

$$C_0 = \text{Rs } 50/\text{order}$$

$$C_c = 15\% \text{ of cost}$$

$$20 \times 0.15 = \text{Rs } 3/\text{year}$$

$$\text{Demand} = 450/\text{month}$$

$$= 450 \times 12$$

$$= 5400 \text{ units}$$

$$= 10800 \text{ units times}$$

EOQ =

$$\sqrt{\frac{2DC_0}{C_c}}$$

$$= \sqrt{\frac{2 \times 5400 \times 50 \times 10800}{3}}$$

$$= \sqrt{\frac{74160000}{3}}$$

$$\sqrt{4000000}$$

$$= 4242.6 \text{ units}$$

600 times

Time: 3 Hours

Max. Marks: 75

Note: Answer all questions from Part – A, & any five questions from Part – B

PART – A (10 x 2 ½ = 25 Marks)

1. What is meant by Incentive? Enlist any two types of Incentive plans.
2. Define the term Plant Layout and give its objectives.
3. What are the advantages of Forecasting?
4. State about dependent and independent demand.
5. What are the measures to be taken for a good Master Production Schedule (MPS) design?
6. What are the benefits of material requirement planning?
7. Define term Inventory. State reorder point.
8. Write about fixed order quantity system.
9. Distinguish between 'Activity' and 'Event'.
10. Why CPM is called deterministic model and PERT as probabilistic model?

PART - B (50 Marks)

11. Discuss the principle factors in selecting a location for an Industry, citing suitable example-comment.
12. What is mean by Exponential smoothing? Alaric Industries Ltd. has experienced the following demand for its "Personal Finance" software package.

Month	April	May	June	July	August	September	October	November
Period	1	2	3	4	5	6	7	8
Units	56	61	55	70	66	65	72	75

Develop an exponential smoothing forecast using $\alpha=0.4$ and an adjusted exponential smoothing using $\alpha=0.4$ and $\beta=0.2$

13. (a) Explain the Deterministic and Stochastic inventory model.
- (b) Alaric Industries Ltd. Uses 10,000 units per year of an item. The purchase price is Rs. 1/- per item. Ordering cost is Rs25/- per order. Carrying cost per year is 12% of the inventory value.
 - i) The EOQ
 - ii) The number of orders per year.