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**MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY
(MMUST)**

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

MAIN EXAMINATIONS

FOR THE CERTIFICATE

OF

INFORMATION TECHNOLOGY

COURSE CODE: ITC 012

COURSE TITLE: INTRODUCTION TO DATABASE

DATE: 07/12/2022

TIME: 2:00-4:00PM

INSTRUCTIONS TO CANDIDATES

Answer SECTION A and any other **Two** questions from SECTION B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

SECTION A (24 Marks)

1. Define the following terms.
 - i. Field
 - ii. Table
 - iii. Query
 - iv. Primary Key **(4 Marks)**
2. (a) Explain when to use the following views when designing database table in Microsoft access
 - i. Datasheet view
 - ii. Design view **(4 marks)**(b) Outline **Four** Components of a database management system **(4 Marks)**
3. (a) State and explain any **Four** types of attributes used in database design **(4 Marks)**
(b) Outline any Four data types used in Microsoft Access **(4 Marks)**
(c) Explain why the following need to be optimized in database systems **(4 marks)**
 - i. Storage of data
 - ii. Retrieval of data

SECTION B (36 Marks)

4. (a) Define the roles of each of the following personnel in database systems
 - i. Specialized End user
 - ii. Database administrators
 - iii. Systems Analyst
 - iv. Software Developer **(8 Marks)**(b) State and explain any Four areas of database application in the modern world **(8 Marks)**
5. (a) Outlines steps used when creating a query in Microsoft Access **(8 Marks)**
(b) Sate and explain any Four causes of accidental data loss in a database system **(8 Marks)**
6. (a) Explain the following relationships in data modelling **(8marks)**
 - i. One to One
 - ii. One to Many
 - iii. Many to One
 - iv. Many to Many(b) Outline steps on how to create a one to one relationship in Microsoft access **(8 marks)**