PGDM (IB), 2013-15

Inventory & Logistics Management

RM-305

Trimester –III, End-Term Examination: April 2014

Time allowed: 2.5 Hours **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*5 = 15
B	2 out of 3 (Long Questions)	10 Marks each	3*10 = 20
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

SECTION A

Q1. The single stage- economic lot size model depicts "Total inventory cost is insensitive to order quantities, i.e. change on order quantities have a relatively small impact on annual setup costs and inventory handling costs". Discuss?

Q2. "Goods can be transported either as Bulk cargo, Break-bulk cargo or Unitized cargo" – discuss the three transportation synonymies?

Q3. "A gap still exists between what the retailer perceives as shopper-centric and what the manufacturer sees. Both stakeholders have the shopper at the heart of their planning processes, but the retailer thinks in terms of stores and categories while the manufacturer focuses on brands. As a result of these different mindsets, retailers and manufacturers often operate in silos"- Discuss the integrated role of retail logistics in bringing manufacturers and retailers together with the need to deliver the right assortment for the right shopper at the right time?

Q4. Records show that the demand for dishwasher detergent during the lead time is normally distributed, with an average of 250 boxes and demand (σ) = 22. What safety stock should be carried for a 99 percent cycle-service level? What is R, when lead time is 1 week (z at 99% service level is 2.33)?

Q5. Differentiate between FCL & LCL. And also discuss how they are used in managing multimodal transportation system?

SECTION B

Q1. "Just carry enough inventories so we never walk a customer." "Add a couple weeks of supply to the inventory at each store to make sure we don't run out of stock and lose sales." Are these statements familiar to you? They tend to be standard rhetoric for most retailers. However, carrying the same amount of safety stock for all items is an extremely costly and inefficient approach to inventory management. Establishing a service level goal strategy can prove to be one of the most profitable decisions successful retailers make" – Discuss this statement in light of establishing 360 degree inventory management strategy?

Q2. The process for designing a transportation network includes the following steps:-Facility strategy selection (direct shipment, CDC or cross-docking),Selection of transportation mode of transport, Carrier owner selection (owning, outsourcing, 3PL or, 4PL), Planning and execution methodology.? Discuss ?

Q3.

1. A local cell-phone distributor at Delhi deals with a popular Chinese brand called walkyphone. The normal lead time taken by the supplier of walkyphone is 12 days. The normal consumption of inventory during the lead time is 400 units per day. There are 10 inventory cycles per year. The CC is re.1 per unit per year. The stock out cost is Rs.2.00 per unit short. Mr. Teja the sales man gives you a demand pattern of cellphone (based on his past 100 observations) find the optimum level of safety stock for walkyphone.

Consumption during lead time (units)	*Probability*
1000	.01
2000	.03
3000	.07
4000	.14
5000	.61
6000	.04
7000	.07
8000	.03
	1.00

2. Consider the case of Digiworld the distributor and owner of retail chain stores of white-line goods in NCR which orders from manufacturer and sells to retailers also. Digiworld is trying to evolve inventory model for its whirlpool chain of refrigerators. Its cost of placing order comes to Rs. 40000 which is independent of its order size. The average cost of refrigerators to distributors is Rs. 15000 and annual inventory cost holding cost is about 15% of the product cost. Replenishment time is about 4 weeks. We are providing the sales data for refrigerators sold to retailers in each of last 12 months, ensuring 97% service level. Please set the ROL and Ordered quantity they must order.

Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug
210	252	180	220	187	260	251	298	196	209	198	256

[z 1.88 at 90% service level] Calculator can be used.

SECTION C

In 2008, Xenia was the leading producer of phone's worldwide. The company took pride in its marketing, product innovation, and assembly excellence. By 2011, Xenia's Asian competitor was selling its phone's for what it cost Xenia to produce comparable units. At that time, Xenia engineers designed virtually all of Xenia's components that were then purchased from one or more of the firm's 4,000 suppliers. Widespread competition was used to obtain the best price. The selected supplier built to Xenia drawings and specifications.

Management at Xenia responded to the competitive threat. The corporation's strategy shifted to a new set of core competencies: Marketing, product innovation, assembly, and supply management & Logistics management. Over a period of three years, Xenia reduced its supply base from 4,000 to 400 suppliers. Xenia worked with these suppliers to bring them to word-class status. These suppliers became involved in the development of Xenia's new transducers.

The result? Cost of goods sold was reduced 50 percent. Incoming quality problems virtually disappeared. The time required to move a new product from concept to customer was reduced 45 percent. Production lead times were reduced 65 percent. All of these results were achieved in only three years!

Q1. Give your view as to whether the change designed in the supplier base of the company according to you is a welcome effort or wrong decision on the part of company?
Q2. Appraise the corporation's strategy shift to a new set of core competencies i.e. marketing, product innovation, assembly, and supply management & Logistics management?
Q3. Suggest whether implementation of SRM/VRM strategy could have been better alternative against the suggestive changes made by the corporation in its set of core competencies? What according to you works as the best SRM/VRM strategy in this case?