

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2023****Subject Code:3170615****Date:14-12-2023****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
<b>Q.1</b> (a) What are the essential qualities of a good estimator?	<b>03</b>
(b) Write a note on following. (1) Provisional sum (2) Contingencies	<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) B.B.C.C in foundation (1:3:6). (3) Brick Masonry work up to plinth level in C.M. (1:6)	<b>07</b>
<b>Q.2</b> (a) Explain project cash flow diagram with factors affecting it	<b>03</b>
(b) Give rules of deductions in plastering and pointing work.	<b>04</b>
(c) Explain effect of taxation on comparison of alternatives with suitable example.	<b>07</b>
<b>OR</b>	
(c) Discuss evaluation of public projects.	<b>07</b>
<b>Q.3</b> (a) What is the importance of specifications?	<b>03</b>
(b) Write detail specifications for 1 <sup>st</sup> class brickwork in CM (1:6)	<b>04</b>
(c) Draft a tender notice for construction of School Building, on behalf of R&B department, Government of Gujarat. The estimated cost of work is Rs. 20, 12, 46, 000/-	<b>07</b>
<b>OR</b>	
<b>Q.3</b> (a) Define Specifications and mention their objectives.	<b>03</b>
(b) What are the essential principles of good specification writing?	<b>04</b>
(c) Write note on: Liquidated damages and unliquidated damages	<b>07</b>
<b>Q.4</b> (a) What is meant by analysis of rates? How the rate per unit of an item is fixed?	<b>03</b>
(b) Calculate the material required for 1 <sup>st</sup> class brickwork in superstructure in C.M (1:6) for 10 m <sup>3</sup> .	<b>04</b>
(c) What are the types of contracts. Describe them with its advantages and disadvantages.	<b>07</b>
<b>OR</b>	
<b>Q.4</b> (a) Write short note on schedule of rates.	<b>03</b>
(b) Calculate the material required for 20mm thick plaster in wall for 100m <sup>2</sup> (C.M. 1:3).	<b>04</b>
(c) Describe the various reasons for termination of contract.	<b>07</b>
<b>Q.5</b> (a) Discuss the importance and purpose of valuation.	<b>03</b>
(b) Define the terms: (1) Salvage value, (2) Market value, (3) Monopoly value, (4). Fair value	<b>04</b>
(c) Explain 1) Obsolescence 2) Sinking fund.	<b>07</b>

OR

- Q.5 (a) Give the current market rates of the following: (1) Cement (2) Sand (3) Aggregate (4) Bricks (5) Mild steel bars (6) Marble 03
- (b) Differentiate between Estimating and Valuation. 04
- (c) What is Depreciation? Explain various methods of calculating depreciation. 07

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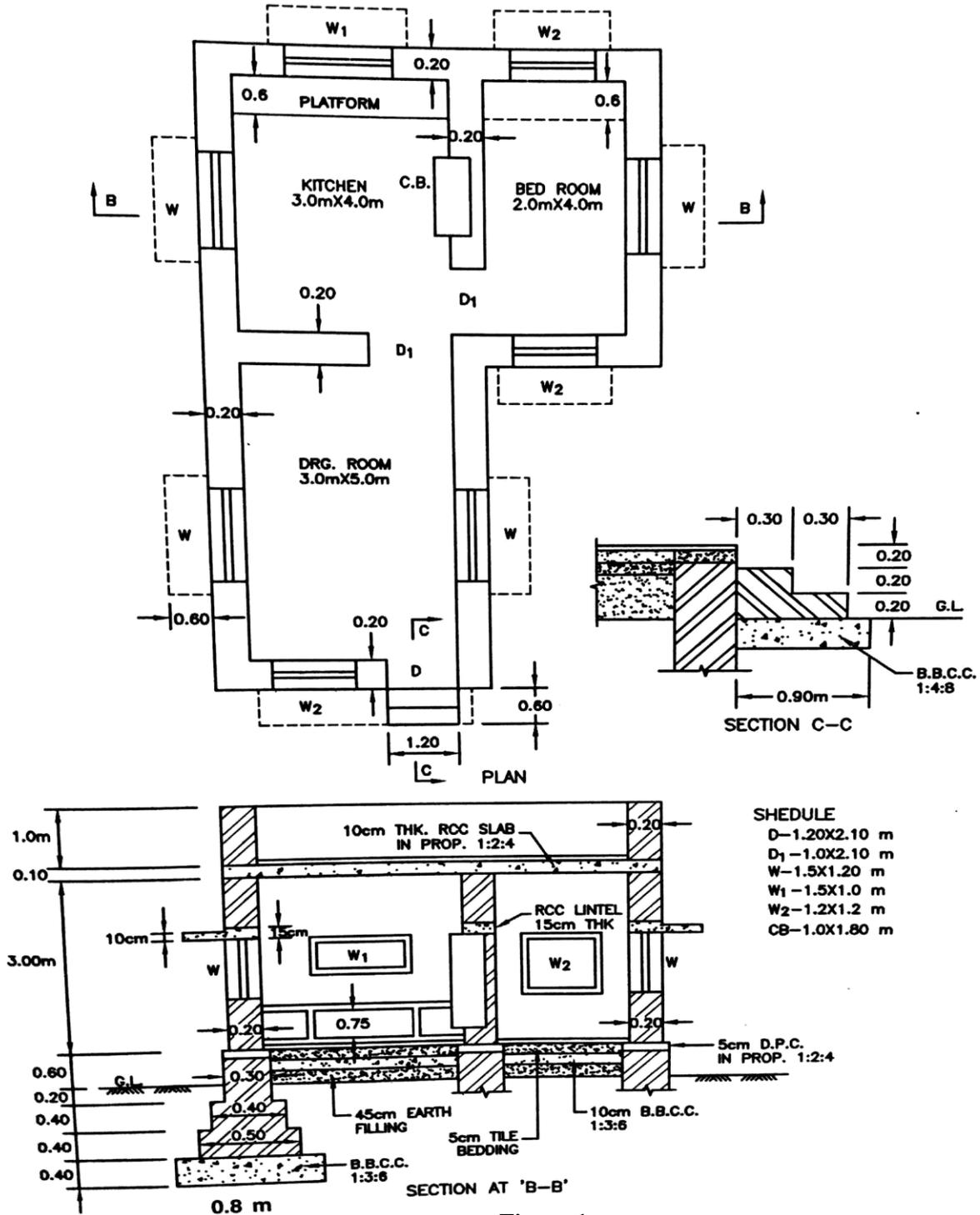


Figure 1

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