Time: 3 Hours **Max. Marks: 80**

Note :

- **Question no.1 is compulsory.**
- Solve **any three** questions from the **remaining** five questions.
- Figure to the right indicates full marks.
- Assume suitable data wherever required, but justify the same.

Q. 1 Attempt **any four** questions from following. (Each question carries 5 marks)

a) Differentiate between an Efficient Supply Chain and a Responsive Supply Chain.

b) Compare the various design options for a Distribution Network in a Supply Chain.

c) Differentiate between Bar Codes and RFID used in Supply Chains.

d) State the assumptions underlying the basic EOQ model.

e) Compare 3PL and 4PL with respect to Supply Chain Management.

Q. 2 **a)** Describe are the functions served by inventories. What are the various types of inventories? **10**

b) State the various risks a Supply Chain is subjected to. How can the various risks be overcome in a supply chain? **10**

Q. 3 **a)** What is meant by Selective Inventory Control? Classify various Selective Inventory Control Techniques and describe them in brief. **10**

b) Describe the SCOR Model in Supply Chain Management. **10**

Q. 4 **a)** Sujata Fan Manufacturing Company uses 2,40,000 bearings per year and the usage is fairly constant at 20,000 bearings per month. Each bearing costs the company Rs. 3. The carrying cost for the company has been estimated at 15% of the average inventory investment. The cost to place an order and process the delivery is Rs. 60. **10**

a. Calculate the economic order quantity.

b. What is the stock turnover rate ignoring safety stock if the EOQ is ordered frequently?

c. What will be the effect on total cost if stock turnover rate is reduced to one-third by infrequent ordering?

b) What is the objective of Logistics Management? Describe the main components of Logistics. **10**

Q. 5 **a)** What is the functional role of IT in a Supply Chain? **10**

b) Describe a Transport Management System (TMS) with the help of a neat labelled sketch. **10**

Q. 6 **a)** Describe the factors affecting distribution network design. **10**

b) What is a resilient supply chain? How does supply chain resilience work? **10**

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