

**INDIAN INSTITUTE OF MATERIALS MANAGEMENT**  
**Post Graduate Diploma in Logistic Management**

**Paper –5**  
**Logistics Systems Operation**

Date 08-6-2009  
Time: 2.00pm To 5.00pm

Max. Marks: 100  
Duration: 03 Hrs.

**Instructions:**

1. From Part - A, answer all questions, each sub question carries 1 mark
  2. From Part – B, answer any three questions out of five questions. Each question carries sixteen marks.
  3. Part –C is a case study of 20 marks.
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**PART- A**

**Q.1.A) State whether true or false:**

- a. It is the objective of Inventory Control to ensure adequate supply of products to Customer.
- b. Two bin and three bin are storage system for inventory control.
- c. The location of warehouse does not affect the primary transportation cost.
- d. Local levies like sales tax, octroi charges in the region do not affect the site selection for warehouse.
- e. Moving average method is used for Inventory control.
- f. Mean absolute deviation is a measure of forecast error.
- g. Unitization describes the physical grouping of master carton into one restrained load for material handling.
- h. Lower is the value of the product higher is the value of packaging.

**B) Match the following:**

a. Order cycle	I. Environment should be saved from them
b. Safety stock	II. Entire facility under the financial and administration control of the firm
c. Plinth	III. Tells about the product inside the packaged material
d. Private Warehousing	IV. Essential for product design and development
e. Time Series Method	V. An open area in warehouse premises where goods are stored
f. Forecasting provides future trend which is	VI. The time period between two successive orders
g. Communication	VII. A forecasting method
h. Hazardous material	VIII. Buffer stock

**C) Fill in the blanks**

- a. Inventory generally refers to \_\_\_\_\_ in stock.
- b. EOQ stands for \_\_\_\_\_.
- c. \_\_\_\_\_ is used to prepare material planning to take up replenishment action.
- d. Forecast which cover the periods less than \_\_\_\_\_ year is limited as short term forecasting.
- e. \_\_\_\_\_ are designed for handling the most general packaged products or commodities.
- f. The elements of warehousing cost are \_\_\_\_\_ , storage and administration.
- g. Packaging has significant impact on \_\_\_\_\_ and \_\_\_\_\_ of logistical system.
- h. Packaging is categorized in two types 1. \_\_\_\_\_ 2. \_\_\_\_\_ .

**D) Choose the correct answer/s.**

- a) Various types of inventories are
  - I. Raw material
  - II. Work in Progress inventory
  - III. Finished goods
  - IV. All the above
- b) Inventory models are
  - I. Deterministic models
  - II. Probabilistic model
  - III. Logistic model
  - IV. A and b
  - V. All the above
- c) Performance parameters of warehousing does not include
  - I. Stock turnover ratio
  - II. Warehouse cost to sales ratio
  - III. Warehouse location to transportation cost
  - IV. Warehouse cost per unit handled
  - V. Occupancy rate of warehouse space
- d) Warehouse options are
  - I. Private
  - II. Public
  - III. Contract
  - IV. All the above
- e) Correlation types are
  - I. Positive and Negative
  - II. Linear and Non- linear
  - III. Scalar and Vector
  - IV. Only a and b above
  - V. a, b and c.
- f) Accurate forecast are essential for
  - I. JIT
  - II. MRP I

- III. MRP II
- IV. ERP

- g) Emerging trends of packaging are
- I. Film based pack
  - II. Blanket Wrap
  - III. Unitization
  - IV. a and b above
- h) Which one of the following is not International size of packaging
- I. 40" \* 48"
  - II. 32" \* 40"
  - III. 32" \* 36"
  - IV. 32" \* 32"

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**PART - B**  
**(Answer any three questions)**

- Q. 5)** Describe various warehousing functions.
- Q. 6)** What are the factors which affect the warehouse site selection? What are the quantitative techniques for warehouse site selection?
- Q. 7)** What is packaging? Discuss about packaging material.
- Q. 8)** List various types of inventories. Why control on inventory is required and what are its benefits.
- Q.9)** A company uses simple exponential smoothing with smoothing constant  $\alpha = 0.2$  to forecast the demand. The forecast for the first week of the March was 400 units and actual demand turnout to be 450 units.
- I. Estimate the demand for second week of March.
  - II. If the actual demand for the second week of March is 460 units, forecast the demand upto April second week. Assume that the demands for subsequent weeks are 465, 434, 420, 498, 462 and 470 units.

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**PART- C**  
**(Compulsory Question)**

- Q. 10) ABC corporation has got a demand for a particular part at 10,000 units per year. The cost per unit is Rs.2 and it costs Rs. 36 to place an order and to process the delivery. The inventory carrying cost is estimated at 9 percent of average inventory investment. Determine
- I. Economic Order Quantity.
  - II. Optimum number of order to be placed per annum.
  - III. Minimum total cost of inventory per annum.

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