

Daffodil International University
Faculty of Business and Entrepreneurship
Department of Business Administration
Final term Examination: Summer 2026
Course Instructor: FS

Course Title: Inventory Management

Time: 02:00 Hours

Course Code: 0416-413

Total Marks: 40

Please answer the following questions. You are required to attempt all of them.

1	Daffodil Consumer Products Ltd. manufactures and distributes a range of household and personal-care products through supermarkets and retail outlets across Bangladesh. Before preparing its annual inventory and forecasting plan, the company reviewed the historical demand of five major products. The Supply Chain Manager found that the products did not follow the same demand pattern. One product showed a steady increase in demand over several years, another experienced regular increases and decreases during particular months of the year, while a third showed long-term rises and falls associated with changes in the overall economy. A fourth product had demand that fluctuated randomly around a relatively stable level, and a specialized spare part experienced sporadic demand with several periods of zero sales. The manager explained that identifying the correct demand pattern is important because the pattern of historical demand helps the company select an appropriate forecasting approach and make better inventory decisions. a) Explain the five basic demand patterns-Trend, Seasonal, Cyclical, Random/Irregular, and Lumpy/Intermittent and distinguish between any two patterns using examples from the case. b) Explain the demand situations described in the case and identify the most appropriate demand pattern for each product. Explain how recognizing the correct demand pattern can help ABC Consumer Products Ltd. improve its inventory forecasting decisions.	10	CLO 1 LII
2	A garments manufacturing company manages hundreds of inventory items, including fabrics, dyes, spare parts, packaging materials, and accessories. The Inventory Manager wants to improve inventory control because some items move very quickly, some remain unused for long periods, some are expensive, some have highly variable demand, and others are critical for uninterrupted production. The company also faces difficulties in obtaining certain imported materials and experiences seasonal demand for some products. The Inventory Manager decides to classify inventory using different methods: ABC based on annual consumption value, FSN based on movement rate, HML based on unit price, XYZ based on demand variability, VED based on criticality, SDE based on availability, and SOS based on seasonality. a) Apply the appropriate inventory classification method to the following situations and classify each item: High annual consumption value, No movement for more than one year, Difficult to procure, Critical for production continuity, Highly variable demand.	10	CLO 2 LIII

	b) Apply the appropriate classification method to the following inventory-control needs: A. Financial importance, B. Movement rate, C. Unit price, D. Demand variability, E. Seasonality. Identify the relevant classification method for each and briefly state its purpose.		
3	A large distribution warehouse stores different types of inventories, including palletized finished goods, small spare parts, and slow-moving items. The warehouse currently uses floor storage for most products, which has resulted in poor space utilization and difficulty locating some items. Management is considering pallet racking, shelving and bin storage, and Automated Storage and Retrieval Systems (AS/RS) to improve warehouse operations. a) Analyze the advantages and limitations of the current bulk/floor storage system and identify two problems it may create for warehouse operations. b) Analyze the storage requirements of the different inventory types in the case and determine which storage system like pallet racking, shelving/bin storage, or AS/RS would be most appropriate for each type. Justify your choices.	10	CLO 3 LIV
4	A manufacturing company purchases four major categories of materials. Item A is a commonly available material with low purchasing value and many suppliers. Item B has high purchasing value and is available from several qualified suppliers. Item C has low purchasing value but is difficult to obtain because only a few suppliers are available. Item D has both high purchasing value and high supply risk, and any shortage could seriously disrupt production. The Procurement Manager wants to use the Supply Positioning Model (Kraljic Matrix) to develop appropriate purchasing strategies for the four categories. a) Create a procurement strategy by classifying Items A- D as Regular, Leverage, Bottleneck, or Critical items. Develop one suitable procurement approach for each category. b) Design an action plan for managing the four categories of items. Propose suitable strategies for supplier selection, negotiation, supply continuity, and risk reduction for the Regular, Leverage, Bottleneck, and Critical categories.	10	CLO 3 LVI