INDIAN INSTITUTE OF MATERIALS MANAGEMENT

JUN-2010 **Post Graduate Diploma in Materials Management**

PAPER - 17

ADVANCED SUPPLY CHAIN MANAGEMENT

Date: 18.6.2010 **Max. Marks 100**

Time: 2.00 pm to 5.00 pm **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**

PART A

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

i) Bullwhip effect is also known as _____ _____.

ii) Efficient production of large quantities of small variety of goods is called _____ _____.

iii) The _____ is a type of information system that facilitates communication within the organization

iv) The process of analyzing data from different perspectives and summarizing it into useful information is _____ _____.

v) A system wherein the incoming shipment is transferred into an outgoing shipment without entering the warehouse is called _____ _____

vi) Aviation fuel pump at air ports is an example of _____ purchase.

vii) _____ _____ has evolved from the concepts of mass production and craft production.

viii) Tax collected by a municipal authority is called _____

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

i) Self certification of supplier is called supplier integration.

ii) Based on the managerial scope of application, IT applications can be classified as ERP, MIS and SCM.

iii) Centralized data management and retrieval is data warehousing.

iv) The applications that reside between the server and the client are collectively called software.

v) Heuristics algorithms are faster than exact algorithms.

vi) Fair price is the lowest price at which an item can be bought.

vii) Rate contract and fixed contracts are the same.

viii) All agreements are contracts but all contracts are not agreements.

Q.3. Expand the following

i) EFT
ii) ATM
iii) RSP
iv) TPS
v) CRM
vi) UPC
vii) PML
viii) RFID

Q.4.Match A and B

	A	B
i)	Risk pooling	a) Stock level decided by supplier
ii)	ABC analysis	b) Delayed differentiation
iii)	VMI	c) Standard for communication
iv)	Postponement	d) Reduces safety stock
v)	EDIFACT	e) Selective inventory control
vi)	Bar code	f) MRP
vii)	BOM	g) ERP
viii)	SAP	h) Auto identification system

PART B

Q. 4. a) What are the basic concepts of supply chain management?
b) How do the different flows contribute to these concepts?

Q.5. a) How firms can cope up with huge variability in customer demand?
b) What is the relationship between service and inventory levels?

Q.6. a) What is third party logistics? Why third party logistics is growing so rapidly?
b) What is vendor managed inventory?

Q.7. What are the various elements involved in the process of supply chain integration?

Q.8. Write short notes any four

a) Procurement cycle
b) Internal supply chain
c) E-Commerce
d) Total Cost of Ownership
e) RFID

PART C
Case study

Two years ago, Toyota Motor Sales USA, Inc. decided that US distribution network was due for tune-up. The three-decade-old system of warehouses had been established at a time when the Japanese automaker source most of its parts from overseas to serve a small

network of US dealership; but that scenario changed in the ‘90s when Toyota shifted more of its business to North American parts suppliers and its dealership network exploded.

Under the existing system, the Torrance, California based company has been providing after-sales support to 1200 car dealerships, 200 Lexus luxury car dealers, and 100 forklift dealers via a two-tiered system. The first tier consists of two large distribution centres (DCs) - one in Ontario, California; the other in Hebron, Kentucky. Those two sites, in turn, feed parts to nine smaller sites located around the country.-in Los Angeles; San Francisco, Portland, Oregon, Kansa City, Missouri, New York, Cincinnati, Baltimore Chicago and Boston. The company also operates a facility strictly for Lexus parts in Jack-Sonville, Florida.

Toyota had not undertaken a strategic network analysis since 1978; but its operation has changed significantly since that time. For starters, its customer base has grown. It also sources differently today, bringing in 55 percent of its parts from North American suppliers rather than from Japan. Finally, in addition to supporting its Toyota models, the company has added parts distribution for its Lexus line of luxury automobiles, which were first introduced in 1989. “The decision to go through with a network analysis /simulation was strategic.” says Susan Dexter, a business process change at Toyota who oversaw the project. “We wanted to be proactive and make sure that we could continue our high levels of customer service in light of our projected growth over the next there to five years. “

But what could be the optimal network for an organization that moves more than 8 million parts and accessories around the country each month? To answer that question, Toyota turns to computer modeling, using network simulation software, the automaker decided it would first examine the distribution network used for its Lexus division and then look at the entire network. “We wanted to do a Comprehensive study of our DCs to see if they were in the right place to meet the dealer’s needs.” says Dexter. “Our objective was to develop a parts logistics network to support business growth and maximize customer satisfaction.” She adds. “If we could save a few dollars, that would be great too.”

The results of the software modeling revealed that Toyota could improve customer service to dealers while cutting costs by opening a new DC. Despite the start-up costs, the study showed, the new Dc that would strictly handle Lexus parts would quickly pay for itself by eliminating the need for premium-priced expedited transportation and also alleviate overcrowding at an existing DC. On top of that, the model indicated that customer service could be improved with faster delivery.

Questions

1) What is meant by logistics network configuration? How Toyota Inc carried out their logistics network configuration?
2) Why is it important for an organization to review its logistics network design periodically?