



(University of Choice)

# MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY

**(MMUST)**

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

**SECOND YEAR FIRST SEMESTER EXAMINATIONS  
FOR THE DIPLOMA**

IN

**INFORMATION TECHNOLOGY**

**COURSE CODE:** DBT 063

**COURSE TITLE:** SYSTEM ANALYSIS AND DESIGN

**DATE:** Wednesday 22/04/2022

**TIME:** 3:00p.m-4:30p.m

**INSTRUCTIONS TO CANDIDATES**

Answer Questions **ONE** and **ANY OTHER TWO**.

**TIME:** 1 Hour 30 Minutes

MMUST observes **ZERO** tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

### Question One (24 Marks)

- a) Define the following term. (3 marks)
- System
  - System analysis
  - System design
- b) State the **THREE (3)** basic constraints that a system must have. (3 marks)
- c) Consider the following requirements elicitation/gathering techniques:
- Interviews;
  - Questionnaires.
- Explain each of these techniques and discuss **TWO (2)** advantages and **TWO (2)** disadvantages of each. (8 marks)
- d) Discuss any **TWO (2)** properties of a system. (2 marks)
- e) A system analyst has been tasked with maintaining a company's system. Explain **THREE (3)** types of system maintenance he could carry out. (6 marks)
- f) Outline **TWO (2)** advantages of a data dictionary as a system analysis tool. (2 marks)

### Question Two (18 Marks)

- a) Describe each of the following types of systems (6 marks)
- Abstract
  - Open
  - Adaptive
- b) State **TWO (2)** objects of a data dictionary (2 marks)
- c) Ben used a data dictionary in analyzing a system. Outline **TWO (2)** benefits he realized from using this. (2 marks)
- d) Joan, a system analyst, carried out a feasibility study for a system. Explain **THREE (3)** areas of such studies. (6 marks)
- e) Explain **TWO (2)** reasons why employees should be trained to use a new system. (2 marks)

### Question Three (18Marks)

- A) Using a neat diagram, discuss the various elements of a system. (18 marks)

### Question Four (18 Marks)

- a) With the help of a diagram, explain the phases of a system development life cycle. (13 marks)
- b) Outline **THREE (3)** limitations of using waterfall model in system development. (3 marks)
- c) State **TWO (2)** responsibilities of a system analyst in an organization. (2 marks)

### Question Five (18 marks)

- a) Outline **FOUR (4)** guidelines followed when creating flowcharts. (4 marks)
- b) Differentiate between logical and physical system design models. (2 marks)

- c) Westech, an ICT company has been using project management software in its projects. Explain **THREE (3)** benefits that the company is realizing from using this. (6 marks)
- d) A company is planning to train its users on a new system it has acquired. Describe **THREE (3)** methods of user training it would apply. (6 marks)