



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Logistics Management

June 2012

PAPER-5
LOGISTICAL SYSTEM OPERATION

Date: 09.06.2012
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

Q1. Say true or false

(8marks)

- a) Performance cycle uncertainty means that inventory policy cannot assume consistent delivery.
- b) The lot for lot technique is not dependent demand oriented.
- c) Time series lot sizing is to combine requirements over several periods to arrive at a procurement logic.
- d) Least unit cost seeks to identify a combination of requirements over a number of periods resulting in the lowest cost per SKU.
- e) The safety stock or buffer stock function concerns short range variation in either demand or replenishment.
- f) Inventory control is not a mechanical procedure for implementing an inventory policy.
- g) The inventory performance cycle has been identified as a combination of order communication, processing, and transportation times.
- h) A public warehouse is operated by the firm owning the product.

Q2. Fill in the blanks:

(8 marks)

- a) -----and -----operations are similar to consolidation except that no storage is performed.
- b) ----- is often used in physical distribution.
- c) ----- are used extensively in logistical systems.
- d) -----depends on the proposed material handling system and requires development of a floor plan to facilitate product flow.
- e) ----- protection against theft of merchandise has become a major factor in warehouse operations.
- f) ----- techniques are available to assist in selecting a general area for warehouse location.

- g) -----consists of manufacturing a product to a customer 's specifications once an order is placed.
- h) -----function concerns short range variation in either demand or replenishment.

Q.3. Select the right option from the given answers

(8 marks)

Q.3.1. Which of the following statements is true?

1. Logistics is a subset of supply chain.
2. Supply chain is a subset of logistics.
3. Physical distribution and logistics are the same.
4. Transportation and logistics are same.
5. Logistics and supply chain are same.

Q3.2. If a customer visiting a departmental store cannot find his desired soap manufactured by Hindustan Unilever Ltd (HUL) in the store, which of the following chain partner will he hold responsible for the non-availability of the soap?

1. The distributor
2. The departmental store
3. The logistics service provider
4. The suppliers of raw materials and components
5. Hindustan Unilever Ltd

Q3.3. Which of the following sequence is true?

1. Sourcing → Outbound logistics → Conversion into finished goods → Inbound logistics → Retailing
2. Inbound logistics → Sourcing → Conversion into finished goods → Outbound logistics → Retailing
3. Sourcing → Conversion into finished goods → Inbound logistics → Outbound logistics → Retailing
4. Sourcing → Inbound logistics → Conversion into finished goods → Outbound logistics → Retailing
5. Sourcing → Inbound logistics → Outbound logistics → Conversion into finished goods → Retailing

Q3.4. Supply chain is concerned with the

1. flow of raw materials, WIP and finished products in the forward direction
2. flow of information in both the directions
3. flow of cash in the reverse direction
4. flow of materials in the forward direction and that of cash in the reverse direction
5. flow of materials in the forward direction, cash in the reverse direction and information in both the directions

Q3.5. The objective of a supply chain is:

1. to improve the efficiency across the whole supply chain
2. to improve responsiveness across the whole supply chain
3. to deliver improved value to the customers
4. to improve the efficiency and responsiveness across the whole supply chain and also deliver improved value to the customers
5. to improve the responsiveness across the whole supply chain and deliver improved value to the customers

Q3.6. Which of the following statements is true?

1. Ford supply chain is both highly efficient as well as highly responsive.
2. Dell supply chain believed in medium-term relationship with the suppliers with loosely held supplier network.
3. Dell supply chain is both highly efficient as well as highly responsive.
4. Dell supply chain propagated the concept of long-term relationship with the suppliers.
5. Toyota supply chain believed in medium-term relationship with the suppliers with loosely held supplier network.

Q3.7. In today's supply chain, there has been a shift in the power structure in a chain towards

1. Raw-material suppliers
2. Retailers
3. Manufacturers
4. Third-party logistics service providers
5. Distributors

Q3.8. Which of the following statements is true regarding outsourcing?

1. Higher level of outsourcing enables a firm to have better control on all outsourced activities.
2. Higher level of outsourcing makes a firm more vulnerable to outside influences.
3. Higher level of outsourcing enables a firm to outsource core activities to other competent players.
4. Higher level of outsourcing enables a firm to outsource non-core activities to other competent players.
5. Higher level of outsourcing enables a firm to outsource non-core activities to other competent players and also enables the firm to have better control on all outsourced activities.
6. Higher level of outsourcing enables a firm to outsource non-core activities to other competent players, However, it makes the firm more vulnerable to outside influences

Q4. Expand the following: (8marks)

MRP	DRP	ABC analysis	AFTA
OECD	CLM	COFC	EOQ

Part-B

(Answer any three 16 x 3 = 48 marks)

5. Write short notes on :

1. Types of warehouses
2. ABC analysis
3. Types of packaging
4. Lead time

6. What advantage does DRP have over a fair share method of inventory deployment?

7. Explain private warehousing and public warehousing: give one example.

8. Discuss the difference between discrete and EOQ lot sizing.

9. Explain the approaches for developing forecast? How is location very important for a warehouse?

Part-C

Case Study : (compulsory)

20 marks

Heavy engineers limited manufactures major farm equipments which it sells mainly in rural india. the tractor manufactured by heavy engineers has utility in farming activities. but it is also considered as a status symbol in rural india since it is used as a means of conveyance and transportation as well. Initially the sale of tractors was concentrated in areas like punjab, haryana and uttar pradesh. However the sales have now shifted to other parts of the country as well. the demand for tractors is steadily increasing all over the country. This spurt in demand has put a strain on the production facilities available with heavy engineers. also heavy engineers is worried that if they do not meet the increasing demand for tractors they would stand to lose the market as well as the customer goodwill. Other players would enter and capture the market possibly even eroding the existing market base of heavy engineers.

Heavy engineers have established widespread and excellent dealers in northern india. But other players are expected to intensify further in view of expected global competition. This is seen as a threat by heavy engineers. The CEO of heavy engineers called meeting of all HODs to discuss the future plans. Some of the suggestions put forward were as follows:

- a) The company can expand its existing facilities by addition of new machines as well as adopting flexible manufacturing systems to cater to varied demands by customers.

- b) Another suggestion was either to outsource manufacturing or to set up sister plants at strategic locations in the country.
- c) To effectively meet customer requirements the company will have to set up servicing workshops as its outlets.
- d) Expansion plans will be coupled with heavy financial investments. The cost of borrowed finance will increase the price of the tractors which can prove detrimental to the sales.
- e) In agriculture durable items rural consumers are very alert to the value of a product and are willing to research extensively by comparing the product features quality and price with the various options available to them.

Questions:

1. Explain what flexible manufacturing system is
2. What logistical factors should the company look into regarding location of sister plants?
3. How can heavy engineers apply the value chain concept of Michael porter to satisfy the demands of rural customers?
4. Make a total cost analysis about the expansion plants of heavy engineers.
