



**INDIAN INSTITUTE OF MATERIALS MANAGEMENT**

**Dec 2013**

**Post Graduate Diploma in Materials Management**

**Paper 17**

**ADVANCED SUPPLY CHAIN MANAGEMENT**

**Date: 20.12.2013**

**Time: 2.00 p.m. to 5.00 p.m.**

**Max. Marks 100**

**Duration 3 hours**

**Instructions**

1. The question paper is in three parts
2. Part A is compulsory. Each sub question carries one mark.
3. In Part B answer any 3 questions out of 5. Each question carries 16 marks
4. Part C is a case study with sub questions and it is compulsory.

**Total marks-32**

**Total marks-48**

**Total marks-20**

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**PART A**

**(32 x 1 = 32 marks)**

**Q. 1. Fill in the blank.**

i) The flows of the supply chain that occurs within the individual organization are called \_\_\_\_\_

ii) Supply chain management is the combined activities of materials management and \_\_\_\_\_

iii) Forrester effect is also known as \_\_\_\_\_ effect.

iv) The fourth stage of supply chain development is characterized by a \_\_\_\_\_ focus

v) The locations that performance cycles link together are referred to as \_\_\_\_\_

vi) In future inventory will be replaced by \_\_\_\_\_

vii) Supply chain \_\_\_\_\_ is those abilities of a supply chain necessary to meet demand and supply.

viii) A private network contained within an enterprise is called \_\_\_\_\_

**Q.2. State True or False**

- a. Supply chains have two decoupling points.
- b. In a longer forecast horizon, the forecast accuracy tends to increase.
- c. A transition from a decentralized system to a centralized system increases safety stock.
- d. Alliances are legal entities.
- e. Modularity in product and process enables standardization strategy thereby lowering inventory costs and increases forecast accuracy.
- f. Mass production involves production of large quantities of small variety of goods.
- g. Passive tags require internal power sources to operate.
- h. Contract of sale is completed by delivery of goods.

**Q.3. Expand the following**

- a) UPC
- b) SCIS
- c) TPS
- d) SRM
- e) GPS
- f) WMS
- g) SQL
- h) GIS

**Q.4. Match A and B**

- | A                         | B                          |
|---------------------------|----------------------------|
| 1) Supply chain up-stream | a) Wal-Mart                |
| 2) ABC classification     | b) Supplier Integration    |
| 3) Cross docking          | c) Suppliers               |
| 4) Postponement           | d) Bar code                |
| 5) Black box              | e) Manufacturer            |
| 6) ERP                    | f) Delayed differentiation |
| 7) Auto identification    | g) Pareto rule             |
| 8) Excise duty            | h) Relational database     |

## **PART B**

**48 marks**

**( Answer any three. Each question carries 16 marks)**

- Q.5. a) What is logistics network? How the configuration of this network is optimized?  
b) Discuss how lead time in a supply chain can be reduced.
- Q.6. a) What is meant by push based and pull based supply chain  
b) Explain retailer-supplier partnership
- Q.7. a) What are the forces that drive towards globalization?  
b) What are the benefits of early supplier integration in product development?
- Q.8. a) What are the goals of supply chain information technology?  
b) Explain the usefulness of GIS in logistics.
- Q.9. Write short notes on any four
- a) Third party logistics
  - b) Total cost of ownership
  - c) Mass customization
  - d) RFID
  - e) Bullwhip effect

## **Part C**

**20 marks**

**(Case Study)**

1. Q.10. Benetton is a global manufacturer and retailer with headquarters near Venice, Italy. The company was founded in 1965 by the three Benetton brothers and a sister. It began as a manufacturer before opening three retail stores of its own in 1968. Benetton experienced rapid growth throughout 1980s. It experienced difficulty when it attempted to diversify into financial services, but it has since refocused its efforts and left that arena.

Benetton follows a global strategy of selling the same garments throughout the world in similar small specialty shops. This creates a uniform look which is supported by strict corporate merchandising guidelines and media support.

Because Benetton is in the fashion industry, it must deal with highly competitive, time-sensitive market with extremely short product life cycles. The product life cycles- often

a complete change of product lines 10 times a year- help hold consumer interest. With a rapid changeover in products and the need to get the merchandise to market quickly in to meet the immediate demand of consumers, Benetton needs a highly responsive logistics system. To remain competitive, Benetton's system also must be fast and flexible, yet efficient.

To fully leverage its marketing and logistics prowess, Benetton has taken a clear leadership role in its supply chain. Benetton uses a network of subcontractors, most of whom are exclusive manufacturers for Benetton, to produce its product. Benetton has established relationships with raw material suppliers and provides the subcontractors with schedule data, raw materials, technical assistance and financial assistance to buy or lease production equipment.

Benetton has agents that coordinate store's demand information, ordering and marketing, product mix, and financial management. These agents use EDI to transmit orders directly to Benetton. Benetton also receives other demand information, which it uses to determine its production. It does all the cutting and dyeing of garments based on actual demand patterns. Relevant demand data are forwarded to subcontractors. Undyed pieces are sent to subcontractors who sew them and return them to Benetton. These "grey goods" are held undyed until the consumer's preferred colours are determined based on actual sales. At that time, Benetton dyes the product and sends it to its \$50 million, highly automated distribution centre located in Treviso, 20 km north of Venice. This operation supplies all garments to more than 4000 Benetton stores in 83 countries, using only six operators per shift for three shifts.

Thus Benetton has taken control of all aspects of its logistics operations, and has chosen to play the role of channel leader. By doing this, the firm is able to leverage economies of scale with in-house and outsources expertise. It relies heavily on information technology, such as CAD/CAM in cutting and dyeing materials, and EDI and bar coding for gathering point-of-sale data. It leverages its volume by performing centralized strategic and capital-intensive activities; Benetton takes advantage of the flexibility and relatively low cost of small subcontractors in its assembly operations.

**Questions:**

- a) Comment on Benetton's supply chain.
- b) How information technology helps Benetton to improve its supply chain performance
- c) Benetton has centralized its warehouse activities. What are the advantages derived by this arrangement.

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