(b) What do you mean by spare parts inventory? Explain the need and importance of spare parts inventory.

10. (a) Discuss the latest developments in inventory control.

(b) Write short notes on computer applications in inventory control.

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*Answer any FIVE questions,
choosing THREE from Part – A and
TWO from Part – B.
All questions carry equal marks.*

PART – A   (3 × 20 = 60)

1. (a) Briefly explain the scope, need and importance of inventory.

   (b) Explain the various costs associated with inventory management.

2. Classify the different types of inventory models and discuss them with suitable examples.   (20)

Turn Over

3. (a) Write short notes on following :

(i) Production inventory.

(ii) Finished goods inventory.

(b) A manufacturing company purchases 9,000 parts of a machine for its annual requirements, ordering one month's usage at a time. Each part costs Rs.20. The ordering cost per order is Rs.15. and the carrying charges are 15 percent of the average inventory per year. Suggest the most economical purchasing policy for the company and what would be the saving to the company per year by your suggestion?

4. A shop keeper has a uniform demand of an item at the rate of 600 items per year. He buys from a supplier at a cost of Rs.8 per item and the cost of ordering is Rs.12 each time. If the stock holding costs are 20% per year of stock value, how frequently should be replenish his stocks and what is the optional order quantity?

(iii) Derive the equation for EOQ and optimal total inventory cost for the inventory model with infinite delivery rate and no shortage.

9. (a) The following information is available about the group of 15 item. Classify the item into A,B and C class items:

Item No.	Annual Consumption Units	Unit Price in Rs.
1.	3,000	100
2.	2,000	150
3.	4,500	160
4.	6,000	40
5.	12,000	55
6.	24,000	75
7.	40,000	100
8.	10,000	250
9.	14,000	260
10.	80,000	280
11.	7,500	320
12.	6,000	340
13.	200	450
14.	1,500	500
15.	4,500	600

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(b) A company has determined on an analysis of its accounting and production data of an item that its cost to purchase is Rs.36 per order and Rs.2 per part. Its inventory carrying charge is 180% of the average inventory. The demand of this item is 10,000 units per annum.

Find :

    (i) What should be the Economic Order quantity be ?

and (ii) What is the optimum number of days supply per optimum order?

8. (a) A Company uses 50,000 units of raw material annually. The cost of each unit is Rs.5 placing each order costs Rs.50 and the carrying cost is 15% percent per year of the average inventory.

(i) Find the Economic Order Quantity.

(ii) If the company is working for 300 days per annum, the lead time is 12 days and safety stock is 500 units, find the reorder point the maximum, the minimum and average inventory.

5. Write short notes on :

    (a) (i) Expected profit approach.

    (ii) Expect cost approach.

    (b) Explain the FSN analysis with request to spare parts inventory.

6. (a) What is meant by repeat order system? Explain two bin system.

    (b) What is VED Analysis? State its advantages.

PART – B $(2 \times 20 = 40)$

7. (a) Find the optimum order quantity for a product for which the price breaks are as follows:

Quantity	Purchasing Cost
$0 \quad Q_1 < 100$	Rs.20 per unit
$100 \quad Q_2 < 200$	Rs.18 per unit.
$200 < Q_3$	Rs.16 per unit.

The monthly demand for the product is 400 units. The storage cost is 20% of the unit cost of the product and the cost of ordering is Rs.25 per month.

Turn Over