

Time allowed: 3 Hours

Max. Marks: 80

NOTE: Attempt five questions in all, including Question No. 1 (Section-A) which is compulsory and selecting atleast two questions each from Section B-C.

x-x-x

Section-A (20 marks)

Note: This section has 6 short answer questions from the entire syllabus. Students are required to attempt 4 questions from this section. Each question carries 5 marks.

- Q. 1. Explain the various factors that influence distribution network design.
- Q. 2. Elaborate in detail routing and routing design.
- Q. 3. What is the purpose of keeping safety stocks?
- Q. 4. Discuss in detail the methods used to determine the accuracy of the forecast.
- Q. 5. Describe in brief 'Lead Time Uncertainty'.
- Q. 6. Define the terms 'Cross Docking' and Collaborative Planning'.

Section-B (30 marks)

Note: This section has 4 essay type questions. Students are required to attempt any 02 questions from this section. Each question carries 15 marks.

- Q. 7. The sales for domestic water pumps manufactured by Ajit manufacturing company is given. Forecast the demand for the pumps for the next three years using least square method.

Year	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Sales ('000)	30	33	37	39	42	46	48	50	55	58

- Q. 8. Classify and explain in detail different supply chain networks.
- Q. 9. Explain briefly the following methods of forecasting:
- Delphi Method
 - Exponential smoothing method.
- Q. 10. Discuss the goal of supply chain management and explain the impact of supply chain decisions on the success of a firm.

Section-C (30 marks)

Note: This section has 4 essay type questions. Students are required to attempt any 02 questions from this section. Each question carries 15 marks.

- Q. 11. What is bullwhip effect and how does it relate to lack of coordination in the supply chain?
- Q. 12. Explain in detail the innovations in supply chain management.
- Q. 13. XYZ Corporation has got a demand for a particular part at 10,000 units per year. The cost per unit is Rs. 2 and it costs Rs. 36 to place an order and to process the delivery. The inventory carrying cost is estimated at 9 percent of average inventory investment. Determine
- Economic order quantity
 - Optimum number of orders to be placed per annum
 - Minimum total cost of inventory per annum
- Q. 14. What is E.O.Q.? Derive an expression for economic order quantity when the stock