

**B.Tech. Civil (Construction Management)**

**Term-End Examination**

00865

**December, 2014**

**ET-581(B) : INVENTORY AND STORES  
MANAGEMENT**

*Time : 3 hours*

*Maximum Marks : 70*

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**Note :** Attempt any **five** questions. All questions carry equal marks. Use of scientific calculator is permitted.

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1. (a) What do you understand by Inventory Control ? Explain the purpose of maintaining inventory in any construction company. 7
- (b) The demand for a product is 500 units per month. Every production run requires a set-up cost of ₹ 2,000. It costs ₹ 2 per unit per month to store the product. What should be the optimal number of units to be produced in each production run ? 7
2. (a) What is a re-order point ? Draw a sketch of a simple inventory model showing the re-order point, order quantity and procurement time. 7

- (b) An item has annual consumption of 10,600 units per year. The ordering cost is ₹ 30 per order and the unit cost of the item is ₹ 2. The inventory holding cost is estimated as 20% of the average value of the inventory. The inventory consumption rate is 20 units per day while arrival of items is gradual, at a rate of 25 units per day. Find the economic order quantity. 7
3. (a) What are the relevant costs that management should try to balance in deciding the size of purchase orders ? How do they vary with order size ? 7
- (b) The demand for an item is 18,000 units per year. The holding cost is ₹ 1.20 per unit time and the cost of shortage is ₹ 5. The production cost is ₹ 400. Assuming that replacement rate is instantaneous, determine the optimum order quantity, cycle time and number of orders in a year. 7
4. (a) Explain why ABC Analysis is an important concept in managing inventories. 7
- (b) The annual demand of a product is 10,000 units. Each unit costs ₹ 100 for orders placed in quantities below 200 units but for orders of 200 or above, the price is ₹ 95. The annual inventory holding cost is 10% of the value of the item and the ordering cost is ₹ 5 per order. Find the economic lot size and optimum purchase quantity. 7

5. (a) What is stock verification ? Explain the process of stock verification. What are the purposes served by stock verification ? 7
- (b) A manufacturing company has a demand of 12,000 units of a particular item in a year, and can manufacture this item at the rate of 2,000 units per month. If the cost of each set-up is ₹ 400, holding cost/unit/month is ₹ 0.15, determine,
- (i) optimum lot size.
  - (ii) the total cost per year assuming cost of each unit as ₹ 4.
  - (iii) maximum inventory.
  - (iv) manufacturing time.
  - (v) number of cycles in a year.
  - (vi) total cycle time. 7
6. (a) What are the different staff positions in procurement department ? Draw a neat sketch showing the structure of a procurement department. 7
- (b) What are the various methods for selection of samples ? Describe briefly. 7

7. Write short notes on any **four** of the following :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Store layout
  - (b) Just-in-time
  - (c) Sensitivity of EOQ model
  - (d) Dependent and independent demand
  - (e) Material Requirement Planning
  - (f) Supplier selection
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