

JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA
PGDM / PGDM (M) / PGDM (SM)
FIFTH TRIMESTER (Batch 2017-19)
END TERM EXAMINATIONS, DECEMBER 2018

Course Name	Materials and Inventory Management	Course Code	OP-502
Max. Time	2 hours	Max. Marks	40

INSTRUCTIONS: Answer All questions:

- Unicom Software sources 9000 blank CDs annually from a supplier in Mumbai. Costs involved in procurement are as follows:
Ordering cost per order is Rs10; Price of the CD: Rs 20 per unit;
Inventory Holding cost is 10% of the Price of CD
Supplier offers Price Discounts for different lot-Sizes as follows:
 - 100-450: Discount 5 %
 - 500-900: Discount 10%
 - 1000 & above, Discount 20%

Determine whether to buy on EOQ or choose the best Discount Offer. What will be the Total Annual Inventory Cost to Unicom?

(5 Marks)

- A. Use LIFO Method of Stock Valuation and determine Stock Balance and the Stock Value at the end of March. Priced Ledger indicating Receipts and Issues during the month are as below. Complete the Ledger entries for the month.

Date	Receipt Quant	Receipt Rate	Receipt Value	Issue Quant	Issue Rate	Issue Value	Stock Quant	Stock Rate	Stock Value
1/2	300	1.0							
5/2	300	1.5							
10/2				100					
15/2				100					
20/2				200					
25/2	300	2.0		100					
28/2				200					
5/3	500	2.5		300					
20/3				300					

(5 Marks)

3. Jaguar Fans requires Ball Bearings for their Fans. They require 1000 Bearings per week . Standard deviation of Demand = 300. The company maintain Fill Rate of 85% .Assume $K = 1.65$, Inventory Holding Cost works out to 25% of Price of the Bearing. Ordering Cost in the company is Rs100 per Order. Company has received two competitive offers from Vendors of Delhi and Mumbai However, their Prices and Lead time required for supply are different as under:
4. Vendor I : Price = Rs.100 per Bearing for Minimum Order Lot of 2000 Bearings
Lead Time =2 Weeks , Standard deviation of Lead time Variation =1

Vendor II :Price = Rs90 per Bearing for Minimum Order Lot of 4000 Bearings
Lead Time = 6 Weeks, Standard deviation of Lead time Variation =4
Select the most economical offer to place order on Vendor I or Vendor II.

5 Marks

4. Classify following items of Inventory in A B C Categories:

Code	Value of Annual Consumption	Code	Value of Annual Consumption
A	1200	K	1393
B	2400	L	4625
C	17000	M	5450
D	1390	N	300
E	3450	O	610
F	5125	P	2590
G	11000	Q	3910
H	8650	R	2285
I	7300	S	1810
J	6375	T	687

5 Marks

5 Decisions of a Warehouse Manager under different Situations.

10 Marks

You are a Warehouse Manager in a large Marketing Company having wide network of Retail outlets and Distribution Centers in all geographical Regions of the country. Your Warehouse holds a large number of SKUs procured from vendors from all regions. As a result you have to take operational decisions under different circumstances. WHAT would be your decision under different situations described below?

Justify your decision in brief.

- A. Products having High Consumption- High Criticality-Long Lead Time:
Whether to go for Single or More Sources of Supply?
- B. Products having Low Consumption- High Criticality-Long Lead Time:
Order Once or More frequently in a year ?
- C. Products having High Consumption- Low Criticality-Short Lead Time:
Whether Safety Stock should be High or Low ?
- D. Products having High Consumption- High Criticality-Short Lead Time,
Whether Order Once or More Frequently ?
- E. For Products having Low Consumption- Low Criticality-Short Lead Time
Whether to go for P-System or Q- System for stock replenishment
- F. Products having High Consumption- High Criticality-Long Lead Time,
Whether the value of 'K' for computation of Safety Stock will be High or Low?
- G. Products having Low Consumption- High Criticality-Long Lead Time:
Should have High or Low Stocks?
- H. Products having High Consumption- Low Criticality-Short Lead Time:
Should be ordered More Frequently or Once or Twice in a Year?
- I. Products having Low Consumption- Low Criticality-Short Lead Time:
Value of 'K' will be High or Low for Safety Stock Calculations
- J. The Product is under X category in XYZ Analysis and of L category under HML Analysis
and also Nonmoving for the last 3 years. What action is required to be taken and Why?

Case: Hindustan Irrigation Pumps and Compressors

Hindustan Pumps and Compressors is a factory in NCR, which manufactures Irrigation Pumps and small Air Compressors for Farmers. Lately the company faces acute shortage of Working Capital mainly due to huge Inventory holding. They appointed you as a consultant to look into their Inventory Problems. You have identified 12 major practices, which are wrong and are responsible for rise in inventory. Top Management wants to understand how those practices lead to increase in Inventory. Please justify each of your observations in not more than 100 words. Your Reports identifies following Wrong Practices:

1. User Department gives incomplete specification in Indents for procurement.
2. Inspection of Inward Receipt Materials takes more than 4 weeks
3. Purchase Department takes very long internal lead time for placing orders
4. Vendors are not penalized for Late Delivery.
5. FSN Analysis and VED Analysis have never been conducted
6. Large Inventory of Spares are lying in Stores for old imported machines, which have now become redundant and have also been replaced by Indian machines.
7. There is no proper preservation of Spare Parts.
8. Large number of Sub-Stores has been created by user departments who withdraw common usable items in large quantity from Main Warehouse and hold them in Departmental Sub-Stores.
9. There is no policy for Surplus declaration and their Disposal.
10. Covered Space in Main Warehouse is inadequate; as a result, materials are kept in Open Yards.