



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management

Graduate Diploma in Materials Management.

Dec-2017

PAPER No. 10

INVENTORY MANAGEMENT

Date : 14.12.2017

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.

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**Part – A (compulsory)**

32 marks

(Attempt all questions each question carries 1 mark)

**Q.1 State whether the following statements are True or False.**

**[ 8 marks ]**

- 1.1. Higher the inventory, lower the inventory carrying cost.
- 1.2. VMI concept reduces inventory holding cost.
- 1.3. Safety stock is dependent on lead time consumption.
- 1.4. The items under H-M-L analysis are classified based on their "Annual Inventory Turnover".
- 1.5. Inventory carrying cost is inclusive of warehousing cost.
- 1.6. Perpetual Stock verification is an important warehousing activity.
- 1.7. MRO is an finished product inventory.
- 1.8. EOQ inventory is best suited for ordering seasonal goods.

**Q.2. Fill in the blanks.**

**[ 8 marks ]**

- 2.1. All expenditures associated with holding the inventory is called as \_\_\_\_\_
- 2.2. \_\_\_\_\_ Analysis is based highest stocked item , in terms of stock value.
- 2.3. In FIFO inventory valuation system, units that are received \_\_\_\_\_ by the entity will be the \_\_\_\_\_ ones to be issued to production.

- 2.4. Economic order quantity (EOQ) is the order quantity that \_\_\_\_\_ the total inventory holding costs and \_\_\_\_\_ costs.
- 2.5. Inventory of \_\_\_\_\_ materials, \_\_\_\_\_ products and \_\_\_\_\_ goods that are considered to be the portion of a business's assets/balance sheet.
- 2.6. Stock-out Costs is the cost associated with the \_\_\_\_\_ caused by the \_\_\_\_\_ of the inventory..
- 2.7. Suppliers lead time is the time it takes the \_\_\_\_\_ or the \_\_\_\_\_ to process and supply the ordered units.
- 2.8. Reorder level/ Reorder point is the inventory level at which a company would place a \_\_\_\_\_

**Q.3. Expand the following**

**[ 8 marks ]**

- 3.1. ERP                      3.2. OEM                      3.3.GST                      3.4.VED
- 3.5. PERT                      3.6. GOLF                      3.7. GRN                      3.8.JIT

**Q.4. Match A and B**

**[ 8 marks ]**

A	B
4A.1) HAZMAT	4B.1) Inventory accounting system
4A.2) ABC analysis	4B.2) Safety stock
4A.3) Material handling	4B.3) Unit load
4A.4) Weighted average price	4B.4) Determine requirements
4A.5) Dead weight principle	4B.5) Codification
4A.6) Variety Reduction	4B.6) Selective inventory control
4A.7) Demand forecasting method	4B.7) Container
4A.8) Lead time consumption	4B.8) Hazardous materials

**PART - B**

**Write any three (3) of the following questions**

**– 16 marks each (48 Marks)**

- Q.5 How do you standardise the inventory of your organization ? what is the role of inventory coding system for standardization?
- Q.6 When inventory (materials) is located in multiple locations / warehouses , how do you control movement of materials ?
- Q.7 A) Define W I P Inventory? Explain factors influencing W IP inventory and how you control W IP?
- Q.7.B) Explain in detail the factors which influence in determining reorder level?

Q.8.A) Explain the steps you take to have a successful Vendor Managed Inventory (VMI) Program ?

Q.8.B) What is general classification & Functional characteristics of spare part inventories?

**Q.9 Answer any four of the following:**

**Write Short Notes on:**

- 9.A) VED & PQR Classification
- 9.B) Economic Ordering Quantity
- 9.C) Necessity of disposal of Surplus Inventory
- 9.D) Inventory forecasting
- 9.E) Two bin system
- 9.F) Forward buying

### **PART – C**

**Q. 10 compulsory**

**(20 marks)**

A chemical company produces sodium bisulfate in 100 pound bags. Demand for the product is 20 tons per day. The capacity for production is 50 tons per day. Setup cost is \$100, and storage and handling costs are \$5 per ton per year. The firm operates 200 days per year.

(Note: 1 ton = 2,000 pounds)

Answer the following questions.

- 10.A) What is the annual demand in tons?
- 10.B) How many bags per manufacturing run are optimal?
- 10.C) What is the average inventory in bags for the optimal run size?
- 10.D) What is the manufacturing run time?
- 10.E) What is the pure consumption time?

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