



## CII Institute of Logistics

Post Graduate Diploma in Supply Chain Management  
Semester-end Examination June 2008

### WAREHOUSING & INVENTORY MANAGEMENT

Time : Three Hours

Marks : 100

#### Part A

*Answer all questions (10 x 1 = 10 Marks)*

- Functions of the warehouse are
  - Put away.
  - Cross-docking
  - Replenishing
  - Receiving
  - All the above.
- List the four types Inventory?
- Various level of stocks are
  - Deficiency level
  - Exhaust bin level
  - Buffer stock
  - Danger warning Level
- JIT focuses on minimizing the holding costs of stock. (True/False)
- Purest form of cross-docking is the action of unloading materials from an incoming trailer or rail car and immediately loading these materials in outbound trailers or rail cars thus eliminating the need for warehousing. (True/False).
- Pareto's law is the process of dividing items in to three classes according to their dollar usage so that managers can focus on items that have the highest dollar value. (True/Value)
- List the types of conveyors.
- MRP I refers to

- Manufacturing requirements planning
  - Materials resource planning.
  - Manufacturing Resource planning
  - Material requirement planning.
- In RFID, you can write additional or replacement information to a tag at any stage in the supply chain. (True/False)
  - involves bringing together similar stocks from similar sources.
    - Bulk-breaking
    - Assorting
    - Accumulating
    - Sorting

#### Part B

*Answer any three (3 x 15 = 45)*

- Explain the methods of controlling stock levels?
- Explain the role of warehouse and inventory management in SCM?
- What are the advantages and disadvantages of RFID technology over barcode technology.
- Define the following:
  - Cross docking
  - Adjustable Pallet Racking
  - Multi-echelon inventory system
  - WIP Inventory
  - ABC Inventory control
- Explain any five logics used in determining actual location and sequences.

## Part C

### Case Study (3 x 15 = 45)

#### Warehouse Expansion Case

Coconis Furniture and its affiliated company Coconis Carpet in South Zanesville Ohio continue to grow. The operation is managed by third generation owners Randy and Paul "Jr" Coconis. Randy's son Chad is now the furniture store manager. Responsibility wise, Randy focuses on furniture and Jr focuses on carpet.

Since FURNITURE WORLD Magazine reported on Coconis Furniture in 1995, the facility was expanded to include a carpet showroom. Additional growth, later provided an opportunity to relocate carpet sales to a new stand-alone location a mile from the main store.

#### PRE EXPANSION PLANNING

When the latest round of expansion planning started, Coconis operated 45,000 square feet of furniture showroom space supported by 24,000 square feet of a combination of low bay and 28 clear height warehouse space. Space had become excessively tight for every operations function from warehouse to administration. A Problem with insufficient parking was alleviated during this period by working with the community to relocate a fire station and municipal offices.

To take the business to the next level, Randy recognized that management, the organization, as well as facilities, needed to be addressed. It was especially important to maximize efficiency before new warehouse facilities were constructed and during the transition. Since Coconis' sales manager Les McMorrow, had prior solid operations experience in another industry, he was made operations manager. Even in the tight working conditions before expansion, warehouse operations, delivery quality and morale improved and employee turnover was reduced under Les' leadership.

Employee morale and teamwork were also enhanced during this period through the establishment of a profit-sharing program with quarterly payouts. This change made employees stakeholders with an incentive to do it right the first time. It solidified the realization that mistakes and damage not only affect the store's bottom line but also each employee's paycheck.

#### THE EXPANSION

Property for a new operations facility became available across the street from Coconis' store and was acquired in early 2004. At that time, facility planning moved

into high gear and resulted in a 30,000 foot facility constructed of pre-cast insulated concrete panels with an exposed aggregate finish. The storage area is 38 feet clear height while receiving and shipping docks are 24 feet clear height. A two story administrative core provides for warehouse and delivery, service, inventory control, accounts payable, manager offices, break room, conference room and an exercise room. The shop is located on the first floor of the administrative core.

Lighting is state of the art energy saving fluorescents, supplemented with skylights. Sensors activate lights when someone enters the zone and turn them off after a set time. Lighting throughout the dock and shop area is color corrected and provides optimal visibility for the furniture inspection process. The new facility is heated by gas-tube radiant units that efficiently warm objects, not the air.

The expansive docks now have 80 feet of staging for receiving and delivery. Bar coding is used throughout and the in-line prep process provides for high efficiency and ease of packaging disposal. Racking systems are a combination of conventional and cantilever to handle the entire range of products.

The new distribution facility opened in May 2005. Currently, 20,000 square feet of previous warehouse space is in transition to showroom space. Lisa Elkins of InteriorScapes created a design that provides new sight lines and updates the overall open feel with interesting details, a children's area and a cafe. The store's exterior will also be updated.

The "new" Coconis Furniture will have 65,000 square feet of showroom supported by effective staff and facilities to reinforce their destination store status. Additional product selection and immediate delivery for more items will please existing customers and draw customers from longer distances. The new distribution center will also support additional locations.

Reflecting on the whole process, Randy said it would have been a disaster had they opened another location before addressing operations issues. The opportunity was there, but additional load on warehouse and delivery would have been devastating to merchandise flow and negatively affect the Coconis reputation carefully developed over four generations.

#### QUESTIONS:

1. What are the problems which can arise while relocating warehouses?
2. Justify the need for planning when an organization grows?
3. What are the operational factors which contributed for improving efficiency?

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