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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2023/2024 ACADEMIC YEAR
SECOND YEAR, SECOND SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(BUSINESS ADMINISTRATION)

Date: 13th April, 2023
Time: 11.30am –1.30pm

KBA 202 - PRODUCTION AND OPERATIONS MANAGEMENT

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

(Read the excerpt below and answer the questions that follow)

THE AUTOMOBILE INDUSTRY IN JAPAN

Japanese automotive firms initially relied heavily on technology transfer from the United States and Europe. Toyota was more aggressive in developing internal research and development capabilities, a strategy eventually adopted by other Japanese automobile manufacturers. Japanese automotive manufacturers also concentrated on process improvements, with Toyota being an early innovator. In the late 1940s through the early 1960's, Toyota transitioned away from push manufacturing techniques that were ubiquitous in the United States automobile industry. The firm reduced buffer stocks and instead adopted the principles of just-in-time (JIT) manufacturing. Raw materials and work-in-process were no longer pushed from early production stages to final assembly but were instead pulled forward only when needed. Components were produced and received in lots as small as possible, with no stockpiling and Toyota modified its equipment to allow for rapid set-up so it could be quickly transitioned to different jobs. The Japanese automotive industry began to hit its stride. By the late 1960s, both Toyota and Nissan had rapidly increased both their production and exports. By the late 1970s, exports accounted for over 50% of Japanese production and by 1980 Japan overtook the United States as the world's top automobile-producing country. Japanese automobile companies began building manufacturing facilities in North America, with Honda, Nissan and Toyota moving first and Mazda, Mitsubishi, Suzuki, and Isuzu eventually following. The yen's rapid appreciation after agreements made at the G-5 meeting in September 1985 led to further expansion of foreign production in both advanced and developing countries. The three largest Japanese firms globalized their operations at different paces, however, with Honda and Nissan expanding their foreign manufacturing footprint much more aggressively than Toyota.

Required;

- i) Explain the contribution of the research and development function to the success of the automobile industry in Japan? (4 Marks)
- ii) Discuss the principles of operations management being applied by the automobile industry in Japan. (4 Marks)

- iii) Explains the competitive priorities clearly applied in this excerpt. (4 Marks)
- iv) Discuss the process flow used by the automobile industry in Japan. (6 Marks)
- v) “. Japanese automobile companies began building manufacturing facilities in North America, with Honda, Nissan and Toyota moving first and Mazda, Mitsubishi, Suzuki, and Isuzu eventually following” Discuss the characteristics of an industry where competition is intense and the consequences of intense competition. (6 Marks)
- vi) Explain the following terms as used in the excerpt
 - i) Push and Pull
 - ii) JIT
 - iii) Process improvement (6 Marks)

QUESTION TWO (20 MARKS)

- a) Customer co-production has widely been seen as a way of increasing capacity by firms
Required
 - i) How would you improve the uptake of customer co-production in Kenya. (5 Marks)
 - ii) What competitive priority would be attained through customer co-production (5 Marks)
- b) What is capacity sharing and what are the challenges of using this approach. (5 Marks)
- c) Using a bank as an example, discuss the concept of capacity flexibility. (5 Marks)

QUESTION THREE (20 MARKS)

- a) In Nov 2022, KWUST held a graduation ceremony. Many activities had to be done prior to the graduation date eg. Preparing the graduation list, clearing students, issuance of gowns and transportation of furniture and arrangement of the same at the chancellor’s court.
Required,
 What key strategies for meeting demand do you think the university used in various activities? Justify your choice of strategy. (8 Marks)
- b) What approach of capacity addition do you think a company like Kenya Airways should adopt, frequent or infrequent? Why. (8 Marks)
- c) Chase and Aquilano define Operation Management as the design, operation and improvement of the production/service delivery system that creates the firm’s products or services. Critically analyze this definition. (4 Marks)

QUESTION FOUR (20 MARKS)

- a) What are the key considerations in retail service layout? (8 Marks)
- b) What are the characteristics of continuous flow lines? (8 Marks)
- c) There are a wide variety of career options in the field of production and operations management. Discuss some key opportunity areas in this field. (4 Marks)

QUESTION FIVE (20 MARKS)

- a) Explain the product layout and state the advantages and disadvantages of this layout type. (8 Marks)
- b) Explain why you would recommend using batch process flow rather than assembly line? (8 Mark)
- c) Briefly discuss the place of management science theory in the evolution of management thought (4 Marks)