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UNIVERSITY EXAMINATIONS

**2023/2024 ACADEMIC YEAR
SECOND YEAR FIRST SEMESTER
MAIN EXAMINATION**

**FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION**

COURSE CODE: MBA 813

**COURSE TITLE: TECHNOLOGY & OPERATIONS
MANAGEMENT**

DATE: 11/12/2023

TIME: 9.00AM-12.00PM

INSTRUCTION TO CANDIDATES

- 1) Answer Question **ONE**(Compulsory) and **ANY OTHER TWO** Questions
 - 2) Candidates must hand in their answer booklets to the invigilator while in the examination room
 - 3) Credit is given for legibility, clarity and use of relevant examples
 - 4) Question **ONE** is **30 marks** while Questions **2-5** carry **15 marks** each
 - 5) Clearly write your **Registration Number** on each answer sheet used
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TIME: 3 Hours

QUESTIONS: SECTION A

QUESTION TWO

Operations Managers spend most of their routine hours in making decisions under certainty or uncertainty. The various tools available to an Operations Manager include Models, Quantitative Approaches, Analysis of Trade-Offs and Systems Approach.

- a) Discuss Four primary reasons why Models are beneficial and effective to an Operations Manager (8 marks)
- b) Describe at least three (3) quantitative forecasting methods, all of which use a variety of mathematical models that rely on historical data and /or causal variables to forecast demand (7 marks)

(Total: 20 marks)

QUESTION THREE

- a) Distinguish between ordering cost and carrying cost by giving examples of each (4marks)
- c) An automobile manufacturer uses about 60,000 pairs of bumpers per year, which it orders from a supplier. The bumpers are used at a reasonably steady rate during the 240 working days per year. It costs 20% of the cost to keep the bumpers in inventory per year, and it costs \$25.00 to place an order. A pair of bumpers costs \$500.00.

Required

- i. Find out the EOQ? (5marks)
 - ii. How many orders will be placed per year? (4marks)
 - iii. Calculate the average inventory (2marks)
- (Total: 15 marks)**

QUESTION FOUR

Performance of an operations store is key focus for management in order to reduce costs. The Storage System must always justify itself in terms of investment and operating expense, by providing an adequate level of performance.

- a) Discuss Five Storage System Performance Indicators (10 marks)
- b) Explain any five Key Areas of Responsibility for an Operations Manager (5 marks)

(Total: 15 marks)

QUESTION FIVE

DEVKI Steel Manufacturers Ltd wants to estimate the transportation cost of its products based on the existing infrastructure networks in the global markets. As the new Supply Chain Director, the Board of Management requires you to design the most optimal route for sourcing its supplies and distributing its products. As you leave his office, the MD reminds you that, "Designing optimal supply chain requires an optimal transportation cost structure in place."

Required:

- a) Examine the significance of strategically locating distribution centres/warehouses along the supply chain network? (6 marks)
- b) Make a presentation to the Board of Management on possible modes of transportation to be considered in the distribution of their products (6 marks)
- c) Give any Three ways in which the transportation cost structure can be analysed. (3 marks)

(Total: 15 marks)