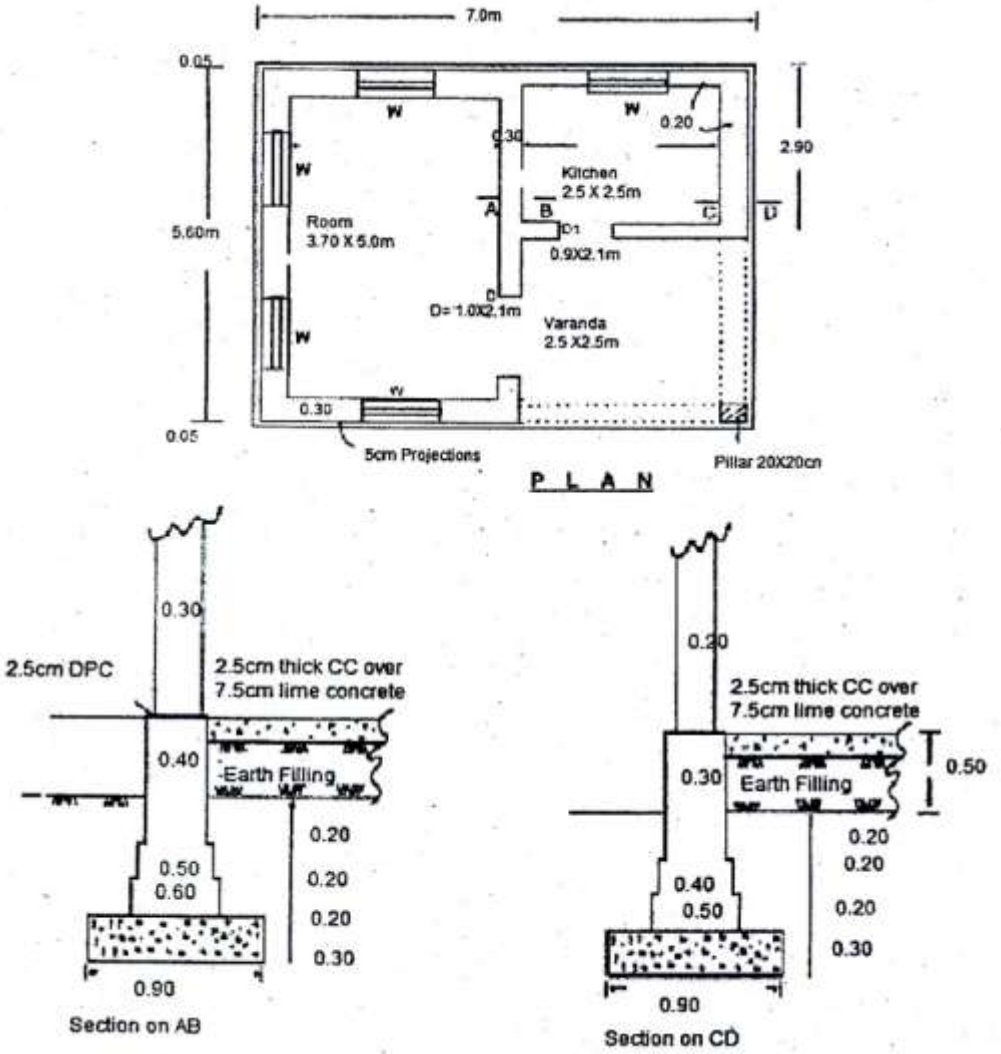
7.0m
0.05
5.60m
0.05
W
W
W
W
0.30
0.20
2.90
Kitchen
2.5 X 2.5m
Room
3.70 X 5.0m
A
B
C
D
D1
0.9X2.1m
D
D= 1.0X2.1m
Varanda
2.5 X2.5m
0.30
5cm Projections
Pillar 20X20cn
P L A N
0.30
2.5cm DPC
2.5cm thick CC over
7.5cm lime concrete
0.40
Earth Filling
0.20
0.50
0.60
0.20
0.20
0.30
0.90
Section on AB
0.20
2.5cm thick CC over
7.5cm lime concrete
0.50
0.30
Earth Filling
0.20
0.20
0.40
0.50
0.20
0.30
0.90
Section on CD

Fig – 1

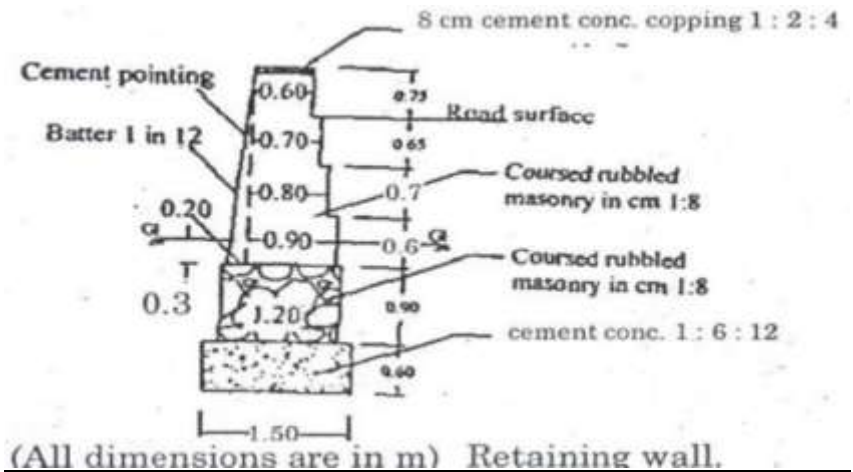
8 cm cement conc. copping 1 : 2 : 4
Cement pointing
Batter 1 in 12
0.60
0.70
0.80
0.90
0.20
0.3
1.20
1.50
0.75
0.65
0.7
0.6
0.90
0.60
Road surface
Coursed rubbled
masonry in cm 1:8
Coursed rubbled
masonry in cm 1:8
cement conc. 1 : 6 : 12
(All dimensions are in m) Retaining wall.

Fig-3

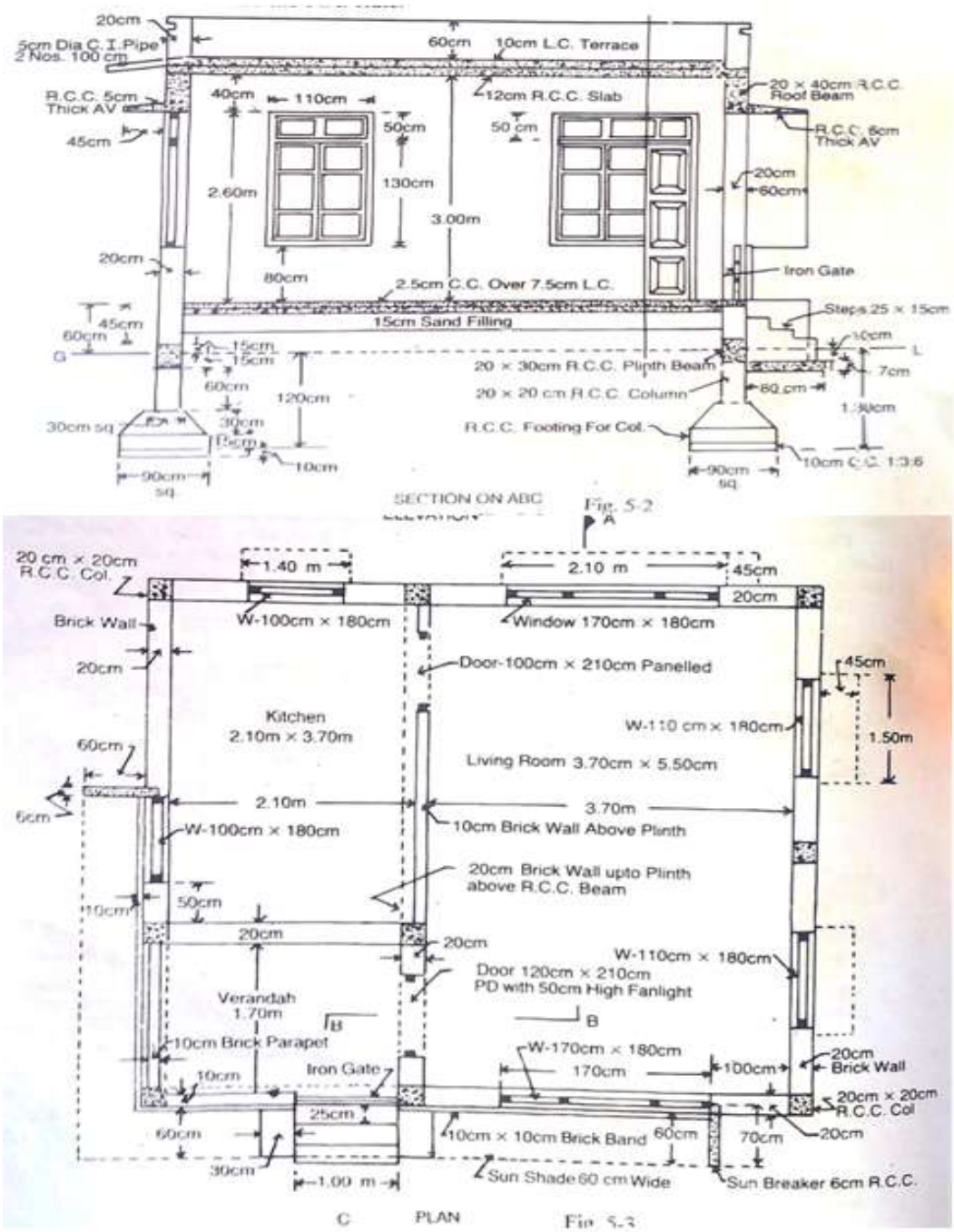
20cm
5cm Dia C.I.Pipe 2 Nos. 100 cm
60cm
10cm L.C. Terrace
R.C.C. 5cm Thick AV
40cm
110cm
12cm R.C.C. Slab
20 × 40cm R.C.C. Roof Beam
45cm
50cm
50 cm
R.C.C. 8cm Thick AV
2.60m
130cm
3.00m
20cm
60cm
20cm
80cm
2.5cm C.C. Over 7.5cm L.C.
Iron Gate
15cm Sand Filling
Steps 25 × 15cm
45cm
60cm
15cm
15cm
20 × 30cm R.C.C. Plinth Beam
7cm
60cm
120cm
20 × 20 cm R.C.C. Column
80 cm
30cm sq
30cm
15cm
R.C.C. Footing For Col.
10cm
10cm C.C. 1:3:6
90cm sq
90cm sq
SECTION ON ABC
Fig. 5.2
20 cm × 20cm R.C.C. Col.
1.40 m
2.10 m
45cm
20cm
Brick Wall
W-100cm × 180cm
Window 170cm × 180cm
20cm
Door-100cm × 210cm Panelled
45cm
Kitchen 2.10m × 3.70m
W-110 cm × 180cm
1.50m
60cm
Living Room 3.70cm × 5.50cm
6cm
2.10m
3.70m
W-100cm × 180cm
10cm Brick Wall Above Plinth
20cm Brick Wall upto Plinth above R.C.C. Beam
10cm
50cm
20cm
20cm
W-110cm × 180cm
Door 120cm × 210cm PD with 50cm High Fanlight
Verandah 1.70m
B
B
10cm Brick Parapet
W-170cm × 180cm
20cm Brick Wall
10cm
Iron Gate
170cm
100cm
20cm × 20cm R.C.C. Col
25cm
60cm
10cm × 10cm Brick Band
60cm
70cm
20cm
30cm
1.00 m
Sun Shade 60 cm Wide
Sun Breaker 6cm R.C.C.
C
PLAN
Fig. 5.3

Fig-2

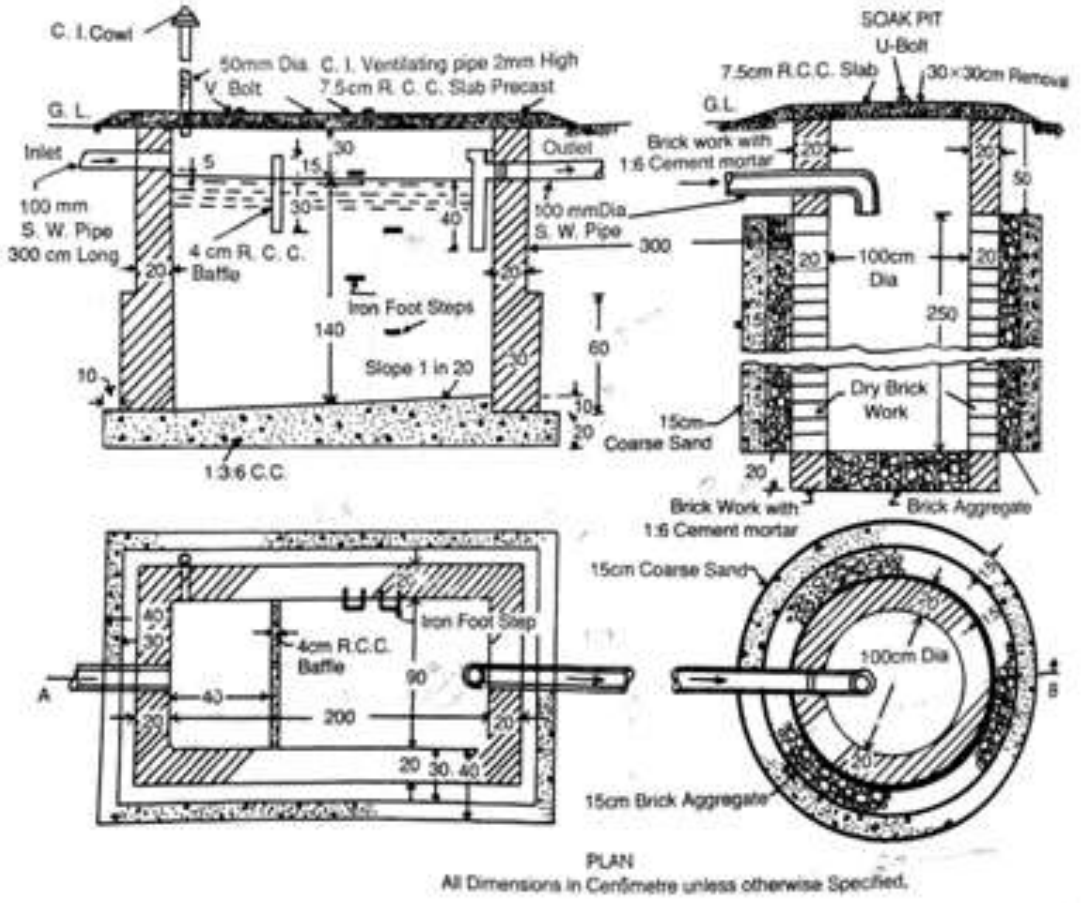
C. I. Cowl
50mm Dia. C. I. Ventilating pipe 2mm High
V. Bolt
7.5cm R. C. C. Slab Precast
G. L.
Inlet
Outlet
100 mm
S. W. Pipe
300 cm Long
4 cm R. C. C.
Baffle
Iron Foot Steps
Slope 1 in 20
1:3:6 C.C.
SOAK PIT
U-Bolt
7.5cm R.C.C. Slab
30×30cm Removal
Brick work with
1:6 Cement mortar
100 mmDia
S. W. Pipe
100cm
Dia
Dry Brick
Work
15cm
Coarse Sand
Brick Work with
1:6 Cement mortar
Brick Aggregate
15cm Coarse Sand
4cm R.C.C.
Baffle
Iron Foot Step
100cm Dia
15cm Brick Aggregate
A
B
PLAN
All Dimensions in Centimetre unless otherwise Specified.

Fig-4