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**GARISSA UNIVERSITY**

**UNIVERSITY EXAMINATION 2020/2021 ACADEMIC YEAR ONE**

**SECOND SEMESTER EXAMINATION**

**SCHOOL OF SCHOOL OF PURE AND APPLIED SCIENCES**

**FOR THE CERTIFICATE IN INFORMATION TECHNOLOGY**

**COURSE CODE: CIT 009**

**COURSE TITLE: DATABASE SYSTEM**

**EXAMINATION DURATION: 2 HOURS**

**DATE: 18/08/2021 TIME: 12.00-2.00 PM**

**INSTRUCTION TO CANDIDATES**

* **The examination has FIVE (5) questions**
* **Question ONE (1) is COMPULSORY**
* **Choose any other TWO (3) questions from the remaining FOUR (4) questions**
* **Use sketch diagrams to illustrate your answer whenever necessary**
* **Do not carry mobile phones or any other written materials in examination room**
* **Do not write on this paper**

**This paper consists of THREE (3) printed pages *please turn over***

**QUESTION ONE (COMPULSORY)**

1. Define the following terms.
2. Data (1 mark)
3. Database  **(1 mark)**
4. Database management system (**1 mark)**
5. **Relational Database** (**1 mark)**
6. **Non-Relational database** (**1 mark)**
7. Explain four major uses of Database Management system (4 marks)
8. What is the difference between a user and a schema (2 marks)
9. State Four examples of relational database management system (4 marks)
10. State and explain five characteristics of modern DBMS (10 marks)
11. List five types of Attributes used in Entity Relationship Model. (4 marks)

**QUESTION TWO**

1. Explain the difference between an Entity and an Attribute in ER diagram presentation (4 marks)
2. Explain TWO differences between SQL and NO SQL database (4 marks)
3. Explain THREE types of Relationship in ER diagram presentation (6 marks)
4. Explain THREE advantages of using DBMS in an organization (6 marks)

**QUESTION THREE**

1. List and briefly describe FIVE advantages of using electronic database approach in data storage as compared to the file-based approach (10marks)
2. Describe the function of the following tools found in a database management system
3. Data Definition Languages (DDL) (3 marks)
4. Data Manipulations Language (DML) (3 marks)
5. Data Dictionary (DD) (4 marks)

**QUESTION FOUR**

1. Outline the Functions of a DBMS? (7 marks)
2. State Factors to consider when choosing a DBMS. (5 marks)
3. State TWO advantages and TWO disadvantages of using DBMS in an organization (4 marks)
4. Explain the importance of DBMS for storage of files in an organization (4 marks)

**QUESTION FIVE**

1. A table called Employee has the following fields: Employee ID, First Name, Second Name, Date of Birth, Gender, Marital Status, Religion and Salary. Write SQL statements to do each of the following.
2. Retrieve all records [include all fields] from the table. (2marks)
3. Retrieve the Employee ID, First Name, Second Name, Date of Birth, Gender and Marital Status. (3 marks)
4. Write SQL commands to create a database name Garissa\_University and a table called student table then insert the following data; (15marks)

