

DEC-2010

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

**PAPER - 17
ADVANCED SUPPLY CHAIN MANAGEMENT**

**Date: 18.12.2010
Time: 2.00 pm to 5.00 pm**

**Max. Marks 100
Duration 3 hours**

Instructions

1. The question paper is in three parts
 2. Part A is compulsory. Each question carries one mark. **Total marks-32**
 3. In Part B answer 3 questions out of 5. Each question carries 16 marks
Total marks-48
 4. Part C is a case study with sub questions and it is compulsory.
Total marks-20
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PART A

1. Fill in the blanks. (Please do not reproduce the statement)
 - a) Business _____ has a beginning and an end and is described in terms of inputs and outputs.
 - b) The vendor side of the flows in a supply chain is called _____
 - c) Flows of supply chain within the organization are _____ supply chain.
 - d) ABC classification is based on _____ value.
 - e) Traditional inventory management techniques practiced at each level in the supply chain lead to _____.
 - f) A Third party logistics is a _____ alliance.
 - g) _____ processing reduces manufacturing lead times.
 - h) Information system that facilitates communication within a firm is called _____.
2. Please state True or False
 - a) A business function is ongoing and continuous.
 - b) Transportation is a stage in the supply chain.
 - c) The flow of products and materials in the supply chain is also called value flow.
 - d) The decision to locate centralized or decentralized warehouse is known as network configuration.
 - e) Aggregate forecasts are more accurate.
 - f) LRP in the inventory decision system means logistics requirement planning.
 - g) A Cross docking warehouse is an inventory storage point.
 - h) Mass Production involves the efficient production of large quantity of small variety of products.

3. Match A and B

A	B
a) Boom and bust cycle	1) EOQ model
b) NMTBSCT	2) Aggregating demand
c) F W Harris	3) Frequency of issue
d) Risk Pooling	4) Delayed differentiation
e) Mass customization	5) Unique products
f) FSN analysis	6) Forrester effect
g) Postponement	7) Tiffin-wallahs
h) Differentiation strategy	8) Modular units

4. Expand the following

- a. SRM
- b. SCIS
- c. PTP
- d. VMI
- e. RSP
- f. DSS
- g. ERP
- h. TMS

PART B

5. a) What are the key issues in a supply chain?
b) Explain the concept of logistics network and the network configuration.
6. Explain various inventory classification models?
7. a) What are the principles of supply chain information system?

b) What are the methods of coping with bullwhip effect?
8. a) Explain why organizations enter into strategic alliances.
b) Explain the forces that drive the trend toward globalization.
9. Write short notes on any four
 - a) Supplier integration for new product development
 - b) Dimensions of customer value
 - c) IT infrastructure components
 - d) Advantages of centralized buying
 - e) Commercial taxes

Part C
(Case Study)

10. DVD4LESS.com is one of the many new firms that have a presence on the World Wide Web. It specializes in manufacturing and selling one type of high-end DVD player. By purchasing large volumes from a small number of suppliers, it receives a significant discount. This reduced cost is passed on to its customers. DVD4LESS.com manages to sell its DVD player for \$200 less than all its high-end competitors, thereby creating its competitive advantage.

DVD4LESS.com receives 112000 orders for DVD annually. Each DVD player sells for \$500, of which \$200 is retained as gross profit. Last year, it filled 97 percent of all orders correctly. Of orders filled incorrectly, DVD4LESS.com estimates that 20% of the customers cancel the order and the remainder will accept a second shipment, which results in a rehandling cost of \$20 per order. To maintain customer goodwill, the firm gives a \$35 invoice reduction for all units rehandled.

DVD4LESS.com pays \$1,950,000 annually for the transportation of its materials and delivery of its products. Its warehousing costs average \$1,460,000 annually for the storage of its materials. DVD4LESS.com has \$30 million of debt outstanding at an annual interest rate of 10%. The total cost for all selling and general administrative expenses (other operating costs) comes to \$750,000, and \$50,000 is held in cash at all times.

DVD4LESS.com has an average inventory of \$5 million. This large inventory is partially attributed to its purchasing policy, and also to its inventory management system. The inventory carrying cost rate is estimated at 25% of the average inventory value per year. Its accounts receivables average \$250,000 throughout the year primarily due to sales to medium-sized retailers. DVD4LESS.com has a large fixed asset base. It is comprised of land, the manufacturing facility; machinery and various administrative offices that are valued at \$64 million.

DVD4LESS.com has explored a variety of options to improve its correct order fill rate. It is also interested in lowering its average inventory as a means to improve its overall profitability. After weeks of presentations and heated debates, the decision is made to outsource its warehousing operations and inventory management. Many third-party logistics providers bid for the contract; in the end, it is awarded to Basileo Logistics for an annual cost of \$500,000 (this is classified as other operating cost). By outsourcing, DVD4LESS.com manages to save \$760,000 in warehousing expenses, reduces its average inventory by 30%, and now meets its 99 percent correct order fill rate. All other costs remain the same.

Questions:

- 1) What is the corporate strategy adopted by DVD4LESS.com and how the upstream side of the supply chain implements this? (7 marks)

- 2) Calculate the net savings due to outsourcing. (7 marks)
- 3) What are the non financial advantages of outsourcing? (6 marks)