

PGDM (RM), 2014-16
Inventory and Logistics Management
RM-305
Trimester –III, End-Term Examination: April 2015

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. "A full container load is one that has reached the maximum allowed weight of product inside the container. In practice, FCL loads may not always mean a full container. An FCL always describes a load expressly for one shipper; the shipper may reserve one FCL but not completely fill the container". Differentiate between FCL and LCL?

Q2. Indeed, in conducting benchmarking surveys of retail DCs, we've discovered that many metrics, such as orders processed per full-time warehouse worker, have remained flat, while dollars of sales processed per warehouse square foot have declined. In turn, labor rates have increased from an average of \$5.50 to \$10.50 per direct labor hour. To help you boost productivity at your catalog, identify and freeze key warehouse (DC) success factors?

Q3. A local chocolate distributor at Ghaziabad deals with a popular brand called Chocó stick. The normal lead time taken by the supplier of choc stick is 10 days. The normal consumption of inventory during the lead time is 500 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. per unit short. Mr. Ram the sales man gives you a consumption pattern of choc stick (based on his past 100 observations) Find the optimum level of safety stock for choc stick.

DDLT (units)	Probability	DDLT (units)	Probability
1000	.01	5000	.61
2000	.03	6000	.04
3000	.07	7000	.07
4000	.14	8000	.03
			1.0

Q4. Assume that, you are a company already working under MTS (make to stock) scenario. You are thinking of diversifying into retail business in white line goods industry, and as the first step you want to start with Refrigerator, Air conditioner, and Defreeze refrigerator line. Please outline the various tradeoffs that occur when you layout the transport & warehouse strategy?

Q5. The purchasing agent for a company that assembles and sells air-conditioning equipments in lower part of Indian sub continent has noted that the cost of compressor has increased significantly each time they have reordered. The company uses an EOQ model to determine order size. What are the implications of this price escalation with respect to order size? What factors other than price must be taken into consideration?

SECTION B

Q1.

- A. (i) For each of the following products that you purchase or use, identify the ordering system(s) that you employ and state what factor or factors guide your decision. Shampoo, News paper, mobile phone, Formal dress.
 (ii) For each of the above mentioned product, please specify the inventory policy & ordering system considering you as an upcoming organized retail outlet.
- B. As a supermarket manager, how would you go about evaluating the criticalness of an inventory shortage?

Q2.

A. The following table contains figure on the monthly volume and unit costs for a random sample of 16 itmes from a list of 2000 inventory item at a Helath care retail outlet.

Item code	Unit cost(Rs)	Usage	Item code	Unit cost(Rs)	Usage
K34	10	200	F95	30	800
K35	25	600	F99	20	60
K36	36	150	D45	10	550
M10	16	25	D48	12	90
M20	20	80	D52	15	110
Z45	80	200	D57	40	120
F14	20	300	N08	30	40
P05	16	500	P09	10	30

Develop an A-B-C classification for these items. How could the manger use this information. After reviwening your classification scheme suppose the manager decides to place item P05 into the A category. What are some possible explanation for this decision?

- B. M/s Shivan & Narresh is an upcoming apparel brand and run their works for 6 days a week for 49 weeks a year. Printed/bleached/dyed cloth is delivered to them directly with a charge of Rs. 7.50 for each delivery. S & N uses average of 10 meters of cloth a day for which they pay Rs. 12 a meter. They have an overdraft with bank which cost 12 percent a year, with spillage shortage, loss and insurance costing 6.75 percent a year.
- What size of delivery should S & N use and what is the resulting cost?
 - How much S & N should order if cloth can be put on shelve for not more than 2 weeks in any how situation?
 - How much S & N should order if the bank imposes a maximum order value of Rs. 1500.
 - If the mill only delivers on Monday, how much S & N order and how often.

Q3.

- A. 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 each step in detail, considering you as a manager of a growing retail company in multi-brand apparels business.

- B. Discuss using hypothetical scenario & data the difference between SKU productivity, contribution and rationalization using different formulas and their inference in retail decision management?

SECTION C

Over 40% of the companies plan to outsource more software from third party logistics providers (3PLs) over the next five years according to "Beyond Software: maximizing value Via Outsourcing" a new strategic report developed by ARC Advisory group and Supply Chain Technology News. Outsourcing is becoming the preferred choice for many companies, as evidence by the strong growth of 3PLs and increasing number of solution vendors that are offering hosted solution.

Major companies such as Ford Motors, P&G, DuPont, Amazon, Wal-Mart & GE are all outsourcing various logistics related tasks from transportation management to global trade management to fleet management. In the case of Ford, for instance the automaker uses a 3PL to manage its import and export trade processes throughout US and Part Europe.

ARC and SCTN conducted a survey of manufacturers and retailers to better understand their perspective of this emerging trend.

"Since software is generally coupled with specific business processes, it's not surprising that companies are expecting 3PLs to provide a certain level of IT sophistication" explain ARC analyst Adrian Gonzalez author of the report. " Hence technology is becoming a competitive differentiator of 3PLs especially for small and midsize player that want to level the playing field with the big boys. Technology also enables 3PLs to scale their operations without incurring additional overhead, assets and other costs. Simply stated it allows them to do more with less".

Key findings of the report indicate that:

- ❖ Large companies are more inclined to outsource than smaller ones, but both want to maintain some level of control, particularly for solutions/business process that directly impact customer and supplier relationship.
- ❖ When companies decide to outsource, they generally prefer to bundle the technology with managed services, primarily from a 3PL (as opposed to a software vendor).
- ❖ If a company decides to outsource just the technology a software vendor is preferred over a 3PL.

Q1. Why do you think that large companies are more inclined to outsource than smaller ones?

Q2. How important is outsourcing to 3PL in retail business? Discuss what logistics functions in retail business should be outsourced to 3PL integrators?

Q3. How important is technology in the 3PL decision? Why do you think this is?