



End Term (Odd) Semester Examination November 2025

Roll no.....

Name of the Course and semester: MBA (IIIrd Sem)

Name of the Paper: Strategic Supply Chain Management

Paper Code: MBA 303(SC3)

Time: 3 hours

Maximum Marks: 100

Note:

- (i) This question paper contains two Sections-Section A and B
- (ii) Both Sections are compulsory
- (iii) Answer any two sub questions from a, b & c in each main question of Section A. Each sub question carries 10 marks.
- (iv) Section B, consisting of a case study, is compulsory. It is of 20 Marks.

Section A

Q1.

(2X10=20 Marks)

- a. A highly successful, low-cost retailer is seeing its market erode by premium, fast-shipping e-commerce players. Using the SCOR model as a framework, analyze the fundamental trade-offs the company would face if it attempted to align its supply chain strategy to also compete on responsiveness and flexibility. (CO1 & CO2)
- b. You are tasked with designing the global supply chain network for a new pharmaceutical product. Develop a network strategy that optimizes for both cost and service level while being inherently resilient to major global disruptions. (CO2 & CO4)
- c. A critical component for your product is sourced from a single geographic region prone to both political instability and ethical labor violations. Develop an integrated strategy that simultaneously addresses the ethical sourcing concerns and mitigates the severe supply chain risk. (CO4 & CO3)

Q2.

(2X10=20 Marks)

- a. Using an established strategic framework (e.g., SCOR), construct a persuasive argument for how the integration of AI and IoT fundamentally transforms a linear supply *chain* into a competitive, agile network, thereby creating new forms of competitive advantage. (CO5 & CO1)
- b. A company is deciding whether to outsource its entire logistics function to a third-party logistics provider (3PL). Beyond cost, what strategic sourcing and supplier relationship management (SRM) criteria should be used to select the partner, and how does this decision transform the internal competencies required for supply chain design and control (CO2 & CO 3)?
- c. A company suffers a major disruption and proposes a large investment in a block chain-based traceability system and AI-driven predictive risk analytics to build a "digital shield." How would you build a business case to quantify the Return on Investment (ROI) for this risk mitigation strategy, moving beyond fear to tangible financial and operational benefits? (CO5 & CO4)

Q3.

(2X10=20 Marks)

- a. Evaluate how the implementation of AI and big data analytics can fundamentally reshape the traditional procurement and strategic sourcing process (CO3 & CO5)



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- b. Is a resilient supply chain inherently less efficient, or can resilience itself be a source of competitive advantage that justifies its cost, thereby redefining the key drivers of performance (CO 1)?
- c. The push for sustainable practices and a circular economy necessitates new logistics models. Design the key parameters of a reverse logistics network for a large electronics manufacturer. (CO 2 & CO 5)

Q4.

(2X10=20 Marks)

- a. Your company has invested in a "digital twin" of its global supply chain. Develop a protocol for how this model, fed by IoT and Big Data, can be used to proactively identify, assess, and run simulated responses to potential disruptions before they occur. (CO 5 & CO 4)
- b. For a company like Tesla, the ability to secure and manage battery supply relationships is a definitive source of competitive advantage. Analyze how strategic sourcing and vendor management in this context transcends a tactical procurement function and becomes integral to the business and innovation strategy itself. (CO 1 & CO3)
- c. Design the key clauses and partnership mechanisms for a strategic sourcing contract with a key supplier that formally embeds risk mitigation and flexibility strategies to handle unforeseen disruptions, such as raw material price spikes or force majeure events. (CO3 & CO4)

Section B

Q5. Case Study

(20 Marks)

Aura Technologies and the Cracks in the Foundation

For over a decade, Aura Technologies stood as a paragon of innovation and market leadership in the competitive smart home industry. Its flagship product, the Aura Core ecosystem, was the "Apple of the smart home," renowned for its sleek design, seamless integration, and proprietary technology. Aura's success was underpinned by a supply chain that was the envy of its competitors—a meticulously engineered, hyper-efficient, and globally optimized network. The cornerstone of this system was a strategic decision made in 2015: to source the Aura Core's critical, proprietary "Neuro-Sensor" module from a single supplier, Shenzhen Precision Electronics (SPE).

SPE, located in a specialized industrial park in Guangdong, China, was a master of scale and precision. Their economies of scale allowed them to produce the Neuro-Sensor at a cost 40% lower than any potential alternative. Aura's lean manufacturing model, which kept inventory turns high and warehousing costs negligible, was entirely dependent on the reliable, just-in-time deliveries from SPE. This single-source, offshore model was a case study in cost leadership and was frequently cited in Aura's annual reports as a key driver of its industry-leading profit margins. The relationship, while purely transactional, was considered rock-solid.

The first tremor hit in early 2020. The COVID-19 pandemic forced a complete lockdown of SPE's



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primary facility. What Aura's leadership initially dismissed as a "two-week delay" stretched into two months of zero production. With no buffer inventory and no alternate suppliers, Aura's assembly lines in Texas ground to a halt. Backorders for the Aura Core skyrocketed, and retailers' shelves emptied.

Just as SPE reopened and began a slow ramp-up, a second, more structural crisis emerged. Escalating geopolitical tensions between the U.S. and China led to a new wave of trade tariffs specifically targeting advanced electronics components. Simultaneously, logistical chaos ensued at major Chinese ports, with shipping costs increasing by over 300%. The combination of increased unit cost from tariffs and soaring logistics expenses eviscerated the cost savings that had justified the single-source model.

The final blow was a fire at a sub-supplier's factory in Malaysia that provided a rare polymer used in the Neuro-Sensor's casing. While SPE itself was operational, this incident highlighted the profound vulnerability of Aura's entire supply network—risks existed not only at their tier-one supplier but deep within the sub-tier levels they had no visibility or influence over.

The financial and reputational damage was catastrophic. Aura reported a \$1.2 billion loss in potential revenue, its stock price fell by 35%, and its hard-earned reputation for reliability was in tatters. A key competitor, "Omni Home," which had pursued a multi-sourced and regionally diversified strategy, capitalized on the shortage and captured 15% of Aura's market share, a foothold they were unlikely to relinquish.

Facing furious investors and a demoralized workforce, the Board of Directors appointed a new Chief Supply Chain Officer, Maria Chen, a seasoned veteran known for transforming fragile supply chains into resilient, competitive assets. Her mandate was clear and brutal: "Never again." She was tasked with leading a complete strategic overhaul of the supply chain with three non-negotiable objectives:

- 1) Build unshakable resilience to future global shocks,
- 2) Maintain product quality and brand positioning, and
- 3) Do so without destroying the company's already wounded profit margins. The lean, efficient model that had defined Aura's success was now its greatest liability, and Maria had to design its successor.

Questions

1. Maria Chen must fundamentally redesign Aura's global supply chain network. Evaluate the strategic options available to her: multi-sourcing the Neuro-Sensor, near-shoring/reshoring its production, or developing a hybrid "leagile" model. Develop a specific, justified recommendation that details how this new network would be configured.. CO 2 & CO 4
2. To operationalize her new supply chain design, Maria must transform Aura's core operational practices. First, analyze how the company's approach to procurement and strategic supplier relationship management (SRM) must evolve from a purely transactional, cost-focused model to a more strategic, collaborative one. What new vendor selection criteria, contracting models, and partnership mechanisms are required? Second, recommend how specific emerging technologies, such as AI, IoT, or block chain, could be deployed to provide the end-to-end visibility, predictive risk analytics, and supply chain transparency needed to manage this new, more complex ecosystem and prevent a future crisis. CO 3 & CO 5