

APJ Abdul Kalam Technological University
Second Semester M.Tech Degree Examination, May 2016
Ernakulam II Cluster
Branch: Mechanical Engineering
Specialisation: Industrial Engineering And Management
05ME 6406 SUPPLY CHAIN MANAGEMENT

Time: 3 Hours

Max. Marks: 60

Answer ALL questions

Module -I

- I. (a). When the supply chain efficiency increases, the supply chain responsiveness decreases. Justify?
- (b). Explain the process views of a supply chain. **4+8 = 12 Marks**

Module-II

- II. (a). What are the strategies for aggregate planning?
- (b). Consider data for six periods that represents sales data of laptops (per month): 25, 28, 30, 32, 35 and 38. Fit a linear model using Holt's method using the data. Take $a=0.2$ and $b=0.3$. Find the forecast for period 7. **3+9 = 12Marks**

Module-III

- III. (a). Why quantity discounts are used in a supply chain? Explain the different types of quantity discounts schemes.
- (b). What is the role of safety inventory in a supply chain? **9+9 = 18Marks**

OR

- IV. (a). Explain the concept of lot sizing for multiple products.
- (b). Demand for computers in a store is 4,000 units per year. The store incurs a fixed order placement, transportation and receiving cost of Rs.1000/- each time an order is placed. Each computer costs the store Rs.200/- and the holding cost is 15%. Evaluate the cycle inventory, number of computers the store manager should order in each replenishment lot and average flow time. **8+10 = 18Marks**

Module-IV

- V. (a). Logistics is a subset of supply chain management. Justify?
(b). Explain the different modes of transportation in a supply chain?
(c). What is the relevance of green supply chain and reverse logistics in the present context?

4+6+8 = 18Marks

OR

- VI. (a).What is design collaboration?
(b).Differentiate between inbound and outbound logistics by taking an example?
(c).Discuss the various factors affecting transportation decisions?**6+6+6= 18Marks**