INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Logistics &SCM
Post Graduate Diploma in Materials Management - 2 years

Dec 2024

PAPER No. 12(enrolment code- PMM,PSM,CMM, CSM)

Inventory Management

Date : 21.12.2024 **Max. Marks : 70**
Time : 10.00 a.m to 1.00 p.m. **Duration : 3 Hrs.**

Instructions:
1. From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. **Total : 20 Marks**
2. From Part B – Answer any 3 questions out of 5 questions. Each question carries 10 marks. **Total :30 Marks**
3. Part C is a case study (compulsory) with questions. Read the case study carefully and answer the questions **Total: 20 Marks**

Part – A [20 Marks]

(Attempt all questions. Each sub question carries 1 mark.)

Q.1.State True or False (Do not reproduce the statement) [5 marks]

a)An approximate percentage of A class items in a firm is around 20-25%

b) Items which can be completely substituted for each other should be treated as one item in ABC analysis .

c) ABC curve will differ in shape for textile mill, an Engineering firm, a pharmaceutical company and a vehicle manufacturer.

d) Issues for C items should be made in large quantities preferably in prefixed size.

e) A long-term contract with staggered supplies is better than frequent orders for A class of items

Q. 2. Fill in the blanks. (Do not reproduce the statement) [5 marks]

i)VED analysis is used in connection with inventory control of-----------.

ii)Price per unit is the criterion in ______________Analysis.

iii)Closing inventory is-------to net income of the company.

iv)The cost to administer review system is generally------- than the cost to operate reorder level system.

v)______is not a forecast of demand but is a plan for production

Q.3. Expand the following: **[5 marks]**

a)VA-VE b)VMI c) FSN d)FTL e) WIP

Q. 4. Match the following (re write the correct pair) **[5 marks]**

Column A		Column B	
Sr no	Description		Description
1	Weighted average cost	A	Forcasting methods
2	XYZ analysis	B	One at a time production flow
3	Moving average method	C	Batch production
4	JIT	D	Inventory Investment
5	Set up cost	E	Inventory valuation

PART B [30 marks]

(Attempt any 3. Each question carries 10 marks)

Q.5 There is an item, which is purchased by a company in two different sizes and are required in rs 10000 and Rs 40000 per annum respectively. Let us further assume that these two sizes are procured in Economic lot size. Let us assume that these two sizes are now standardized in to one size whose annual consumption is kept as 50000 Rs which is same as earlier total consumption.

a) What according to you will happen to average inventory in view of reduction in variety? Will it go down or go up? If you consider safety stock for the sizes , what will be the effect ?.Answer with logic only **[5 marks]**

b) What will the percentage change in average inventory because of variety reduction assuming no safety stock **[5 marks]**

Q.6 a) The following are the extracts from the monthly financial statements of a small pharmaceutical company of Pune.

Details	**Jan**	**Feb**
OP stock (Rs)	55000	
Purchases(Rs)	250000	245000
Closing stock(Rs)	65000	60000

Calculate Stock Turn over rate for Jan& February. **[5 marks]**

b) The popular formula for EOQ(qty in nos)= Square root of{ (2SCp)/(Cu.i)}

Where, Annual consumption is S, procurement cost is Cp per order, ,Cost per unit is Cu & inventory carrying cost as a % age of average inventory investment is i, then how the above formula will undergo change for procurement of stationery item, if composting cost for printing matter is Cc . **[5 marks]**

Q.7 a) Explain in brief the Role and goals of inventory. **[5 marks]**

b) What are the various costs associated with inventory. **[5 marks]**

Q.8 a) What is backordering? Explain in brief the benefits and draw backs for Backordering inventory management technique . **[5 marks]**

b) Explain in brief the benefits to both whole sellers and retailers from Consignment inventory management technique **[5 marks]**

Q.9 Write short notes on any four **[2X5=10marks]**

a) Made to order b)Dependent demand c)Stock out cost d) Cross Docking e)Delphi method

PART – C [20 marks]

(Compulsory)

Q.10

A private hospital purchases a wide variety of life saving drugs out of which quite a few have limited shelf life.

One of the life saving drugs which costs Rs 1.80 per bottle is required at an average rate of 60 bottles per month.

The cost to replenish the stock of an item and the cost of holding inventories,as computed by the hospital authorities are Rs 24 per order and 12% respectively.

a) Calculate Theoretical economic order quantity of the drug **[6 marks]**

b)If the drug has a limited shelf life of 4 months then what quantity should be purchased at a time.? **[6 marks]**

c) If the hospital authorities are of the opinion that safety stock equivalent to one months requirement must be maintained for each vital drug, what quantity should be purchased at a time.?**[8 marks]**