



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Logistics Management

June 2015

PAPER-5 (New)
LOGISTICAL SYSTEMS OPERATION

Date: 13.06.2015
Time: 2.00 p.m. to 5.00 p.m.

Max Marks: 100
Duration: 3 Hours

Instructions:

- 1) Part A- Answer all questions
- 2) Part B-Answer any three questions
- 3) Part C -Compulsory

Total Marks=32
Total Marks=48
Total Marks=20

PART – A

(1 x32 = 32 marks)

Q 1) Fill in the blanks

- a) ----- are for storage of goods whose duty is unpaid and especially where the goods are destined to another country
- b) The action of carrying out of people or thing from one place to another is -----.
- c) ----- are prime example of incorporating gravity flow in to material handling system design.
- d) -----are used to label and decorate products such as beverages, food, personal care products, chemicals and cleaning products.
- e) ----- Processes permit each product to be manufactured and distributed in economical lot size that is greater than market demand.
- f) The average inventory held as a result of the order process is referred to as -----.
- g) Tracking signal = Cumulative error/----- .
- h) Carrying/holding cost of inventory is typically range from ----- to -----percent per year .

Q. 2) Match the following

Column A	Column B
a) Variance	1) Delivers the desired item to the order selected by using a series of bins mounted on an oval truck.
b) Bulk handling	2) Unexpected events that disrupts performance of the system
c) Carousels	3) Specially pertains to the classification of maintenance spares denoting the essentiality of stocking spares according to their criticality.
d) Apportionment	4) Used to describe a control system where a controller selects the highest process variable measurement from a battery of inputs.
e) Service level	5) Reducing the output from industrial production to manageable, desirable consumer size.
f) SOS classification	6) is as situation where protective packaging as the master carton level is unnecessary.
g) Auctioneering	7) is based on the nature of the time of availability for an item
h) VED Analysis	8) The performance objectives that that inventory function must be capable of achieving

Q. 3) State True/false of the following

- a) Pre-fabricated warehouse are those where no there are no permanent structure available.
- b) The ideal warehouse design is limited to a single story so that the product does not have to be moved up and down
- c) Paper wrapping provides protection against dust, light and mechanical protection.
- d) Average inventories includes cycle, safety stock and transit inventory components
- e) In most of the companies, the production and MRO inventories represent the biggest segment of the total inventory investment.
- f) Stock in trade includes all finished good ready for sale.
- g) ABC analysis ensures control over the costly items in which a large amount of capital is invested.
- h) Resources = Time used x Net cost of labour per minute

Q. 4) Expand the following

- a) TQM
- b) ILS
- c) CWC
- d) DMAIC
- e) VNA
- f) AGVS
- g) SIT
- h) GIT

Part-B

(Any three from the following)

3x 16 = 48 marks

- Q. 5)** a) Compare between public warehouse and private warehouse.
b) Discuss the objective and design of warehouse.
- Q. 6)** a) Difference between die cut labels and butt labels.
b) Discuss the different types of packaging
- Q. 7)** a) Distinguish between dependent demand and independent demand
b) Discuss the exponential smoothing method of forecasting.
- Q. 8)** a) Explain ABC method with a suitable example
b) Explain single period and multiple period inventory models
- Q. 9)** a) Write short note on demand forecasting
b) Explain quantity discount model in detail

Part-C

Q. 10 Case study:

Marks (20)

A shopkeeper sells a line of upscale evening dresses in his boutique. He charges \$300 per dress, and sales average 30 dresses per week. Currently, shopkeeper orders a 10-week supply at one time from the manufacturer. He pays \$150 per dress, and it takes 2 weeks to receive each delivery. Shopkeeper estimates his administrative cost of placing each order at \$225. Because he estimates his cost of capital at 20%, each dollar's worth of idle inventory costs him \$0.20 per year.

- a) Compute shopkeeper's total annual cost of ordering and carrying inventory.
b) If shopkeeper wishes to minimize his annual cost, when and how much should he order in each batch? What will be his annual cost?
c) Compare the number of inventory turns under the current and proposed policies.
