# INDIAN INSTITUTE OF MATERIALS MANAGEMENT

## Post Graduate Diploma in Materials Management

**Paper 17**

### ADVANCED SUPPLY CHAIN MANAGEMENT

Date: 16.06.2017                                      Max. Marks 100
Time: 2.00 p.m. to 5.00 p.m.                          Duration 3 hours

**Instructions**
1. The question paper is in three partL
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**

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## PART A                    (1 x32 = 32  marks)

### (compulsory)

**Q. 1. Select the correct answer from the multiple choices.**          [ 8 marks ]

i) Which of the following is not a stage in the supply chain?
a) Carrier                               b) Customer
c) Retailer                              d) Manufacturer

ii) Cycle view of supply chain has all of the following except
a) Customer order cycle                  b) Funds management cycle
c) Manufacturing cycle                   d) Procurement cycle

iii) Network configuration involves all of the following except
a) Decision on number of warehouses      b) Location of each warehouse
c) Mode of transport to be used          d) Allocation of space for products

iv) Which of the following is not a supply chain information principle?
a)  Availability                         b) Accuracy
c) Timeliness                            d) Durability

v) Impact of bullwhip effect can be reduced by all except
a) Reducing investment                   b) Reducing uncertainty
c) Reducing variability                  d) Reducing lead time

vi) All are ways to tackle risks in global supply chain except
a)  Speculative strategies               b) Centralization strategies
c) Hedge strategies                      d) Flexible strategies

vii) Which of the following is not an example of intra-firm application?
a) MRP                                   b) ERP
c) SRM                                   d) WMS

viii) All are negotiable instruments except
a)  Promisory note　　　　　　　　　　　　b) Bill of exchange
b)  Cheque　　　　　　　　　　　　　　　　d) Commercial invoice


**Q.2. Fill in the blanks. (Do not reproduce the statement)　　　　　[ 8 marks ]**
a)  The _____ effect is now popularly known as bullwhip effect.
b)  Effective SCM requires _____ among the channel members.
c)  Extern supply chain connects key suppliers and _____.
d)  In make-to-order materials system there is _____ need for inventory deployment and management.
e)  Cross docking warehouses function as inventory _____ points rather than inventory storage points.
f)  Supply chain _____ is the cost of making and delivering products to customers.
g)  The value chain is a _____ approach to examining the development of competitive advantage.
h)  Excise laws allow storage of goods in _____ warehouses under certain conditions.

**Q.3. State True or False　　　　　　　　　　　　　　　　　　　　[ 8 marks ]**
a.  Supply chain takes a system approach and views the channel as a single entity.
b.  Network configuration is an operational decision.
c.  Centralizing inventory reduces both safety stock and average inventory in the system.
d.  Class A items constitute 80% of the inventory items.
e.  In a pull system the firm does not hold any inventory.
f.  Black box is a supplier integration model where the level of integration is formal.
g.  In forward buying the buyer commits to buy at a future date a contracted quantity at a contracted price.
h.  VAT is imposed on goods and services.

**Q.4. Expand the following　　　　　　　　　　　　　　　　　　　　[ 8 marks ]**
a) TCA　　　　b) WTO　　　　c) ABM　　　　d) ATP
e) TPL　　　　f) SQL　　　　g) GPS　　　　h) ONS

# PART B　　　　　　　　　　　　　　48  marks

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


Q.5 .　　a) Explain the cycle view of supply chain.
　　　　　b) Explain in detail what is meant by network configuration.


Q.6.　　　a) How do firms cope up with variability in customer demand?
　　　　　b) Explain in detail how lead time within a supply chain can be reduced.


Q.7.　　　a) What do you understand by pull based and push based supply chain?
　　　　　b) Explain vendor managed inventory.


Q.8.　　　a) What are the dimensions of customer value? How IT helps in enhancing customer value.
　　　　　b) Explain in detail order processing cycle?

Q.9. Write short notes on any four

   a) ABC analysis
   b) Bullwhip effect
   c) Retailer supplier partnerships
   d) Mass customization
   e) Cross docking
   f) Third Party Logistics


# PART C                                                    20 marks

## Q.10 Case Study (compulsory)

Q.10. In 1981, U S textile and apparel producers enjoyed an 80 percent share of their domestic market. Six years later, their share was 60 percent. Protectionist legislation slowed this decline, but profits went into free fall, plunging from $1.9 billion in 1987 to $600 million in 1991.

In 1986, the industry commissioned consultants Kurt Salmon Associates to study supply chains in the US apparel industry. The results were alarming. The supply chains were too long and too poorly coordinated to respond effectively to market place demands. Time to market averaged one and one-quarter years from textile loom to store rack. Industry wide, the cost of this inefficiency was estimated to be $25 billion a year, or about 20 percent of the industry's total sales. The supply chain could not absorb these costs, so they were passed on to the customer- until imports became a threat.

The US industry had to find ways of working if it was to survive. Several pilot studies were commissioned to determine whether pipelines could be shortened by collaboration between retailers, apparel manufacturers, and producers. Among the first to participate in the pilot studies was Milliken & Company, the country's largest textile producer.

Before embarking on the experiment, Milliken's performance was as follows:
. Milliken received incoming orders slowly, by mail.
. Weaving would normally be completed eight weeks after the yarn became available
. Dyeing and finishing took further four to five weeks
. The stock would be forwarded to the central warehouse until required by the customer
. Throughput times were 18 to 20 weeks from receipt of order.
. Keeping the factory operating at a maximum capacity was the overriding priority.

After receiving the finished cloth from Milliken, an apparel manufacturer might require from 18 to 20 weeks to get the clothing to retailer. Retailers, fearing stock outs, regularly ordered more than they needed, increasing their inventory carrying costs and resulting in markdowns of excess stock. If the retailer's inventories got high, they would cut back on purchasing, leaving the apparel manufactures with excess stock. They in turn would cancel fabric orders, leaving Milliken holding unwanted inventory.

In the pilot study, Milliken partnered with Seminol, the apparel manufacturer, and Wal-Mart. Consultants monitored a single product line (basic slacks), measuring the sales and profit improvement achieved by the implementation of quick response. The results showed increased sales of 31 percent and a 30 percent improvement in inventory turns.

This exercise taught Milliken to look beyond its immediate customer – the apparel producer who paid the invoice – and to be responsive to the requirements of the end consumers. If point-of-sale information could be shared between the members long-range forecasting, overstocking, and order

cancellations would no longer be necessary. Milliken began seeking out like-minded supply chain members who were willing to set aside short-term self-interest to create integrated supply chains.

The lessons learned in the apparel industry were used to improve other areas of Milliken's textile business. For example, the company approached one of its customers, a retailer of oriental-style rugs with an offer to manufacture rugs to order by quick response, and ship them by UPS direct to the customer's home. The retailer would have to forward its customer orders to Milliken on a daily basis and keep it fully informed of planned promotional activity. At first the retailer hesitated, but then agreed to accept Milleken's plan. The move allowed the retailer not only to eliminate its entire product inventory, keeping only display items, but also to cut delivery times and costs since the rugs no longer passed through its distribution center.

Questions:

1) What made textile and apparel producers to commission a supply chain study?

2) How the inefficiency of the textile apparel producer's supply chain is evident with Milliken?

3) What was the result of Milliken's pilot study?

4) What are your own conclusions bout increasing efficiency of supply chain based on this case study?.

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