Register No: ……………………   Name: ....

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)
(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)
SECOND SEMESTER MBA DEGREE EXAMINATION(R), MAY 2024
(2021 SCHEME)

Course Code	:	**23MBL108**
Course Name	:	**Supply Chain Analytics**
Max. Marks	:	**60** **Duration:3 Hours**

PART A
(Answer all questions. Each question carries 2 marks)

1. Recall nodes and links in a network model.

2. Explain the grading and packing function of a warehouse.

3. Define service level.

4. What do you mean by spanning tree?

5. What is the main objective of using AHP in decision-making?

PART B
(Answer any 3 questions. Each question carries 10 marks)

6. What do you mean by transportation problem? Explain its type.

7. A distribution center is planning to optimize its dock door locations to improve efficiency in inbound and outbound logistics. As an MBA student specializing in logistics and supply chain management, analyze the factors that should be considered when determining the optimal dock door locations for the distribution center. Provide recommendations on how the distribution center can strategically position its dock doors to enhance operational efficiency and customer service

8. List out the advantages and disadvantages of Pareto Analysis.

9. A manufacturing company is considering implementing a milk-run approach for shipping its products via a distribution center. As an MBA student specializing in supply chain management, analyze the benefits and challenges of using milk runs for shipping operations.

10. Explain the steps involved under the Fuzzy decision-making model.

PART C
(Compulsory question, the question carries 20 marks)

11. ABC Corporation, a prominent supplier of industrial equipment, faces challenges in managing its inventory effectively to meet customer demands while minimizing costs. The company encounters an annual demand of 30,,000 units for a specific product, with various associated costs and service level targets. The company incurs ordering costs of Rs. 12,00 per order and holding costs of Rs. 40 per unit per year. Additionally, backorder costs amount to Rs. 100 per unit. With an order service level of 0.85 and 20 cycles in a year, the company experiences stockouts totaling 3000 units. The standard deviation of demand is 1200 units.
A) Calculate the EOQ with and without considering backorders and compare the same.
 (7 Marks)
B) Find out the Order Stock Level (OSL), Unit Service Level, Unit Service Risk, and Overall Product

Availability for XYZ Corporation's inventory management system. (8 Marks)

C) Distinguish between the Prim's algorithm and Kruskal's Algorithm. (5 Marks)

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