



**UNIVERSITY EXAMINATIONS**  
**SUPPLEMENTARY/SPECIAL EXAMINATION**  
**2020/2021 ACADEMIC YEAR**  
**FIRST YEAR SECOND SEMESTER**  
**FOR THE DEGREE OF MASTER OF BUSINESS**  
**ADMINISTRATION**

**COURSE CODE: MBA 813**

**COURSE TITLE: TECHNOLOGY AND OPERATIONS**  
**MANAGEMENT**

**DATE: 10/01/2021**

**TIME: 8.00AM-11.00AM**

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**INSTRUCTIONS TO CANDIDATES**

- 1) Answer Question **ONE**(Compulsory) and **ANY OTHER THREE** 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 **40 marks** while Questions **2-5** carry **20 marks** each
  - 5) Clearly write your **Registration Number** on each answer sheet used
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**TIME: 3 Hours**

**KIBU observes ZERO tolerance to examination cheating**

## QUESTIONS : SECTION A

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### QUESTION ONE

A company has an annual demand for material 'P' of 25000 tons per annum. The cost price per ton is RWF 2000 and stock holding is 25% per annum of the stock value. Delivery cost per batch is RWF 2400.

- (a) Using calculus, the formula for EOQ is derived as:

$$EOQ = \sqrt{(2DO/H)}$$

Define the following parameters;

- i. EOQ
  - ii. D
  - iii. P
  - iv. H
  - v. O
- (10mks)

- (b) Calculate the Economic Order Quantity (10mks)

- (c) According to CIPS (2012), the question of managing and controlling inventories or stocks arise only when the company holds inventories. Explain five reasons why an inventory manager would hold inventory

(10mks)

## QUESTIONS : SECTION B

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### QUESTION TWO

The General Manager of Nakumatt Holding has asked you to put up an inventory forecasting policy. He seems not to understand the various inventory demand forecasting techniques.

Discuss the following in light of the General Manager's request

- a) Delphi Approach (5mks)
- b) Expert Opinion (5mks)
- c) Consumer Analysis (5mks)

### QUESTION THREE

- a) Explain Five reasons why an operations manager would need to be familiar with supply chain management (5mks)

- b) Briefly explain Five benefits of practicing supply chain management in a manufacturing organization (10mks)

#### **QUESTION FOUR**

The Storage System must always justify itself in terms of investment and operating expense, by providing an adequate level of performance. Discuss Five Storage System Performance Indicators

(15mks)

#### **QUESTION FIVE**

Discuss any five basic tools of quality control used in manufacturing companies according to Ishikawa (15 Marks).