

PGDM IB, 2015-17
Inventory & Logistics Management
RM 201
Trimester –II, End-Term Examination: December 2015

Time allowed: 2 hrs 30 min

Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. In case of rough work please use answer sheet.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	$3 \times 5 = 15$
B	2 out of 3 (Long Questions)	10 Marks each	$2 \times 10 = 20$
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

Section A

Q1. What factors should management consider when determining a target service level?

Q2. List and describe the functions of a warehouse and the value added activities carried out in a warehouse to justify its existence?

Q3. "The logistics management task is initially concerned with managing the components of the 'logistics mix'? Discuss?

Q4. A supplier supplies 40 furniture units to Evok, Home @, Furniture bazaar and few other retailers on each working day. Presently he is purchasing furniture in a lot of 200 at a cost of Rs. 60000 per lot. Every order he incurs a handling charge of Rs.1500 and freight charge of Rs.2500 per order. Multiple and fractional lot can also be ordered. All orders are supplied the next day. The supplier finances investment in inventory by paying 2% monthly interest on borrowed funds. Incremental storage cost per furniture unit is Rs.8.

- i. How many furniture unit should be ordered at a time to minimize the total annual inventory cost assuming that there 300 working days in a year?
- ii. How frequently should ordered be placed?

Q5. What is the difference between a "Full" and "Less-than" container load? In Indian business scenario which you will consider as better option and why?

Section B

Q1.

A. The ABC concept puts emphasis on the fact that every item of inventory is critical and has the potential of affecting, adversely, purchase, production, or sales to retail or operations. The categorization helps in better control on A and B items?

1. Discuss inventory policy under ABC system for managing retail business?
 2. With the view to further lean the store for its effective management what measures should be used for improving SKU productivity and contribution?
- B. In the light of the material handling and storage guidelines briefly outline the system as recommended by you for material handling of perishable products in temperature controlled warehouses?

Q2.

A. Consider a supply consisting of a single manufacturing facility, a cross dock and two retail outlets. Items are shipped from the manufacturing facility to the cross dock facility and from there to the retail outlets. Let L_1 be the lead time from the factory to the cross dock facility and L_2 be the lead time from the cross dock facility to each retail outlet.

Let $L = L_1 + L_2$. In the analysis given below, we fix L and vary L_1 & L_2 .

a. Compare the amount of safety stock in the two systems, one in which lead time from cross dock facility to retail outlet is zero (i.e. $L_1 = L$ and $L_2 = 0$) and a second system in which lead time from the factory to the cross dock facility is equal to zero (i.e. $L_1 = 0$ and $L_2 = L$). And give reason as to why we should keep the determined level of safety stock.

b. To reduce the safety stock, should the cross dock facility be closer to the factory or the retail outlets? For this purpose, analyze the impact of increasing L_1 , and therefore decreasing L_2 , on total safety stock.

B. "The perception of the container as a transport unit must be expanded to consider the container as a supply or commodity chain unit as well"-elaborate the statement? Also throw some light on the unique features on containers as per ISO/ IMO norms?

Q3. The use of mechanical handling equipment is almost indispensable in a modern warehouse. Identify any four types of mechanical handling equipments commonly used in warehouse operations and explain how these equipments enhance storage space utilization and operation efficiency. Illustrate your answer with the aid of diagrams where necessary?

Section C

(ADS) Audio Duplication Services is a compact disc and cassette duplication and distribution company. Its major customers, the big record companies, use ADS to duplicate and distribute CDs and cassettes. ADS stores the master tapes and, when a customer requests it, makes a certain number of copies and delivers them to its customers' customers, music stores and other points of sale such as the department stores Wal-Mart and Kmart and electronics stores such as Circuit City and Best Buy. ADS is one of six big players in the audio duplication market. ADS has about 20 percent of the \$5 billion market, while its two biggest competitors share another 40 percent. Managers at ADS are currently trying to understand and react to some difficult supply chain-related issues.

Some of the big national retailers are putting pressure on ADS's customers, the record companies, to manage inventory in the following way, known as a vendor-managed inventory, or VMI agreement. The record companies will be put in charge of deciding how much of each album, CD, and cassette title is delivered to each store and when each delivery is made. To help with these decisions, the record companies will be provided with continuously updated point-of-sale (POS) data from each of the stores. Also, the record companies will own the inventory until it is sold, at which point payment will be transferred from the retailers to the record companies. Since ADS provides the record companies with duplication and distribution services, the record companies have asked ADS to help with the logistics of the VMI agreement.

In the past, ADS has shipped to the distribution centers of large national retailers, and the retailers have arranged for distribution to the individual stores. Now, the retailers are providing strong incentives to ship directly to individual stores. Of course, this means higher expenses for ADS.

In general, ADS's shipping costs are increasing. Currently, ADS has a shipping manager who arranges with different shippers to make deliveries on a shipment-by-shipment basis. Perhaps there is a better way to manage these deliveries, either by purchasing a fleet of trucks and doing the shipping in house or by outsourcing the entire shipping function to a third party. Maybe something between these two extremes will be best.

Of course, ADS is facing even bigger issues, such as the future of the audio duplication industry as online audio distribution technologies become more prevalent. In any event, each record company periodically reviews its contract with its audio duplication service, so management must address each of the above issues effectively for the company to remain successful.

QUESTIONS

1. Why are ADS's customers' customers moving toward VMI arrangements?
2. How will this impact ADS's business? How can ADS management take advantage of this situation?
3. How should ADS manage logistics?
4. Why are the large national retailers moving toward a direct shipment model?