GUJARAT TECHNOLOGICAL UNIVERSITY
BE – SEMESTER- VII EXAMINATION-SUMMER 2023

Subject Code: 3170615   **Date: 28/06/2023**
Subject Name: Engineering Economics, Estimation and Costing
Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**
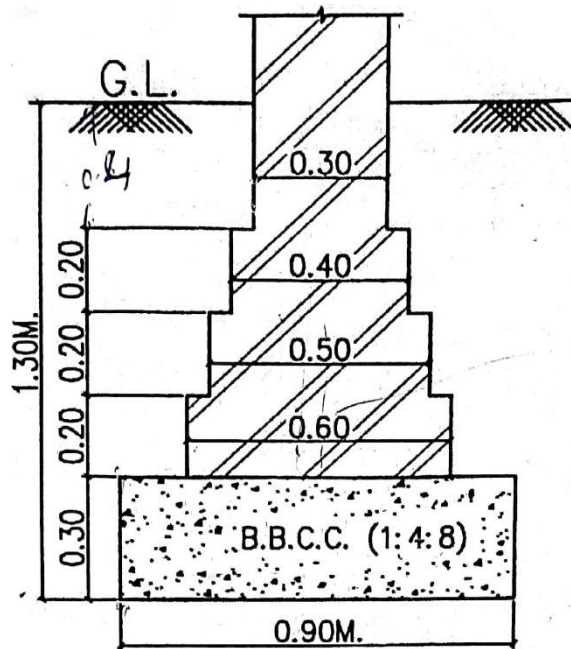**Instructions:**
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

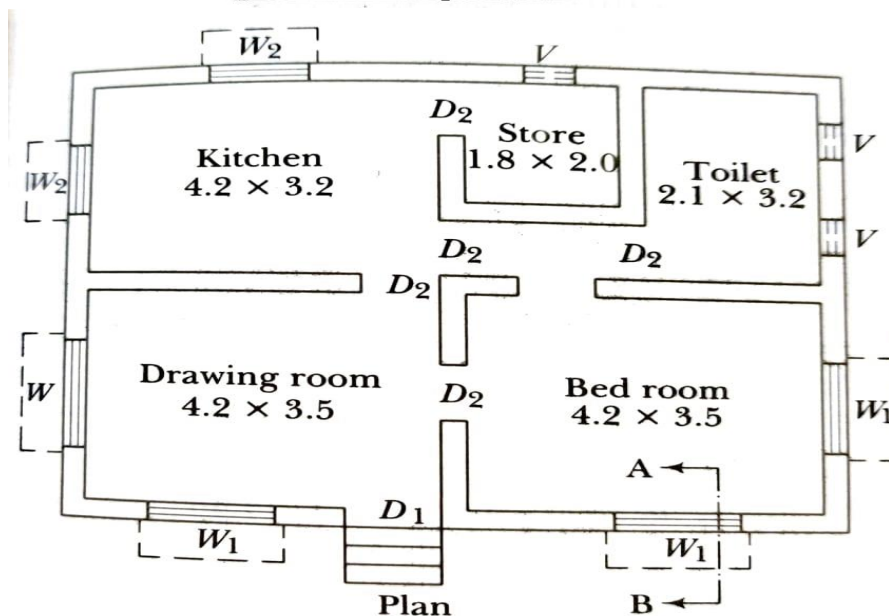|			Marks
Q.1	**(a)**	Define the term cash flow. Explain with sketch cash flow diagram.	**03**
	(b)	Draw Break even chart. Also explain advantages and limitation of break even analysis.	**04**
	(c)	What are the Principles of writing the good specification?	**07**
Q.2	**(a)**	Differentiate between revised estimate & supplementary estimate.	**03**
	(b)	Give the rules of deduction of whitewashing & plaster work.	**04**
	(c)	Enlist the different methods of calculating approximate cost of building. Explain service unit method to find approximate cost of building. Also write service unit of various types of construction.	**07**
		OR	
	(c)	Write a short note on time value of money.	**07**
Q.3	**(a)**	Define Specification. Give the purposes of specification.	**03**
	(b)	Calculate the Material required for Brick masonary in C.M. (1:4) for $1M^3$.	**04**
	(c)	Write the detailed specification for first class brick masonary in C.M. (1:4)	**07**
		OR	
Q.3	**(a)**	Write a short note on Contingency.	**03**
	(b)	Calculate the material required for $100M^2$ area, 12mm thick smooth cement plaster (1:4)	**04**
	(c)	The owner of a property wants to sell his property at an offer of Rs. 20,00,000. Monthly rent is Rs.15,000, Estimated life of property is 25 years. Outgoings are 30% of gross rent. Rate of interest on capital is 8% and redemption on capital is 6%. Whether it will be advisable to sell the property or not?	**07**
Q.4	**(a)**	Define the term contract. What are the essential requirement of valid contract.	**03**
	(b)	Differentiate between Earnest Money Deposit & Security Deposit.	**04**
	(c)	Enlist the different types of Contract. Explain Lump sum contract with advantages and disadvantages.	**07**
		OR	
Q.4	**(a)**	Write a short note on Task work or Turn out Work.	**03**
	(b)	What are the benefits of E-tendering process?	**04**
	(c)	Enlist the different types of tender. Explain any public tender with advantages and disadvantages.	**07**

Q.5	(a)	Define the term : Cost, Price, Value.	03
	(b)	What are the purposes of Valuation.	04
	(c)	For the **figure-1** calculate the quantities of following items	07

        1) Excavation for foundation
        2) Brick masonry work in foundation up to ground level in 1:6.

OR

Q.5	(a)	Define the term : Depreciation, Obsolescence.	03
	(b)	Differentiate between Free hold Property & Lease hold Property.	04
	(c)	For the **figure-1** calculate the quantities of following items	07

        1) B.B.C.C.(1:4:8)
        2) Yellow earth filling (depth of earth filling is taken as 0.5M)

FOUNDATION DETAIL

Plan
(Scale: 1 cm = 1.37 m)

D	1.1 × 2.1	W_1	1.5 × 1.2
D_2	0.9 × 2.1	W_2	1.2 × 1.2
W	1.8 × 1.2	V	0.6 × 0.6

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2