

GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER-VII (NEW) EXAMINATION – WINTER 2024

Subject Code:3174027

Date:19-11-2024

Subject Name: Construction Safety and Materials Management

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) | Illustrate the classification of construction accidents. | 03 |
| (b) | Explain the human factors to be considered in the construction site safety. | 04 |
| (c) | Explain how vendor assessment is conducted and provide at least six attributes of the vendor that should be checked during the assessment. | 07 |

- Q.2**
- | | | |
|------------|--|-----------|
| (a) | Explain the different costs associated with holding inventory. | 03 |
| (b) | Describe the primary and secondary functions of materials management. | 04 |
| (c) | Describe, with a figure, the concept of Economic Order Quantity (EOQ). | 07 |

A firm's annual inventory is 10,000 units. The cost of placing an order is Rs. 200, the purchase price of raw material per unit is Rs. 5, and the carrying cost is expected to be 20% per unit per annum. Calculate the EOQ.

OR

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|------------|---|-----------|
| (c) | (i) What are the different types of tendering practices adopted for procurement? Explain when these methods are used. | 07 |
| | (ii) As a corporate buyer, how should you deal with a seller/vendor? Provide at least eight aspects. | |
- Q.3**
- | | | |
|------------|---|-----------|
| (a) | What are the expectations of the buyer from the seller in maintaining good buyer seller relationship? | 03 |
| (b) | Discuss Just-in-Time (JIT) Materials Management. State its advantages and disadvantages. | 04 |
| (c) | Who are the different parties in the Law of Agency? What are the rights and duties of these parties? | 07 |

OR

- Q.3**
- | | | |
|------------|--|-----------|
| (a) | What is the need for and importance of materials research in materials management? | 03 |
| (b) | What are the indicators of low effectiveness in materials management? Provide ten such indicators and explain how they affect effective materials management. | 04 |
| (c) | Define the inventory turnover ratio. Between a well-performing real estate company and a well-performing restaurant, which one is likely to have a higher inventory turnover ratio? If the cost of goods purchased for a company was Rs. 200,000 in the financial year and the average inventory value was Rs. 50,000, what is the inventory turnover ratio? | 07 |

- Q.4** (a) What are the different causes of accidents? **03**
(b) What is the role of various agencies in safety management? **04**
(c) Outline the roles of the following safety personnel on construction sites: (i) Senior Manager (ii) First Line Supervisor (iii) Middle Manager. **07**

OR

- Q.4** (a) What do safety incentives mean? **03**
(b) Discuss safety benefits and their measurement. **04**
(c) What is hazard control in construction site safety? **07**

- Q.5** (a) Enumerate importance of Safety Training. **03**
(b) Discuss safety measures in details. **04**
(c) Explain the various elements of direct and indirect costs of accidents on construction sites. **07**

OR

- Q.5** (a) Explain the role of safety officers in construction. **03**
(b) State basic duties and responsibilities in construction safety management. **04**
(c) Demonstrate the importance, stages, and benefits of Job-Site Safety Assessment (JSSA). **07**
