



**REFORMED CHURCH UNIVERSITY**

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**FACULTY OF COMMERCE**

**BACHELOR OF COMMERCE HONOURS DEGREE IN  
LOGISTICS AND SUPPLY CHAIN MANAGEMENT**

**SUPPLY CHAIN NETWORK ANALYSIS**

**HLSM 242**

**PART 2 SEMESTER 2**

**TOTAL MARKS [100]**

DATE: JUNE 2024

Time: 3 Hours

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**INSTRUCTIONS**

1. This paper has *six (6)* questions
2. Answer question *one (1)* and *any* other *three (3)*
3. Each question carries *25 marks*
4. Start each question on a new page

1. Explain the key elements of a supply chain network design of an organization of your choice. [25 marks]
2. Discuss single-source versus multi-source models and hub-and-spoke networks as specific to different network designs, using real- world examples. [25 marks]
3. Analyze the trade-offs between different network configurations, using factors like cost, responsiveness, and risk in an organization of your choice.[25 marks]
4. Explain the role of network modeling and simulation in analyzing and optimizing supply chain networks of different economic sectors of a country of your choice. [25 marks]
5. Explain how artificial intelligence (AI), Big Data, and the Internet of Things (IoT) can be used to gather real-time data, optimize transportation routes, and predict network disruptions in an organization of your choice. [25marks]
6. Analyze the benefits and limitations of using network modeling and simulation tools in real-world supply chain analysis. [25 marks]

**END OF PAPER**