

(Three Hours)

Total Marks: 80

Instructions:

- *Q. 1 is compulsory.*
- *Attempt any THREE questions from the remaining questions*
- *Assume suitable data wherever necessary*
- *Draw figures wherever required*
- *Figures to the right indicate full marks.*
- *Non programable calculators are permitted.*

Q.1 Write short notes on. (Any Four). 20

- a. What is the SCOR model? Why is it needed?
- b. Why is Reverse Logistics (RL) needed?
- c. Concept of Green Supply Chain Management (GSCM)?
- d. Describe the role of RFID in warehouse management.
- e. Explain in brief: lead-time, takt-time and cycle-time.
- f. Types of risks in supply chains.

Q.2 a. Define Global Supply Chain. What are the various challenges in establishing a global supply chain? 10

- b. Discuss how to create a supplier score card in supply chain performance. 10
Who use the score card?

Q.3 a. What is meant by Bullwhip Effect? How is it caused? What measures can be taken to reduce the Bullwhip Effect? 10

- b. Suppose that the annual requirement of a particular raw material item is expressed as 2,000 units per week. The existing policy of the company is to order the item in lots of 10,000 units which gets replenished the instant the order is placed. Subsequently, the company comes to know about the concept of EOQ. 10

Holding cost = Rs. 0.8/unit/year

Ordering cost = Rs. 20/order

Determine for both the scenarios, the following:

1. Quantity to be ordered at a time.
2. The total incremental cost.
3. The number of orders placed per year.
4. The time interval between two consecutive orders.
5. Should the company continue to place orders in lots of 10,000 units?

- Q.4 a.** Compare 3PL and 4PL service providers. **05**
- b.** What is a Capacitated Vehicle Routing Problem (CVRP)? **05**
- c.** What is meant by Containerization? What are its different types? State advantages of containerization? **10**
- Q.5 a.** A television company works 5 days a week with 3 shifts a day. Each shift is 480 min. the break for lunch is 30 min. in the period of 9 weeks the customers' request is 4338 televisions. Calculate the takt time in the period. **05**
- b.** How do RFID and Bar Code technology differ? **05**
- c.** Define Distribution Network Design. Compare the various design options for Distribution Networks. **10**
- Q.6 a.** Explain Transport Management System (TMS)? What are the benefits of a Transport Management System (TMS)? **10**
- b.** Define and explain Cross-docking concept with a neat sketch. Mention its advantages and disadvantages. **10**
