TED (21) 4013
(Revision – 2021)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2023

ESTIMATION AND COSTING

[Maximum Marks: **75**] [Time: **3** Hours]

PART-A

I. Answer *all* the following questions in one word or one sentence. Each question carries *'one'* mark.

(9 x 1 = 9 Marks)

		Module Outcome	Cognitive level
1.	Define Technical Sanction.	M1.01	R
2.	Contigency charge is ---------- % of estimated cost of work	M1.03	R
3.	State Abstract sheet.	M1.01	R
4.	Percentage of contractors profit and over head charge in the rate analysis is-------------	M2.03	R
5.	Define the term lead.	M2.02	R
6.	What is the purpose of a hip rafter.	M3.02	U
7.	The unit measurement of centering and shuttering is -----------	M3.02	R
8.	Define depreciation.	M4.01	R
9.	List the types of lease.	M4.03	R

PART-B

II. Answer any *eight* questions from the following. Each question carries *'three'* marks.

(8 x 3 = 24 Marks)

		Module Outcome	Cognitive level
1.	Differentiate revised estimate and supplementary estimate.	M1.02	U
2.	State the rules for deduction in plastering as per IS 1200.	M1.01	R
3.	State any three roles of Estimator.	M1.01	R
4.	Write short note on CPWD data book.	M2.03	U
5.	Define the terms cost index and overhead charges.	M2.03	R
6.	Calculate the length of hip rafter and quantity of wood work required for hip rafter of the pitched tiled roof with eve to eve span 6.0 m and l/3 rise. Size of hip rafter is 6 x 13 cm	M3.03	U
7.	Calculate the number of bricks required for the construction of a Compound Wall having length 15 m, height 1.20m and thickness 0.20m. Using standard brick.	M3.03	U

8.	Differentiate scrap value and salvage value.	M4.01	U
9.	List the methods for valuation of properties.	M4.03	R
10.	Discuss briefly straight line method for computation of depreciation.	M4.02	U

PART-C

Answer all questions. Each question carries *'seven'* marks

(6 x 7 = 42 Marks)

		Module Outcome	Cognitive level
III.	Discuss in detail any two methods for computation of earthwork.	M1.04	U
	OR		
IV.	Estimate the quantity of earthwork for an embankment 120 m long 8m wide at crest and whose side slopes 2 to 1 using mid sectional formula. The central height from 0 to 4 at every 30 m intervals are 0.6m, 1.2m, 1.6m, 2m and 1.3 m.	M1.04	U
V.	Assess the rate of 1 cum cement concrete 1:4:8. Add 10% contractor profit.	M2.03	U

Materials	Labour
40mm aggregate – 0.92 Cum @700/Cum	Mason – 0.20@ Rs.850/head/day
Cement – 0.115 Cum @ 3970/Cum	Men Mazdoor – 1.8@ Rs.750/head/day
Sand – 0.46 Cum @ Rs.1000/Cum	Women Mazdoor –1.4@ Rs.700/head/day

	OR		
VI.	Write down the standard specification for First class brick work in cm 1:6 for superstructure.	M2.04	R
VII.	Work out the rate per unit of Brick work in CM 1:5 by using Country burnt bricks from the following data. Add 10% contractor profit. **Materialsfor 1m^3** BM 500 Nos. of brick at Rs. 6200/1000 Nos. 0.24 m^3 dry sand at Rs.3000/m^3 69 kg cement at Rs.7500/tonne **Labour** 0.9 Brick mason at Rs. 500/each/day 0.35 Man at Rs. 300/each/day 0.7 Women at Rs. 250/each/day.	M2.03	U

	OR		
VIII.	Explain in detail the procedure for rate analysis.	M2.03	U
IX.	Calculate the quantity of earthwork excavation and Cement Concrete 1:4:8 for foundation for the residential building given in fig 1.	M3.02	A
	OR		
X.	Calculate the quantity of earth work and PCC required for the given septic tank in fig.2.	M3.03	A
XI.	Calculate the quantity of brick work in CM 1:6 in superstructure for the residential building given in fig1. Consider 15 cm bearing on each side for lintel.	M3.02	A
	OR		
XII.	Calculate the quantity of RCC work excluding steel reinforcement in base slab and stem for the Retaining wall of 30 m length given in fig 3.	M3.04	A
XIII.	An old building has been purchased by a person at a cost of Rs.30,000/- excluding the cost of the land. Calculate the amount of annual sinking fund at 4% interest assuming the future life of the building as 20 years and scarp value of the building as 10% of the cost of purchase.	M4.02	U
	OR		
XIV.	Calculate the standard rent of a government residential building newly constructed at the cost of Rs.75000. Data given: • Cost of Sanitary and water supply works=10 % of building cost • Cost of electric installation= 8% of building cost • Cost of internal roads and compound wall = Rs.10000 • Municipal and all other taxes= Rs.300 per annum.	M4.03	U

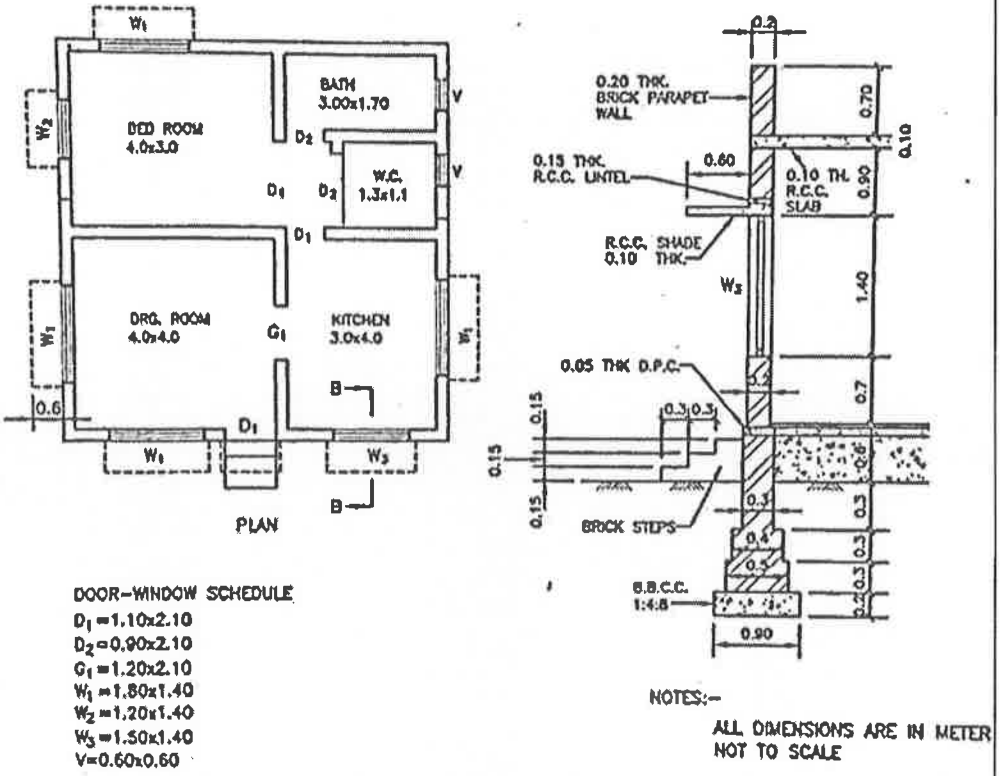

Fig: 1- RESIDENTIAL BUILDING

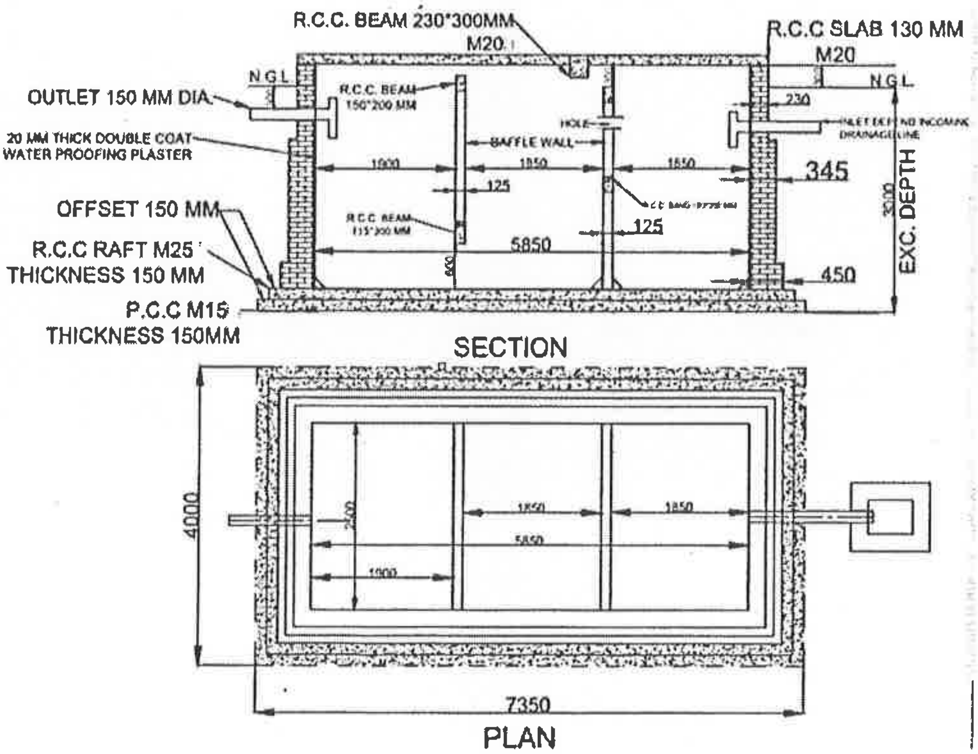

Fig: 2 – SEPTIC TANK

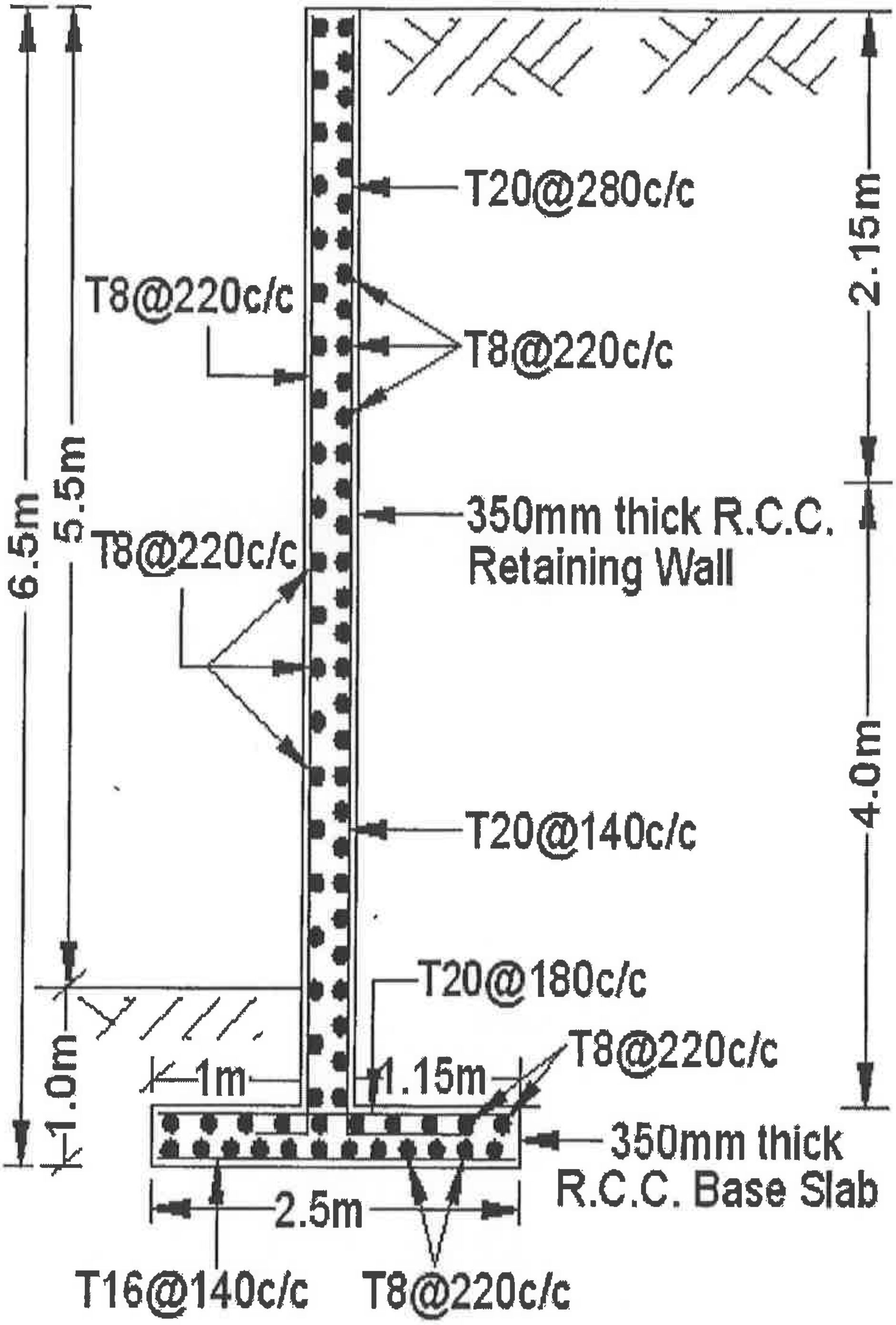

Fig: 3 – RETAINING WALL

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