INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management

June 2011

Graduate Diploma in Materials Management

PAPER No. 10

INVENTORY MANAGEMENT

Date : 16.06.2011 **Max. Marks :100**

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

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

Q1. State True or False **(8)**

1. Inventories help marketing & production departments and help to decouple the activities in an assembly line.
2. Attractive Packaging adds value to the product.
3. Valves, Couplings & special Bearings are classified generally as Insurance spares.
4. In VMI, manufacturer/seller maintains inventory of Distributors or End User.
5. A decrease in inventory order costs will increase the EOQ.
6. By maintaining inventories, Quality of product is improved.
7. An increase in ordering cost will increase EOQ.
8. In EOQ, Purchasing cost is unequal to Inventory Carrying Cost.

Q2. Match A & B **(8)**

A	Prof Kaplan & Prof Cooper	**1**	Vital Few, Trivial Many
B	Grass Root Method	**2**	Highly Subjective
C	Rand Corporation	**3**	Delphi Method
D	Pareto Principle	**4**	Stands For Low Shelf Life
E	XYZ Analysis	**5**	National Standards
F	PQR Classification – P	**6**	Activity Based Costing
G	BIS	**7**	British Industry Standards
H	Project WIP	**8**	Stock Value of Items
		9	Stands For Longest Life
		10	Non Routine unusual activities

Q3. <u>Expand the Following</u> **(8)**

- **(1)** HAZMAT
- **(2)** PERT
- **(3)** ROA
- **(4)** MSDS
- **(5)** TBO
- **(6)** ZIPS
- **(7)** ERP
- **(8)** GOLF

Q4. <u>Write Small Note</u> (Any Two) **(8)**

- **(1)** Basic Feature of JIT
- **(2)** Stock out Cost
- **(3)** Inventory Carrying Cost
- **(4)** Virtual Stock

PART B

Q5.

a) If sales of a company are Rs. 4,700 lacs & Net Income is Rs. 950 lacs, total assets Rs. 21,230 lacs, what is ROI in %? (4)

b) Annual Requirement of an item is 780 units, EOQ is 115, and Inventory Carrying Cost is 7%, ordering cost is Rs. 120. Total Cost of Inventory per annum is Rs. 196,280. What is the unit price of an item? (8)

c) A company has a monthly demand for an item as 800 units. The procurement cost is Rs. 50 per order & inventory carrying cost is Rs. 0.80/unit per year. What is EOQ? How many numbers of orders per year? (4)

Q6. **(16)**

a) Define Spare Part Inventories.
b) What is general classification & Functional characteristics of spare part inventories?
c) How efficient procurement & availability of spare parts can be achieved?

Q7. <u>Write Short Notes</u> (Any Four) **(16)**

- **(1)** Accounting Fort Loss & Pilferage
- **(2)** Method of Disposal of surplus inventory
- **(3)** Factors influencing Finished Goods Inventory
- **(4)** Postponement
- **(5)** Perpetual Review System
- **(6)** VED & PQR Classification

Q8. Define WIP & explain 5 Basic process types & particular features of each **(16)**

Q9. Explain in detail, the different costs associated with inventories. **(16)**

PART C – Case Study (Compulsory)

Q10. **(20)**

M/s Sunder Electricals needs 60,000 aluminium bars to produce switchgears. The price of each bar is Rs. 100/-. Cost of placing an order is Rs. 1200 & the carrying cost is 1%.

NB: Solve Each Sub Question Step by Step. Only Answers, will not be given marks.

- **a)** What is EOQ based on given data? (2)
- **b)** How many orders should be placed in a year based on EOQ?
- **c)** If supplier offers 3% discount against the order size of 20,000 units or more, what is the incremental benefit to the company, if such discount is availed? (3)
- **d)** What is average inventory value before discount & after discount?
- **e)** What is the difference between "ordering & inventory carrying cost" before & after discount? (3)

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