



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Dec 2017

Post Graduate Diploma in Materials Management

Paper 17

ADVANCED SUPPLY CHAIN MANAGEMENT

Date: 15.12.2017

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. **Total marks-32**
3. In Part B answer any 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**

PART A

(1 x32 = 32 marks)

(compulsory)

Q.1. Fill in the blanks. (Please do not reproduce the statement)

- i) An _____ supply chain includes suppliers of immediate suppliers and customers of the immediate customer all linked by flow of products, services and finances.
- ii) Network _____ involves issues relating to plant, warehouse and retailer location.
- iii) Risk pooling suggests that demand _____ is reduced across locations if demand is aggregated within supply chain.
- iv) _____ commerce is defined as the conduct of business online via the internet.
- v) In _____ warehouses functions as inventory coordination points rather than inventory storage points.
- vi) Mass _____ involves the delivery of a wide variety of customized goods or services quickly and efficiently at low cost.
- vii) Service _____ means consistently performing service dependably and accurately.
- viii) Data _____ is the process of analyzing data from different perspectives and summarizing it into useful information.

Q.2. State True or false (Please do not reproduce the statement)

- i) Supply chain is a partnership of firms who are involved in providing a product or service.
- ii) Heuristic algorithms always result in optimal solutions.
- iii) The service level provided by a centralized system is higher.
- iv) Centralizing demand information can significantly reduce bullwhip effect.
- v) Decentralized system leads to global optimization.
- vi) Strategic alliances are typically multifaceted, goal oriented, long-term partnerships in which both risks and rewards are shared.
- vii) Supply chain efficiency is the cost of making and delivering a product to the customer.
- viii) Value added services can be a major factor in the purchase of especially technical products.

Q.3. Expand the following

- i) MRP
- ii) TCA
- iii) EFT

- iv) SCIS
- v) RSP
- vi) PDA
- vii) OLAP
- viii) ATP

Q.4.Match A and B

- | A | B |
|-----------------------------|----------------------------------|
| i) Internal supply chain | a) Spatial database management |
| ii) ABC classification | b) Cheque |
| iii) Strategic alliance | c) Informal supplier integration |
| iv) SCOR | d) Transponders |
| v) White box | e) 3 PL |
| vi) RFID | f) Performance evaluation |
| vii) GIS | g) Within the organization |
| viii) Negotiable instrument | h) Annual consumption value |

PART B

48 marks

(Attempt any 3 . Each Question carry 16 marks)

- Q. 5. a) Explain various flows in supply chain.
b) What is risk pooling? How this affect centralized and decentralized systems.
- Q.6. a) What is bullwhip effect? How this can be reduced in supply chains?
b) What are the goals of supply chain information technology?
- Q.7 a) What are the forces that drive globalization?
b) What are the parameters or supply chain design?
- Q.8. Distinguish between
a) Internal supply chains and external supply chains
b) Data warehousing and data mining
c) Pull based supply chain and push based supply chain
d) E commerce and E business
- Q.9. Write short notes any four
a) Total cost of ownership
b) Vendor managed inventory
c) Expert systems
d) RFID
e) Parallel processing

PART C

20 marks

Case study

Q.10. M/s Madurai Paints Ltd. manufactures decorative paints for household, commercial and industrial applications. The management believed in satisfying all the customers, with respect to shades, availability and durability. A total of 25 depots were established in every major city. The plant was located in Madurai. Marketing Director would receive weekly stock statement from every depot through contracted reputed courier. All the depot managers reported to the marketing Director and communication among depot managers was avoided. All the decisions were thus centralized. Since they were in a competitive market they had hardly any choice on prices.

The company however made reasonable profits in the minerals division supplying to the paint division and the market. Vital raw materials mined in Karnataka and sold through four regional distributors, who maintained plenty of stocks of minerals. Negotiations were also on for mining rights in north Gujarat.

In their efforts in customer satisfaction, MPL manufactured, on a frozen monthly production plan, every shade by combining the primary shades and would await the prospective customer to buy the paint. MPL ensured that the shades were available at all the depots. Many times goods had to be produced, in smaller batches, in rush and sent in less than full truckloads. The service level of MPL was envy of competition.

To improve the profitability, the company organized a supply chain performance audit by a SCM expert Mr. Naresh who observed that MPL had almost 50% of their domestic sales lying as finished goods in inventory at various depots. This includes even the industrial paints that were not highly customized. Although the industrial customers were satisfied, MPL had to face stiff competition from SSI paint manufacturers and payments were also delayed in this segment. The saving grace was the manufacturing runs at the plant for these paints as this was always economical due to very high national level demand. It was also observed that there was seasonality in demand for household paints.

Questions:

1. Analyze and comment on the existing supply chain operations of the company.
2. Explain the possibility of introducing information technology in the supply chain.
3. The company is planning to outsource the depot operations to a third party. Explain how you will go about outsourcing the outbound logistics activities.
