

DEC-2009

INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Materials Management
Graduate Diploma in Materials Management
Paper – 10
INVENTORY MANAGEMENT

Date: 8.12.2009

Time: 10.00 am to 1.00 pm.

Max Marks: 100

Duration: 3 hours

Instructions:

1. The question paper is in three parts.
 2. Part A is compulsory. Each question carries one mark
 3. In part B answers 3 questions out of 5. Each question carries 16 marks.
 4. Part C is a case study with sub questions and it is **compulsory**. It carries 20 marks
 5. Use of calculator is allowed wherever necessary.
 6. Graph sheet can be used wherever necessary.
-

PART –A

Q.1. State true or false

Marks: 08

- 1.1 Inventory Management is the part of Supply Chain Management.
- 1.2 Predicting the future is not important in material management.
- 1.3 Traceability is the ability to follow the origin.
- 1.4 MRP is not time-phased priority planning system.
- 1.5 Stock verification is not important activity in store.
- 1.6 Two-Bin system reduces the clerical work.
- 1.7 ABC Model is an inventory model.
- 1.8 In inventory management, cost of product plays important role.

Q.2 Fill in the blanks

Marks: 08

- 2.1) Make or buy decision must be taken after through “Techno ----- Analysis.
- 2.2) The Grass ----- method of forecasting is the simplest method.
- 2.3) -----is a very simple yet powerful tool to calculate various lot sizes in ideal situation.
- 2.4) ----- inventory system should be optimum, which is essential in achieving the first stage of the cost reduction process.
- 2.5) PPC group should be given the total responsibility for controlling ----- inventories.
- 2.6) Locating the ----- nearest to customer with a view to maximum customer service levels.
- 2.7) The ----- was developed by the Rand Corporation in the 1950s.
- 2.8) ----- is the system and processes of maintaining the appropriate level of

stock in a warehouse.

Q.3 Expand the following:

Marks:08

- 3.1) EOQ
- 3.2) MRP
- 3.3) PPC
- 3.4) LTO

- 3.5) LTM
- 3.6) ICS
- 3.7) ABC
- 3.8) KU

Q.4 Match A and B

Marks:08

A

B

Forecasting Techniques	Buffer in manufacturing
Work in progress	Historical Analogy Method
Periodic Review System	S-s system
Master Production Schedule	Semi finished Product
WIP	Over all plan of Production
VMI	Shortening of supply chain
EOQ	Order paid but not received
Goods in Transit	Lot size calculation

PART B

Q.5 What are the different types of inventories? Explain

Marks: 16

Q.6 What is forecasting? Why is it done and what are its uses? List some considerations that should be taken into account while forecasting.

Marks: 16

Q.7 a) What is the purpose of MRP?

Marks: 08

b) What are the factors which influence the stocking of finished goods inventories?

Marks: 08

Q.8 Explain the various methods of inventory valuation?

Marks: 16

Q.9 **Write short notes**

Marks: 4 x 4

a) ABC Analysis

b) EOQ

c) Objective of Inventory Control

d) Warehouse

PART C

Case study

The political climate all over the world has changed during the past five years. The economic recession in Europe over the last few years has brought about a feeling of insecurity regarding social welfare, pensions, job security, and health care. This means that today's consumers are saving more than they are spending and that price has become the most important buying issue. The result has been a price war in the retail business - especially violent in the case of textile products. As people try to save money, their shopping pattern has changed and discount supermarkets have captured a relatively large share of the textiles market. The greatest challenge facing Karstadt Warenhaus is that the department stores are losing market shares because customers prefer low-priced, discount products and increasingly purchase their clothes at discount stores. The recession in the economy is expected to continue for some years. This will increase pressure on the department stores vis-à-vis the discount shops. The solution to these challenges is for Karstadt Warenhaus to optimize its international operations and business practices and to become more efficient in all process phases from buying to selling. One of the ways to achieve this is to optimize its global supply chain. The employees have been informed about the company's plans and actions through Intranet, lectures, and emails, and have also been informed by the Supervisory Board. Karstadt Warenhaus wanted to maintain the existing level of shares in the market over the next five years.

Each branch of Karstadt Warenhaus has one department which manages the sales functions and one which manages purchasing. Karstadt buys textiles either from importers or directly from manufacturers in Europe and the Far East. The development of the system is seen as a response to market demand.

Karstadt Warenhaus developed better planning and buying strategies and procedures in order to reduce stocks and to react more rapidly to trends. There is no plan to change the location for the main activities, which will remain in Germany.

Karstadt Warenhaus's supplier relations are mainly based on long-term and strategic considerations. The main office took the responsibility of supplier relations, and the centralized purchasing department made responsible for negotiating procurement terms. The increasing popularity of Internet auctions, however, means that the establishment of a buyer-seller relationship occurs much more rapidly than previously and the duration of such a relationship is shorter. Karstadt Warenhaus has developed strong partnership relations with brand suppliers. These partnerships include data sharing, for example, as an aid to production planning.

In Karstadt Quelle's over-the-counter retail business segment, the number of employees has decreased by 5,741 from 2001 to 2002 and the number is expected to decline further during the next couple of years. Many employees work full time and some work part time; quite a few employees are hired on a temporary basis for jobs such as stocking shelves. It is expected that there will be a greater number of part-time jobs in the future. Part of employee training will be conducted online as e-learning exercises in everyday processes. Beyond this, the participants of the optimization process are expected to learn to use the optimization methods via on-the-job training. The company does expect change in the staff skills profile due to the optimization process.

Salary structures are tied to job roles and to individual performance. The company has designed specialised job functions based on sales processes and has introduced a graded wage system with lower salary levels for the staff responsible for sales support functions such as stocking shelves.

Employees of Karstadt Warenhaus are unionised. Union representatives are encouraged to participate in steering committees of the optimization process and this resulted in reducing the change resistance from the employees.

Karstadt Warenhaus holds introductory programmes and in-house training programmes for trainees and for buyers and sales personnel. In the main office, different courses are held simultaneously: for example, buyers are offered language courses in both English and French. Introductory training differs according to the-employee's educational level. An employee without a university diploma starts with a sales training programme. An employee with a diploma starts in a management trainee programme which contains an introduction to the processes in the department stores and in the main office. Afterwards the trainees become store managers or they get to work in head office. It is common for employees to start "at the bottom" and work their way up. The education and qualification system is mainly organised at a decentralised level in the departments. There are, however, specific training demands for young managers. Some of the training is "on the job" while the rest comprises instructions based on individual needs. The increased use of technology has affected both the contents of the formal training programmes and the way these are carried out. Today, Karstadt Warenhaus has an Internet-based learning platform which can be accessed from work place by employees in the buying and sales departments. The platform is considered a success with a growing potential, and it is also used for training employees in the optimization process. Preparations for the implementation of the optimization methods are already underway with courses on the learning platform. The number of such courses will be increased in the year to come.

Karstadt Warenhaus carried out research into the transportation market focused on economic issues, and on developments in supply and demand in different markets. Buying officers and regional source managers carry out product market research. Operating at a regional level, they make up a world-wide department. Karstadt Warenhaus has managers who monitor the market and state of the art regarding product development. Karstadt's Board is working on new business models.

1. Explain briefly the effect of the economic recession on the European economy and its challenge for Karstadt Warenhaus. **Marks-05**
2. Discuss the training programmes conducted by Karstadt. **Marks-05**
3. Besides training programs, what are the various initiatives taken by Karstadt as a move towards supply chain optimization process with respect to international operations? **Marks-10**