

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code:3170615****Date:28-05-2024****Subject Name:Engineering Economics, Estimation and Costing****Time:02:30 PM TO 05:00 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.

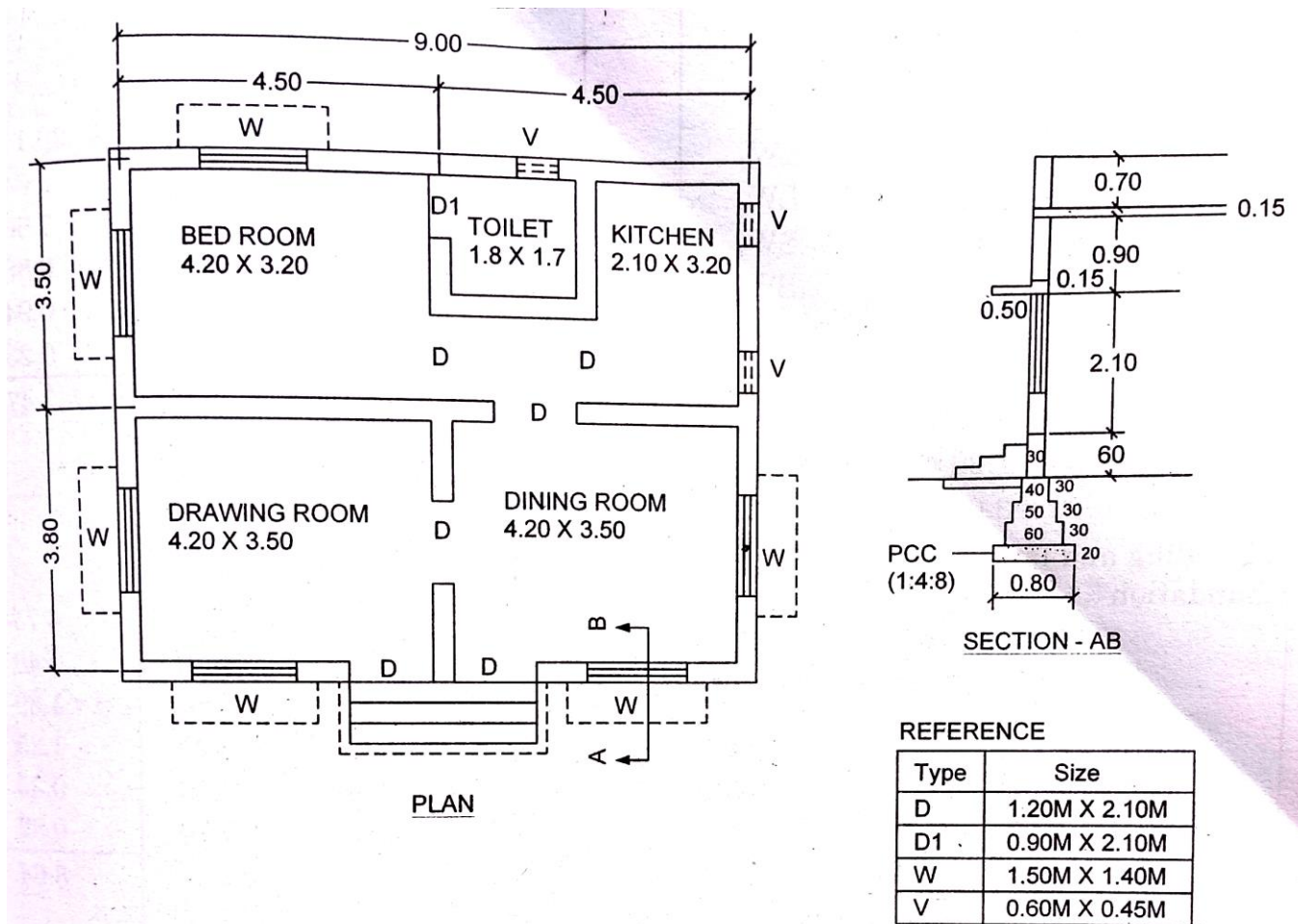
		Marks
<b>Q.1</b>	(a) Give the purposes of detailed estimate.	<b>03</b>
	(b) Write a note on following. (1) Work charge establishment (2) Prime cost	<b>04</b>
	(c) Determine the following quantity of items of works by considering given drawing Figure -1 of a residential building. (1) Earthwork in excavation for foundation. (2) P.C.C (1:4:8) for foundation (3) II <sup>nd</sup> class Brick masonry in C.M (1:6) for foundation and Plinth.	<b>07</b>
<b>Q.2</b>	(a) Differentiate between technical efficiency and economic efficiency by giving examples.	<b>03</b>
	(b) Give rules of deductions in plastering and pointing work.	<b>04</b>
	(c) Define break-even point. Draw a break-even chart and explain its components.	<b>07</b>
	<b>OR</b>	
	(c) Write short note on: (i) Benefit-Cost Ratio (ii) Cash flow diagram	<b>07</b>
<b>Q.3</b>	(a) Define specifications and give their importance.	<b>03</b>
	(b) Write detail specifications for Cement concrete in foundation (1:4:8).	<b>04</b>
	(c) What is meant by unbalanced tender? What are the purposes of filling an unbalanced tender? Explain, giving example of it.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) Differentiate between brief specifications and detailed specifications.	<b>03</b>
	(b) What are the essential principles of good specification writing?	<b>04</b>
	(c) What are the types of contracts. Describe them with its advantages and disadvantages.	<b>07</b>
<b>Q.4</b>	(a) Define rate analysis. State factors affecting rate analysis.	<b>03</b>
	(b) Calculate the material required for Cement concrete 1:4:8 in foundation for 10 m <sup>3</sup> .	<b>04</b>
	(c) Describe the procedure of scrutiny of Tenders.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Write short note on Task work.	<b>03</b>
	(b) Calculate the material required for 12 mm thick cement plaster (C.M. 1:4) in wall for 100 m <sup>2</sup> .	<b>04</b>
	(c) Describe the various reasons for termination of contract.	<b>07</b>
<b>Q.5</b>	(a) Differentiate between Estimating and Valuation.	<b>03</b>

- (b) Explain the term (i) Lead and Lift (ii) Surface excavation. **04**
- (c) The cost of newly constructed building was Rs 1,50,000/- the life of building is 75 years Determine the depreciation in the 30th year of life by straight line method, constant % method and sinking fund method at the 8% compound interest. The scrap value of building is 10% of its construction cost. **07**

**OR**

- Q.5** (a) Differentiate between Free hold property and Lease hold property. **03**
- (b) Define the terms: (1) Salvage value, (2) Market value, (3) Monopoly value, (4). Fair value **04**
- (c) Explain various methods for valuation of a property. **07**

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**Figure -1**