KITH & KIN INTERNATIONAL COLLEGE

7/11 Kaoli Olusanya Street, Owode Ibeshe, Ikorodu, Lagos State.

FIRST TERM EXAMINATION 2025/2026 ACADEMIC SESSION

NAME					
SUBJECT	DATA PROCESSING	CLASS	SS TWO	DURATION	2 HOURS

SECTION A: Objectives

INSTRUCTION: Answer **All questions** **Total: 20 marks**

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Q1. Which of the following database models organizes data into rows and columns within a single table?
A. Relational database
B. Hierarchical database
C. Flat file database
D. Network database

Q2. A primary advantage of Microsoft Access over flat file systems is that it:
A. Stores large multimedia files efficiently
B. Links related tables together using relationships
C. Requires no structured query language (SQL)
D. Eliminates the need for a computer

Q3. In a hierarchical database, data is organized:
A. In interconnected nodes with multiple parent-child relationships
B. As records linked together by primary and foreign keys
C. In a tree-like structure with parent and child nodes
D. In random storage blocks

Q4. Which of the following is NOT a feature of MS Access?
A. Ability to create tables, forms, and queries
B. Part of Microsoft Office Suite
C. Command line–only interface for database access
D. Support for relational database design

Q5. A database software that is open-source and widely used for web applications is:
A. Oracle
B. MySQL
C. IBM DB2
D. MS Access

Q6. Which of the following best describes a **data model**?
A. A collection of raw facts and figures
B. A diagram that shows how data is stored and related
C. A type of database management system
D. A program used to manipulate spreadsheets

Q7. Which of the following is **NOT** a stage of developing a data model?
A. Conceptual design
B. Logical design
C. Physical design
D. Arithmetic design

Q8. Which of the following is an example of a data model?
A. Flat file model
B. Microsoft Access
C. Operating system
D. Computer network

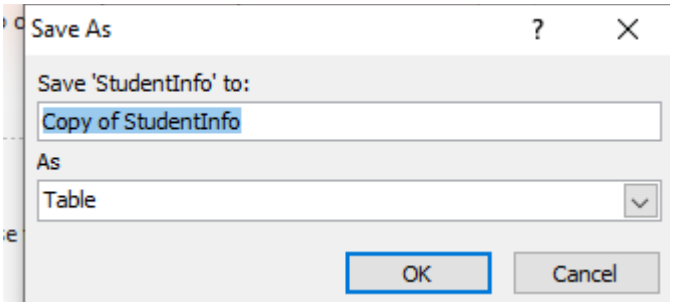
Q9. The **conceptual data model** is primarily concerned with:
A. The physical storage of data on hardware
B. The logical relationships and meaning of data
C. The programming language used in databases
D. The speed of data retrieval

Q10. Which of the following correctly matches a data model with its unique feature?
A. Flat file – organizes data into tables with keys

B. Hierarchical – arranges data in parent–child tree structure
C. Network – stores data without relationships
D. Relational – manages data in a single row & column

Q11. Which of the following list below is an example of database software**?**
[Excel, CorelDraw, Oracle, Photoshop]
A. Excel
B. Oracle
C. Photoshop
D. CorelDraw

Q12. Which of the following **features is unique to MS Access**?
A. Slide transitions
B. Formula bar
C. Tables, Queries, Forms, Reports
D. Clip art gallery

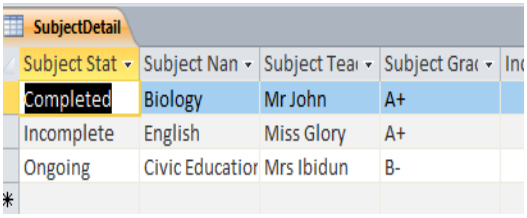


Q13. The image above shows which stage of **working with a database file**?
A. Creating a new table
B. Saving a database file
C. Designing a form
D. Opening a query

Q14. A student is asked to create and save a new database in MS Access. Which of the following is the **correct sequence**?
A. Save → Type name → New database
B. New database → Type name → Save
C. New database → Save → Type name
D. Type name → Open → Save

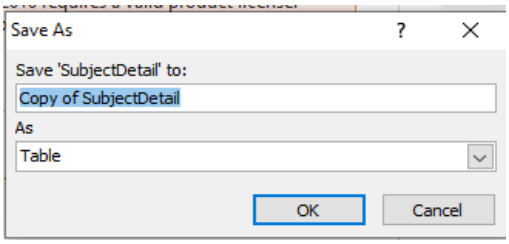
Q15. What type of software is MS Access?
A. Spreadsheet software
B. Database software
C. Presentation software
D. Word processing software

Q16. The diagram below shows a **table with rows and columns**.



This is an example of:
A. File storage system
B. Database table
C. Flowchart diagram
D. Spreadsheet chart

Q17. The picture below shows a step executed in **MS Access**.



This step is used to:

A. save a database file
B. print a database table
C. exit Microsoft Access
D. name, save and assign location to a database file

Q18. Which of the following BEST describes the use of a Database Management System **(DBMS)**?
A. It allows multiple users to store, organize, and retrieve data efficiently
B. It is mainly used for drawing diagrams and flowcharts
C. It is software for editing images and sound
D. It is software used to browse the internet

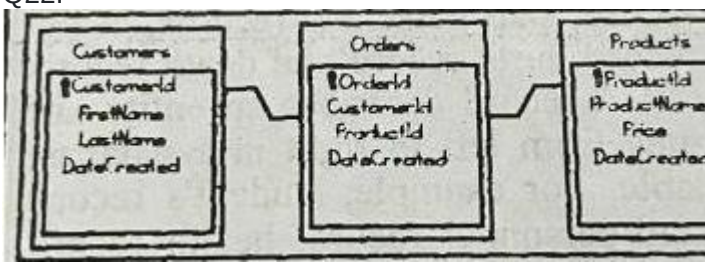
Q19. Which of the following is NOT a feature of MS Access?

A. Queries
B. Forms
C. Reports
D. Slide Master

Q20. What is the main purpose of a form in MS-Access?
A. To perform calculations on data
B. To create queries for data retrieval
C. To provide a user-friendly interface for entering and viewing data
D. To delete tables from a database

Q21. The function of the foreign key in a database is to -------
A. uniquely identify tuples in a table
B. provide a link between data entity occurrence
C. uniquely identify an entity occurrence
D. uniquely identify each record in a table

Q22.



Which of the following lists contains the primary keys in the figure above?
A. Customers, Orders, and Products
B.CustomerId, OrderId, ProductId
C.CustomerId, FirstName, LastName and DateCreated
D. Customers, CustomerId, FirstName, LastName and DateCreated

Q23. All the following are TRUE about a Form in MS-Access EXCEPT:
A. It provides a user-friendly interface to enter and edit data
B. It allows direct manipulation of table records
C. It can include buttons, drop-downs, and other controls
D. It is mainly used to retrieve data for analysis

Q24. All the following are TRUE about a **Query** in MS-Access EXCEPT:
A. It can filter records based on criteria
B. It can calculate totals or averages using functions
C. It automatically updates the original table without saving
D. It can retrieve data from multiple tables

Q25. The "Library_Books" table has fields: Book_ID, Title, Author, Genre, Year_Published, Availability. Which query criterion would retrieve books published **after 2015** and are **Available**?
A. `Year_Published > 2015 AND Availability = 'Available'`
B. `Year_Published < 2015 OR Availability = 'Available'`
C. `Availability = 'Available'`
D. `Year_Published = 2015`

Q26. You are asked to create a report that shows all Fiction books currently available from a library database. Which sequence of MS-Access objects would you use?
A. Table → Form → Query → Report
B. Table → Query → Report
C. Table → Query → Form
D. Query → Table → Form → Report

Q27. Which MS-Access object is best used to present a formatted list of data for easy reading and printing?
A. Table
B. Query
C. Form
D. Report

Q28. Which of the following is a significance of data modelling?
A. Reduces redundancy and ensures consistency of data
B. Automatically updates hardware components
C. Deletes unnecessary software from the system
D. Increases the number of network users

Q29, Which of the following is not a component of a DBMS?
A. Hardware
B. Software
C. Internet Browser
D. Procedures

Q30. All the following are TRUE about the "Procedures" component of DBMS EXCEPT**:**
A. It defines rules for using the database efficiently
B. It is a set of instructions guiding data maintenance
C. It automatically generates tables and queries
D. It helps users follow standard operations in the database

Q31. Why is data modelling important in a school library database?
A. It ensures tables, queries, forms, and reports are properly organized
B. It automatically issues books to students
C. It manages the network connections between computers
D. It deletes old books from the database

Q32. All of the following are true about *Normalization* in databases EXCEPT:
A. It reduces redundancy and anomalies in data storage.
B. It ensures that each relation has only one candidate key.
C. It improves query performance in all scenarios.
D. It organizes attributes into tables based on functional dependencies.

Q33. Normalization is the process of organizing data in a database to reduce _____ and improve data integrity.
A. Redundancy
B. Normal forms
C. Data types
D. Indexing

Q34. All of the following are problems of tables in **First Normal Form (1NF)** EXCEPT:
A. Repeating groups of attributes
B. Multi-valued attributes
C. Lack of atomicity in attributes
D. Absence of a primary key

35. Use the table below to answer question 35

Orders Table

OrderId	CustomerName	ProductId	ProductName	Quantity	CustomerAddress
101	Alice	P01	Laptop, Mouse	2	12 Kings St.
102	Bob	P02	Keyboard	1	45 Queen Ave
103	Alice	P03	Monitor	1	12 King St.

Which of the following **violations of 1st Normal Form (1NF)** can be observed here?
A. Repetition of CustomerName across multiple rows
B. Repetition of ProductName values
C. Presence of multi-valued or non-atomic attributes
D. Functional dependency between OrderID and ProductID

Q36. A table is in 1st Normal Form (1NF) if …….
A. it has no duplicate records
B. all fields contain only single (atomic) valiues
C. it contains at least one foreign key
D. the data is stored in alphabetyical order

37. In the table below, which normalization problem is present?

Order ID	Customer Name	Customer Address	Product ID	Product Name
101	Mariam	3, King St	P01	Mouse, Monitor

A. Functional dependency between CustomerName and ProductID
B. Multi-valued attribute in ProductName
C. Missing primary key
D. No foreign key assigned

Q38. Refer to the table below for question 38.
Student_Course Table

StudentId	StudentName	CourseId	InstruvtorName
501	John	C01	Prof. Smith
502	Mary	C02	Prof. Friday
501	John	C02	Prof. Friday

Which of the following is the correct next step if we want this table to reach **Third Normal Form (3NF)**?
A. Split into `Student(StudentID, StudentName)` and `Course(CourseID, InstructorName)`
B. Split into `Student(StudentID, StudentName)`, `Course(CourseID.`, and `Instructor(InstructorName)`
C. Leave as it is since it already satisfies 3NF
D. Only remove `InstructorName` and keep others in the same table

Q39. All of the following definitions are correct **except------**
A) Entities are real-world objects or concepts stored as tables.
B) Attributes are properties of entities, represented as fields or columns.
C) Relationships link instances of entities, showing associations between tables.
D) Attributes define how tables are physically stored in a DBMS.

Q40. Which of these is NOT a feature of the Entity-Relationship (ER) model?
A) Entities are represented as boxes in diagrams.
B) Attributes describe the properties of entities or relationships.
C) Relationships are always one-to-many.
D) Entity sets group instances of the same entity type

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SECTION A: THEORY

INSTRUCTION: Answer **any FOUR (4)** questions from this section.
Each question carries 10 marks.
All questions carry equal marks.

1. (a) Explain the term *Database* (2 marks)
(b) State three (3) uses of a Database Management System (DBMS). (3 marks)
(c) Give three (3) examples of database software. (3 marks)
(d) List two (2) features of Microsoft Access. (2 marks)

Q2. You have been tasked to manage a simple database in **MS-Access** for your school project.

a. i. Describe the steps involved in creating a new database file in MS-Access. (2 marks)
ii. Explain how to save the newly created database file with an appropriate name. (2 marks)

b. i. Explain how to open an existing database file in MS-Access. (2 marks)
ii. Mention two ways to locate a saved database file on your computer. (2 marks)

c. Describe the steps to properly exit MS-Access after completing your work. (2 marks)

Q3. A class teacher use a database to keep students' record. Table 2 shows part of the information in the database. **waec 2023**

Table 2

Index number	Surname	First Name	Date of Birth
4012503001	Umar	Mohammed	25/10/1999
4076666022	Ugbede	Micheal	01/07/2001
4132738017	Okeke	Obinna	22/03/2002
4190328027	Musa	Abdullahi	31/07/1998
42303280011	Ayodele	Funsho	23/05/1999
4300206001	Okeke	Ibanga	21/04/2021
4360107015	clerke	micheal	25/01/1999

a (i) Identify the primary key. (1 mark)
(ii) Give one reason for the answer in 3(a)(i) (1 ,mark)
(iii) Explain three methods the teacher could employ in order to secure the students' data. (3 marks)

b.(i) State **two features** of the Entity-Relationship (ER) model. (2 marks)
(ii) From the entity set of a school database system, identify **two** possible objects (entities) that can exist. (2 marks)

(c) With the aid of **one** suitable examples, describe the relations that can exist between one set of entities in the entity model. (1 mark)

Q4. Explain the following database management terms: **waec 2019**
i. entities (2 marks)
ii. attributes (2 marks)
iii. relationships (2 marks)

b. Define cardinality in database management (1 mark)
ii. Mention three cardinality relationship in database management (3 marks)

Q5. You have been tasked to manage a small library database in **MS-Access**.

a. i. Explain what a table is in MS-Access. (3 marks)
ii. Mention two types of data you would store in a library table.

b. i. Define a query in MS-Access. (3 marks)
ii. Explain how a query can help the librarian find available books published after 2015.

c. i. What is a form in MS-Access? (2 marks)
ii. State one advantage of using a form instead of entering data directly into a table.

d. i. What is a report in MS-Access? (2 marks)
ii. Mention one situation where generating a report is useful in a school library

Q6. A medium-sized firm maintains an unstructured staff table with the following fields:

```
StaffID | Name | Address | Department | PhoneNumbers
```

where **PhoneNumbers** may contain multiple contact numbers separated by commas.

a. Explain the term **Normalization**. (2 marks)
b. Outline **three benefits** of normalizing database tables. (3 marks)
c. Identify **two problems** with the given table that violate **First Normal Form (1NF)**. (2 marks)
d. Design a set of tables in proper **1NF**. Show table names and fields only. (3 marks)