

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST SEMESTER M.TECH DEGREE EXAMINATION, MARCH 2021

Mechanical Engineering
(Industrial Engineering and Management)

Course Code: 07 ME 6405

Course Name: SUPPLY CHAIN AND LOGISTICS MANAGEMENT

Max. Marks: 60

Duration: 3 Hours

(Answer all six questions. Part 'a' of each question is compulsory.

Answer either part 'b' or part 'c' of each question)

Q.No	Module 1	Marks
1 a)	What are the key flows in a supply chain? What is the significance of each one in supply chain management?	(4)
	Answer 'b' or 'c'	
b)	What is value chain in a company? How it is important in supply chain management?	(5)
c)	What is mean by strategic fit? How can it be achieved?	(5)
	Module 2	
2 a)	What is the role of forecasting for an enterprise and a supply chain?	(4)
	Answer 'b' or 'c'	
b)	Write the equations related to Winter's model of forecasting and explain the terms?	(5)
c)	Identify the factors that influence the required level of safety inventory? Also give different measures of product availability in detail?	(5)
	Module 3	
3 a)	Develop a framework for supply chain network design decisions?	(4)
	Answer 'b' or 'c'	
b)	What are the performance measures of a supply chain? Give details about any one performance measurement tool?	(5)
c)	How to evaluate supply chain design decisions under uncertainty using decision trees?	(5)

Module 4

- 4 a) What is the role of IT in a supply chain? (4)

Answer 'b' or 'c'

- b) Explain the causes of the bullwhip effect and obstacles to coordination in the supply chain? (5)
- c) Explain the pricing and revenue management for multiple customer segments? (5)

Module 5

- 5 a) Explain in detail about 3PL and 4PL providers? (5)

Answer 'b' or 'c'

- b) Compare the features of different transportation networks? (7)
- c) Explain the trade-offs in transportation design? (7)

Module 6

- 6 a) What is green supply chain? Give its significance? (5)

Answer 'b' or 'c'

- b) Formulate the following i) Fixed charge transportation problem ii) Knapsack problem? Also write how to solve each one? (7)
- c) What are the challenges and opportunities of logistics and supply chain management in today's world? (7)
