SET-2

INDIRA UNIVERSITY, PUNE

SCHOOL OF BUSINESS- MBA

Backlog Examination (2025 Pattern) April – 2026 - Semester – I

Subject Name: Operation and Supply Chain Management **Max. Marks: 25**

Subject Code: 25MBA103 **Time: 1½ Hours**

Instructions

- **All questions are compulsory**
- **Illustrate your answers with neat figures and diagrams.**

CO #	Cognitive Ability	Course Outcome
CO3	**Apply**	Identify the role of Operations, Supply Chain Management and the key issues.
CO4	**Analyse**	Examine components for integrated working across the SCM and Operations.
CO5	**Evaluate**	Explain the tools and techniques used in increasing the manufacturing and service efficiency.
CO6	**Create**	Formulate the various aspects of supply chain of a given company.

Q1.	**Attempt Any One question:** **(5 Marks)** **a.** A furniture manufacturing company has recently upgraded its machinery and implemented employee training programs to enhance efficiency. Despite these efforts, management is unsure whether the overall performance has truly improved. As an operations manager, illustrate how different productivity measures can be applied to evaluate the effectiveness of these improvements and suggest ways to enhance productivity further. **b.** A leading automobile manufacturer is facing rising inventory holding costs across its supply chain — from raw materials to finished vehicles waiting for dispatch. As an Operations Manager, illustrate the key reasons why the company must still maintain certain levels of inventory despite these costs. Further, compare and evaluate the different types of inventories present at various stages of its operations (procurement, production, and distribution), explaining their operational significance and control measures.	**CO3**

Q2.	**Attempt Any One question: (5 Marks)** **a.** A consumer goods company is struggling with excess inventory and frequent stockouts across regions. The Operations team suggests adopting Just-in-Time (JIT) principles, while the Sales department recommends a stronger Sales & Operations Planning (S&OP) process. How can JIT and S&OP together support integrated decision-making and improve supply chain coordination? **b.** A hospital supply department faces issues with both overstocking and shortage of critical materials. Analyze how ABC and VED classification methods can support integration between materials management and supply chain decisions.	**CO4**
Q3.	**Attempt Any One question: (5 Marks)** **a.** Airlines like IndiGo face fluctuating demand throughout the year, with spikes during holidays and lean seasons in off-peak months. Effective capacity planning enables airlines to balance costs with service quality by optimizing fleet schedules and resource utilization. Appraise how capacity planning decisions affect cost efficiency and operational flexibility for IndiGo Airlines during seasonal variations. **b.** Retailers like Star Bazaar face large variations in consumer demand across stores and regions. This often leads to the Bullwhip Effect—where small demand fluctuations at the consumer end causes amplified variations upstream in the supply chain. Critically assess how the Bullwhip Effect impacts Star Bazaar's retail supply chain and evaluate strategies that could help mitigate it.	**CO5**
Q4.	**Read the caselet and attempt both the subsequent questions :(5x2 =10 Marks)** In late 2024, Priya Sharma, the newly appointed CEO of "UrbanBite," a rapidly growing quick-service restaurant chain in India, faced a critical challenge. Having taken charge in September 2024, Sharma was tasked with an aggressive expansion plan to launch 120 new outlets by the end of 2026, targeting tier-2 cities like Guwahati and Vadodara. To fuel this growth and prepare for a potential Initial Public Offering (IPO), a robust and cost-effective supply chain was imperative. The existing model, with three independent commissaries in Hyderabad, Kolkata, and Pune that sourced and processed their own ingredients, was becoming inefficient for the projected volumes. Sharma stated, "Our success hinges on building a lean supply chain that extracts costs from the system, giving us a competitive edge and pricing power in the market." UrbanBite's philosophy was built on a limited menu and a guaranteed 30-minute delivery of fresh, hot meals. Analysts observed that UrbanBite's logistics model, while inspired by global giants, was more complex due to its wider geographic spread. The revamped model started with strategic sourcing. For example, high-quality basmati rice was procured at the best price from a wholesale market in Karnal, Haryana. The company's refrigerated trucks would transport the rice to its central commissary in Delhi for processing into ready-to-cook bases. The temperature inside the delivery trucks was meticulously controlled based on the distance to	**CO6**

	retail outlets to ensure the ingredients were at the perfect state upon arrival. Outlets had a strict 72-hour window to use the processed bases. To optimize routes, the trucks passing through Jaipur en-route to Karnal presented a low-cost opportunity to open an outlet there, leveraging the existing logistics network. For its key ingredient, cheese, the following data is known: • Cost of the product: ₹90 per kg • Carrying cost: ₹180 per kg per year • Ordering cost: ₹750 per order • Total annual consumption: 100 tons **Questions**: **a.** Calculate the Economic Order Quantity (EOQ) and the associated annual total cost. Should the company accept a supplier offer of 1200 kg per order if a 4% discount is provided? Justify your answer with calculations. **b.** Identify the key components of the logistics model described in the case. Suggest and justify two possible improvements to this model to enhance efficiency and reduce costs further.	

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