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

Date: 8<sup>th</sup> August, 2024  
Time: 11.30am – 1.30pm

**KBA 2202 PRODUCTION AND OPERATIONS MANAGEMENT**

**INSTRUCTIONS TO CANDIDATES**

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

**QUESTION ONE (30 MARKS)**

**APEX ELECTRONICS**

In the bustling industrial hub of Nairobi, Kenya, Apex Electronics, a prominent manufacturing firm, stands out for its innovative approach to producing consumer electronics. However, despite its success, Apex Electronics has encountered significant challenges and strategic decisions in its production and operations management. One notable area of contention has been the firm's adoption of a lead strategy in production. Initially, Apex Electronics relied heavily on minimizing inventory to reduce costs and optimize cash flow. While this strategy initially seemed advantageous, it soon became apparent that maintaining minimal stock levels posed several drawbacks. Chief among these was the company's inability to promptly respond to fluctuations in customer demand. This limitation often resulted in missed sales opportunities and customer dissatisfaction, as the firm struggled to fulfill orders in a timely manner. With time, Apex Electronics faced mounting pressure to redesign its product offerings. The company needed to rethink and innovate its product lineup to remain competitive in the dynamic market.

This situation prompted a comprehensive evaluation of their current products and strategies to ensure they stayed relevant in the industry. In addressing planning within the organization, Apex Electronics employs a structured approach to ensure all aspects of its operations are well-coordinated. The company establishes long-term goals and objectives, while also focusing on intermediate-term plans that translate these goals into actionable steps. Additionally, daily production schedules, inventory management, and resource allocation are meticulously planned to ensure efficient workflow and timely delivery of products to customers. Despite its strategic planning efforts, Apex Electronics faces a range of operational challenges that impact its overall efficiency and effectiveness. These challenges require innovative solutions to ensure smooth workflow and maintain high product quality standards. The company has had to identify and address issues that disrupt production processes and compromise its performance. By tackling these problems, Apex Electronics aims to enhance its operational efficiency and sustain its competitive edge in the market. One advantage of the right facility layout is its significant impact on operational efficiency, workflow optimization, and product quality within Apex Electronics. The company meticulously considers various factors when determining its manufacturing facility layout to achieve strategic goals and enhance overall operational performance.

- a) Considering Apex Electronics' operational challenges, discuss the disadvantages associated with adopting lead strategy in production. (6 marks)
- b) Examine the factors within Apex Electronics that may have necessitated the redesign of its product offerings, emphasizing how these factors influenced market competitiveness and consumer demand. (6 marks)
- c) Illustrate the various types and levels of planning implemented at Apex Electronics to achieve organizational goals, incorporating a diagram to visually represent their interconnectedness and organisational alignment. (6 marks)
- d) Evaluate the interdependence and collaboration between Apex Electronics' production and operations management and its procurement department. (6 marks)
- e) Identify operational management issues likely to be encountered by Apex Electronics and propose effective solutions based the firms manufacturing activities. (6 marks)

### **QUESTION TWO (20 MARKS)**

- a) Examine the various strategies employed by organizations during the fourth stage of the product life cycle. ( 6 marks)
- b) Planning involves the process of determining what needs to be done, how it will be done, and when it will be done to achieve specific goals related to manufacturing goods or delivering services. explain the challenges of this process. (6 marks)
- c) What factors must Production and Operations Management (POM) managers carefully consider within their organization when determining capacity. (8 marks)

### **QUESTION THREE (20 MARKS)**

- a) Discuss the elements of a good forecast that help production and operations managers predict the future outcomes of various business decisions. ( 8 marks)
- b) Explain how forecasting play a crucial role and hold significant importance in an organization. (6 marks)
- c) In the context of Production and Operations Management, elaborate on the concept of verbal models by discussing various examples and their applications. ( 6marks)

### **QUESTION FOUR (20 MARKS)**

- a) Management themes refer to concepts or trends that are relevant to the field of management. These themes often reflect opportunities, and best practices that managers encounter in various organizational settings. Explain the management themes used in production and operations management. (6 marks)
- b) Manufacturing and service organization differ because manufacturing is goods oriented and service is act- oriented. discuss this statement. (6 marks)
- c) Investigate the diverse applications of employing mathematical models in Production and Operations Management. (8 marks)

### **QUESTION FIVE( 20 MARKS)**

- a) Discuss the different stages of the product life cycle, supported by a diagram to illustrating the distinctive features of each phase. (8 marks)
- b) Examine the reasons why production and operations managers have not yet fully embraced the use of Just-In-Time (JIT) in their operational strategies. (6 marks)
- c) Discuss the challenges presented by emerging trends in production and operations management and propose strategies for addressing them. (6 marks)