

INDIRA UNIVERSITY, PUNE

SCHOOL OF BUSINESS- MBA

Term End Examination (2025 Pattern) April- May – 2026- Semester – II

Course Name: Inventory Management
Course Code: 25MBA282

Max. Marks: 50
Time: 2:30 Hrs.

Instructions

- All questions are compulsory. Kindly read the detailed instructions for each question.
- Question 1,2 & 3 carry 10 marks each.
- Question 4 carries 20 marks.

Q1.	Solve any 1: (10 Marks) a. A manufacturing firm produces items internally at a rate of 8000 units/year. Annual demand is 5000 units. Setup cost is ₹600 per setup, and holding cost is ₹25 per unit per year. i. Calculate Economic Production Quantity (EPQ). ii. Determine maximum inventory level. iii. Explain the advantage of EPQ over basic EOQ in this context. b. A company faces an average weekly demand of 300 units with lead time of 4 weeks. Standard deviation of demand during lead time is 100 units. Service level required is 95%. ($Z=1.65$) i. Calculate safety stock. ii. Determine reorder point. iii. Interpret the impact of higher service levels.	CO3
Q2.	Solve any 1: (10 Marks) a. A firm observes increasing inventory costs but stable demand. i. Analyze different types of inventory costs. ii. Evaluate their impact on profitability. iii. Suggest cost control measures. b. A warehouse has accumulated obsolete inventory due to demand shifts. i. Analyze causes of obsolete inventory. ii. Evaluate procedures to eliminate obsolete stock. iii. Recommend preventive strategies.	CO4
Q.3	Solve any 1: (10 Marks) a. A firm reviews inventory every 30 days. Average daily demand is 20 units, lead time is 5 days. i. Calculate target inventory level. ii. Determine order quantity. iii. Analyze limitations of periodic review system.	CO 5

	b. A company maintains cycle stock, safety stock, and seasonal stock. - Differentiate between stock types. - Analyze their role in demand fulfillment. - Suggest optimal balance.	
Q.4	Case Study: (20 Marks) A large FMCG company operates with multiple distribution centers across India. It deals with thousands of SKUs and experiences the following challenges: - Frequent stockouts in urban markets despite high overall inventory - Excess stock in rural warehouses leading to obsolescence - High carrying costs (approx. 28% annually) - Poor coordination with suppliers leading to delayed replenishment - Lack of real-time inventory visibility - Demand variability due to promotions and seasonal fluctuations The company is considering: - Implementation of Vendor Managed Inventory (VMI) with key suppliers - Adoption of Just-in-Time (JIT) for fast-moving SKUs - Use of advanced forecasting and safety stock models - Introduction of inventory performance metrics (stock turnover, fill rate) - Identify and quantify (where possible) the major inventory-related issues faced by the company. Suggest suitable inventory control techniques for each issue. - Critically analyze how JIT and VMI can address the company's operational inefficiencies. Highlight risks involved. - Design a comprehensive inventory management system integrating: - Inventory classification - Appropriate control systems (Q/P) - Safety stock strategy - Supplier coordination model Justify your recommendations in terms of cost reduction, service level improvement, and operational efficiency.	CO 6
