INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management

Graduate Diploma in Materials Management

Dec 2013

PAPER No. 10

INVENTORY MANAGEMENT

Date : 19.12.2013 **Max. Marks :100**

Time : 10.00a.m. to 1.00 p.m. **Duration : 3 Hrs.**

Instructions:

1. The question paper is in three parts A, B & C.
2. Part A is compulsory. Each question carries one mark. Total : 32 Marks
3. In Part B, answer 3 questions out of 5. Each question carries 16 marks.Total : 48 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 sheets can be used wherever necessary.

Part – A (compulsory) **32 marks**

(Attempt all questions each question carries 1 mark)

Q1. **State TRUE or FALSE – 1 Mark each (8 Marks)**

1. The quantity that makes purchasing and storage cost equal is Economic order quantity
2. Safety stock is not dependent on lead time and / or consumption pattern
3. Time series analysis is the method used to predict future demand based on past data
4. Stock situation is monitored after every transaction in a perpetual review system
5. Bill of materials (BOM) is one of the inputs for the MRP
6. One of the principles in material handling is the Standardization principle
7. A good warehousing layout will increase the cost of storage
8. Moderate volumes of demand require assembly / line kind of manufacture

Q2**. Fill in the Blanks – 1 Mark each (8 Marks)**

1. All costs associated with the purchase of materials is called as _____
2. _____ classification is based on the consumption value of the item
3. _____ and _____ are the parameters used to calculate safety stock
4. _____ and _____ are two broad techniques of forecasting
5. _____ is the method used for the valuation of inventory with the trend of falling prices
6. _____ inventory must be fully controlled by production planning and control
7. The objective of all MRP systems is to determine the _____
8. _____ analysis is based on the stock value of the items

Q3. **A. Expand the following abbreviations (1 mark each) - 8 Marks**

1. ASRS 2. SMI 3. MSDS 4. JIT 5. EOQ 6. MRP 7. ERP 8. MPS

Q4. Match the following in column A with those in column B - 1 Mark each (8 Marks)

A	B
1. Master Production Schedule	A. Fixed time ordering system
2. Material handling system	B. Hazardous materials
3. Automatic guide vehicle	C. Material Requirement Planning
4. ABC analysis	D. Inventory valuation
5. P System	E. Dead weight principle
6. MSDS	F. Container
7. Weighted average price	G. Selective inventory control
8. Unit load	H. Warehouse

PART - B

Write any three (3) of the following questions – 16 marks each (48 Marks)

Q5. What are the factors that determine the level of spare parts inventory?

Q6. What are the control measures that help in keeping Finished Goods under control?

Q7. What are the various ways in which inventory can be classified? Explain each of them

Q8. What are the principles of material handling? Explain each of them.

Q9. What is the need for forecasting? What are the various types of forecast? Explain each.

PART – C

Q. 10 compulsory (20 marks)

M/s LKJ is a company engaged in the manufacture of components required for computers. The following data is available from the records of the company.

Total number of purchase orders issued	500
Salary of purchase department personnel	Rs. 1,50,000
Salary of Quality function personnel	Rs. 50,000
Expenses of Quality department	Rs. 10,000
Expenses of purchase department	Rs. 25,000
Average value inventory	Rs. 25,00,000
Taxes and interest rate on inventory	0.5 %
Interest rate	15 %
Cost of each component	Rs. 15

Annual demand for the component	15000 pieces	
With the above information calculate	(1) Ordering cost	(5 Marks)
	(2) Inventory carrying cost	(5 Marks)
	(3) Economic Order Quantity	(5 Marks)

The average demand per day for the above component is	50 Pieces
Stock out acceptance factor is	0.4
Lead time is	25 days
Average number of units per order is	EOQ (from above)

(4) Calculate the reorder point (5 Marks)

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