KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2024/2025ACADEMIC YEAR
THIRD YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(BUSINESS ADMINISTRATION)

Date: 12th August, 2024
Time: 11.30am –1.30pm

KPS 2301 INVENTORY PLANNING

INSTRUCTIONS TO CANDIDATES

ANSWER **QUESTION ONE (COMPULSORY)** AND **ANY OTHER TWO** QUESTIONS

QUESTION ONE (30 MARKS)

Read the Case Study below and answer the questions that follow:

INVENTORY PLANNING AT PRACTICAL RETAIL CO.

Practical Retail Co. (PRC) is a global clothing retailer company known for its fast-fashion products. In recent past, the company has been expanding rapidly, leading to increased complexity in its inventory planning and management. PRC faced challenges such as stockouts of popular items, overstocking of less popular items, and high inventory holding costs. To address these issues, PRC decided to revamp its inventory planning process. The key Components of the New Inventory Planning System will include Demand Forecasting to implement advanced predictive analytics to improve accuracy in forecasting demand for various products, ABC Analysis to help in Classifying inventory items into three categories (A, B, and C) based on their importance and sales volume to prioritize management efforts, Reorder Point System for Setting up automated reorder points to replenish inventory just in time, Supplier Collaboration to help in Working closely with suppliers to ensure timely and flexible delivery schedules, Inventory Optimization Software, Using specialized software to optimize inventory levels across all stores and warehouses and regular Audits for Conducting regular inventory audits to maintain accuracy and identify discrepancies.

In order to have a smooth change over in inventory planning, Implementation of the new system was implemented over a period of eight months. Initial phases focused on data collection and analysis to set accurate baseline forecasts. Training sessions were conducted for staff to familiarize them with the new tools and processes. The system was first tested in a few key stores before being rolled out company-wide. The result of the implementation of the new changes after one year, PRC reported significant improvements in the following ways stockouts of popular items decreased by 20%, overstocking of less popular items reduced by 15%, inventory holding costs lowered by 5%, improved customer satisfaction due to better product availability and enhanced supplier relationships resulting in more flexible and reliable deliveries.

Based on the above case study, answer the following questions;

a) Most manufacturing organizations that have not incorporated manufacturing Best Practices undergo many challenges in inventory management. Discuss the primary challenges of inventory management faced by Practical Retail Co before implementing the new inventory planning system.

(5 Marks)

b) Lower Demand Forecasting Accuracy is a key indicator of challenges an organization is likely to face in the management of her inventory. Explain ways in which the demand forecasting component of the PRC business contributed to the success of PRC's new inventory planning system. (5 Marks)

c) ABC analysis is a key strategy that most businesses use to manage their inventory. Explain the meaning of ABC analysis, and how it contributed to inventory management of category A items: High-value items with a low sales frequency. (5 Marks)

d) Determining the correct reorder point by an organization assists in optimizing inventory. Discuss how the reorder point system assisted PRC to improve her inventory management.

(5 Marks)

e) Supplier Relationship Management is a key component of a business. Discuss ways in which supplier collaboration enhanced the inventory planning process at PRC.

(5 Marks)

f) Audits are a critical business process in a manufacturing set up. Explain five ways in which regular inventory audits is important for PRC's inventory planning system. (5 Marks)

QUESTION TWO (20 MARKS)

a) A group of supply chain management students are visiting Meta Meta Enterprises. The students are here to learn practical aspects of statistical applications as a key driver in inventory planning. The Production Manager is preparing a presentation for the students. Discuss importance of statistical applications that the Production Manager should include in his induction pack to the students.

(8 Marks)

b) Mr. Maxmillan is the Distribution Manager at Maxmillan PLC. Maxmillan is expecting a group of supply chain students who are visiting their newly constructed factory to increase their appreciation of supply chain management practise. Discuss six ways of overcoming challenges in distribution of materials that Mr Maxmillan should include in his training pack for the students during the visit.

(6 Marks)

c) Mary is facing constant complaints from customers about delays in receipt of their orders. She has agreed with her customers on signing service level agreements that include Key Performance Indicators (KPIs) to measure performance. Discuss Key Performance Indicators (KPIs) essential for measuring the effectiveness and efficiency of Distribution Requirement Planning (DRP) processes that Mary should include in her Service Level Agreements with the customers.

(6 Marks)

QUESTION THREE (20 MARKS)

a) Despite the fact that MRP provides quick wins in inventory management. This system has several limitations. Discuss the key limitations of Materials Requirement Planning (MRP) as a business solution.

(8 Marks)

b) The choice of a purchase model to be deployed by an organization is a key success factor to any organization. Explain the factors that an organization needs to consider when making a choice of a purchasing model to deploy.

(6 Marks)

c) Procurement interacts with several departments in an organization. Describe ways in which procurement interacts with Operations Management.

(6 Marks)

QUESTION FOUR (20 MARKS)

a) Procurement is a critical aspect of business in ensuring profitability of an organization however there are many risks associated with procurement. Procurement risks must be managed well by any organization in order to survive the turbulence of compliance and governance. Discuss ways an organization can overcome the challenges of risks associated with procurement.

(6 Marks)

b) Inventory planning risks come in many ways in an organization. If not handled well these risks are a big exposure to the organization. Explain eight types of inventory management risks that organizations are likely to face in their operations.

(8 Marks)

c) Inventory planning involves a lot of decision making. Sometimes, stake holders make right decisions while at times they make wrong ones. Describe some potential wrong decisions made in inventory planning.   (6 Marks)

QUESTION FIVE(20 MARKS)

a) Patrick the Production Manager with Mali Mali wants to incorporate inventory planning in the manufacturing process. Management thinks that incorporating inventory management will add to the cost of doing business. Discuss the reasons why inventory planning is important for the business of Mali Mali.

(8 Marks)

b) Operations Management involves many processes. To ensure continuous supply of raw materials, Mustafa the new Director of Operations wants to understand the different elements of operations management. Discuss the Key aspects of operations management that Mustafa must review.

(6 Marks)

c) The choice of a warehouse location is critical for the success of any plant. Mrs Minah, the Factory Manager is debating where to put up a new warehouse since the current one can no longer service the needs of the customers efficiently. Explain the factors that Minah needs to consider when choosing the new warehouse location.

(6 Marks)