



CII Institute of Logistics
PGDSCM & Certificate Programs
Semester-end Examination – June 2010

Warehouse and Inventory Management

Time : Three Hours

Marks : 100

Part A

Answer all questions

(10 x 1 = 10 Marks)

1. Inspection is involved in which activity:
 - a) Cross - Docking
 - b) Receiving
 - c) Picking
 - d) Storing
2. Assigning of materials in warehouse is based on
 - a) ABC
 - b) FSN
 - c) HML
 - d) VED
3. The size of raw material inventory is dependent on all of these, expect
 - a) Lead time
 - b) Annual Consumption
 - c) Discounts
 - d) Criticality of the material
4. Random Location is used for
 - a) Reserve storage
 - b) Popularity storage
 - c) Liquid storage
 - d) Bulk storage
5. Warehouse are also referred as
 - a) Stores
 - b) Stand alone activity
 - c) Distribution centers
 - d) Logistics Center
6. Which is not part of Inventory of an organization?
 - a) MRO inventory

- b) Stock owned by customer
- c) WIP inventory
- d) Stock at warehouses

7. Dependant demand system can be said as
 - a) Push system
 - b) High Inventory level system
 - c) Pull System
 - d) Periodic ordering system
8. EOQ is arrived at by balancing
 - a) Inventory holding cost and warehousing cost
 - b) Cost of storage and cost of distribution
 - c) Inventory holding cost and distribution cost
 - d) Inventory holding cost and total material cost
9. If inventory is represented by I, Flow time by T, and throughput by D, then three can be related using Little law for throughput as:
 - a) $I = D + T$
 - b) $I = DT$
 - c) $D = IT$
 - d) $D = I/T$
10. The least important factor affecting the number of warehouses:
 - a) Inventory Costs
 - b) Profit per unit product
 - c) Transportation costs
 - d) Maintenance of customer service levels

Part B

Answer any four

Marks: 4 x 15 =60

1. What are the types of warehouses? Give the Advantages and Disadvantages of each
2. Differentiate in detail the Dependent and Independent demand systems
3. Write detailed notes on Materials Handling equipments – Types and applications.
4. Describe the role of Inventory in supply chain? How that can be minimized?
5. Explain the Inventory management in Multi Echelon systems

6. Write short notes on any three:
- Factors that add to Inventory costs
 - Advantages of Bar coding and RFID
 - AS/RS or AGV
 - Cross Docking

Part C

Case Study

Marks: 4 x 15 = 60

Maruti started its operation in 1982 at Delhi. It was producing 3,000 cars per month. The total number of components in a car is 8,000. In order to take advantage of local talents and spreading industrial culture Maruti set up Joint Ventures for Auto Components. It was one of the first companies to set up JVs with 12 companies for manufacturing its critical components.

Maruti since beginning concentrated on its Material Management activities with the experience of its collaborator Suzuki of Japan. As is clear from the above, large quantities of materials flow every day and presently the dispatches of cars are also huge to the tune of 1,200 cars per day. That means to say that 1200 x 8000 parts will be dealt with every day, i.e. 96 lakhs of parts will go into the assembly of cars.

Number of part also procured sub-contracting, ancillary units and individual manufacturers. In order to reduce cost on Transportation etc, JIT is followed. Numbers of components are brought to the factory by pooling supplies of various vendors of one area in a truck (called Milk Run). Other critical suppliers have to arrange their own transportation. 70% components are supplier guaranteed & 30% critical components are thoroughly inspected

Average Inventory is

Imported Components: 18 Days

Domestic Components: 1.5 Days

Steel : 45 Days

Maruti entered into long time contracts with transporters for to & fro movement of materials and products from Delhi Air Port and Kandla Port. Replenishment from JV companies situated nearby is on two hourly basis and around Delhi on ½ day to one day basis. From far distances also materials are received on daily basis while 3 to 6 days buffer stock is kept. There are around 350 suppliers of components and 250 dealers of cars.

Questions:

- What do you think of the Inventory policy of Maruti?
- What type of warehouse will you suggest for their requirements?
- How Maruti can reduce:
 - Ordering cost
 - Transportation cost
 - Quality control cost

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