

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: IE306

Course Name: SUPPLY CHAIN AND LOGISTICS MANAGEMENT

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

Marks

- 1 a) What is meant by supply chain management? Briefly explain. (3)
- b) Explain the strategic decisions of supply chains. (5)
- c) Find out the following forecast error estimate of the data given. (7)
- Error, absolute error, mean square error, mean absolute deviation, % error, mean absolute % error and tracking signal.

Period	Demand	Forecast
1	9100	22250
2	13500	20600
3	23300	19900
4	33800	20200

- 2 a) What are the obstacles to achieve strategic fit? Explain. (7)
- b) Explain the Winter's model of seasonal forecasting. (8)
- 3 a) What are the common uncertainties of "demand" of a product? Explain. (3)
- b) Explain about "efficiency" and "responsiveness" of supply chains. (4)
- c) Explain the importance of forecasting error estimates. (3)
- d) Compare merits and suitability of weighted moving average method and Winter's model of forecasting. (5)

PART B

Answer any two full questions, each carries 15 marks.

- 4 a) Discuss the factors influencing network design in supply chains. (7)
- b) Discuss the terms i) Cycle Inventory ii) Seasonal Inventory iii) Economic Order quantity and iv) Echelon Inventory. (8)
- 5 a) Explain any one quantitative model for location decision in supply chains. (8)
- b) Compare continuous review and periodic review systems used in supply chain inventory management. (7)
- 6 a) Illustrate any one aggregate planning model with an example. (7)

- b) Annual demand for product ABC is 12000 units. The company incurs a fixed cost of 4000 each time an order is placed. Each ABC costs Rs 500 and the retailer had a holding cost of 20 percentage. Determine the following: i) No. of units ordered per order ii) Cycle inventory iii) No. of orders per year and iv) Annual ordering and holding cost. (8)

PART C

Answer any two full questions, each carries 20 marks.

- 7 a) What are the factors affecting carrier decisions in transportation? Explain. (10)
- b) What is a bin-packing problem? Examine the non-sorted first fit heuristic and decreasing first fit heuristic to solve the problem. (10)
- 8 a) One of the major trends in logistics is the move towards contract transport. Why? (5)
- b) Explain how transportation has an impact of strategic goals of supply chain management. (5)
- c) Bring out the importance of reverse logistics in current global market scenario. (10)
- 9 a) Narrate the different design options for transportation networks. What are the strength and weakness for each option? (10)
- b) Discuss the major challenges that must overcome to manage reverse logistics successfully. (5)
- c) State the importance of closed loop supply chain for product remanufacturing. (5)
