AMREF INTERNATIONAL TRAINING CENTER

Qualification Code	**:**	091906T4HRI
Qualification	**:**	Health Records and Information Technology Level 6
Unit Code	**:**	HE/CU/HR/01/6/A
Unit Competency	:	Health Records Database Management

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. Marks for each question are indicated in the brackets.
2. The paper consists of **TWO** sections: **A** and **B**.
3. Candidates are provided with a separate answer booklet
4. **DO NOT** write on this question paper.

This paper consists of THREE (3) printed pages

Candidates should check the question paper to ascertain that all pages
are printed as indicated and that no questions are missing.

SECTION A: (40 MARKS)

Answer ALL questions in this section

1. A database administrator plays a crucial role in managing databases. Mention FOUR (4) functions of a database administrator.   **(4 Marks)**

2. In MS Access, various objects are used to structure and manage data. Outline FOUR (4) database objects in MS Access.   **(4 Marks)**

3. Using a database to store patient data offers several benefits. Identify FOUR (4) advantages of using a database to store patient data.   **(4 Marks)**

4. Relational databases are based on the concept of "relations" between different tables. Using well-labelled tables, illustrate this concept of relational databases.   **(4 Marks)**

5. There are various database software options available in the market today. Outline FOUR (4) examples of database software in the market today.   **(4 Marks)**

6. In MS Access, queries are essential for retrieving and manipulating data. State FOUR (4) types of queries in MS Access.   **(4 Marks)**

7. Primary keys and foreign keys are important in database constraints. Using a relevant example, differentiate between a primary key and a foreign key as used in database constraints.   **(4 Marks)**

8. A database environment consists of several components. Highlight FOUR major components of a database environment.   **(4 Marks)**

9. Primary keys and foreign keys serve distinct roles in relational databases. Outline FOUR (4) differences between primary and foreign keys.   **(4 Marks)**

10. The database approach has several advantages over the file system approach in database management. Mention FOUR (4) advantages of the database approach compared to the file system approach in database systems.   **(4 Marks)**

SECTION B: (60 MARKS)

Answer ANY THREE (3) questions in this section

11. The government of Kenya and also the private sector offering medical services have shifted their services from manual to electronic.

    a. Explain FIVE (5) challenges that faces medical providers who use manual method of capturing and storage of data.   **(10 Marks)**

    b. Discuss FIVE (5) mitigation measures for the above mentioned challenges
                                (10 Marks)

12. In the healthcare field, protecting patient data is crucial.

    a. Using valid examples, discuss FIVE (5) roles of data validation.   **(10 Marks)**

b. Explain FIVE (5) security features in MS Access that ensures sensitive health information is managed securely within a database.   **(10 Marks)**

13. You have been assigned a role to design a database for a health clinic to manage both patient information and their appointments. The database contains two tables: Patients and Appointments.

- The Patients table includes columns like Patient, Full Name, Date of Birth, Gender, Contact Number, Email, and Allergies.

- The Appointments table includes Appointment, Patient, Appointment Date, and Doctor ID.

Note:

- Data constraints include a Text format with a validation rule for Gender (accepting only "M" or "F") and a rule for Date of Birth to ensure only past dates are entered.

- Patient ID uniquely identifying each patient.

- Appointment ID uniquely identifies each appointment.

- Constraints ensure Appointment Date cannot be set in the past to avoid scheduling errors.

a. Identify the columns and assign appropriate data types for each one. Specify which columns should be primary and foreign keys, and write the necessary validation rules for each field.   **(10 Marks).**

b. Describe FIVE (5) reasons why it is essential to set constraints on fields like Date of Birth, Gender, Contact Number, and Appointment Date in a healthcare setting. **(10 Marks)**

14. When Choosing the type of database to use in your project largely depends on the type of data and also the way data is structure or organized.

a. Using well labeled diagrams, illustrate Five (5) database models. (15 Marks).

b. Describe Five (5) types of databases from the database models identified in (a) above.   **(5Mark)**