Course: Data Base Semester: 1st term 2025/2026	Lecturers: Dr. Nehal El Azaly, Dr. Dina Abdelhafiz
Review Questions (1)	

1. What is a Database?

Answer: A structured collection of related data stored in tables.
How to do it in MS Access: In Access → File → New → Blank Database → Create.

2. What is a Table?

Answer: A table is a collection of related data organized in rows (records) and columns (fields).
How to do it in MS Access: Use 'Create' → 'Table Design' to define fields and data types.

3. What is a Primary Key?

Answer: A unique field that identifies each record.
How to do it in MS Access: Right-click a field → 'Primary Key'.

4. What is a Foreign Key?

Answer: A field linking one table to another table's Primary Key.
How to do it in MS Access: Add CustomerID in Orders → Link in Relationships tool.

5. Explain One-to-One Relationship.

Answer: Each record in one table matches exactly one in another.
How to do it in MS Access: Link EmployeeID fields in Employees and Cars tables.

6. Explain One-to-Many Relationship.

Answer: A single record in one table links to multiple in another.
How to do it in MS Access: Connect CustomerID (PK) to CustomerID (FK) in Orders.

7. Explain Many-to-Many Relationship.

Answer: Records in one table relate to many in another.

How to do it in MS Access: Create Enrollments (junction) table to link Students & Courses.

8. What is Referential Integrity?

Answer: Ensures consistent data across related tables.
How to do it in MS Access: Enable 'Enforce Referential Integrity' in Relationships window.

9. What is Lookup Wizard used for?

Answer: To create dropdown lists referencing another table's data.
How to do it in MS Access: In Table Design → Field → Lookup Wizard → Select Source Table.

10. How to Create a Relationship in Access?

Answer: Use Database Tools to connect tables via key fields.
How to do it in MS Access: Open 'Relationships' → Drag key fields → Enforce integrity.

Complete the Following

1. A database is a collection of _____ that can be easily managed and accessed.
Answer: related data

2. In Microsoft Access, data is stored in objects called _____.
Answer: tables

3. Each row in a table represents a _____.
Answer: record

4. Each column in a table represents a _____.
Answer: field

5. A DBMS stands for _____.
Answer: Database Management System

6. The field that uniquely identifies a record is called the _____ key.

Answer: primary

7. The relationship where one record in Table A matches multiple records in Table B is called _____ relationship.
Answer: one-to-many

8. To prevent data inconsistency between tables, we use _____.
Answer: referential integrity

9. In Access, relationships between tables are created using the _____ tab.
Answer: Database Tools → Relationships

10. A field in one table that refers to a primary key in another table is known as a _____ key.
Answer: foreign

11. A _____ is a graphical interface in Access that allows linking tables.
Answer: relationship window

12. The _____ view in Access allows defining fields and data types.
Answer: Design View

13. In a many-to-many relationship, a _____ table is used to link two tables.
Answer: junction

14. The data type used to store large text entries is called _____.
Answer: Long Text (Memo)

Section 3 – True or False (Correct if False)

16. A primary key can contain duplicate values. (False)
Correction: A primary key must contain unique values.

17. One-to-One relationships are the most common type in databases. (False)
Correction: One-to-Many relationships are most common.

18. Referential integrity ensures linked data remains consistent. (True)
Explanation: Prevents orphan records.

19. A foreign key is always found in the same table as its primary key. (False)
Correction: A foreign key refers to a primary key in another table.

20. Each table in Access must have a primary key. (True)
Explanation: It uniquely identifies each record.

Section 4 – Short Descriptive Questions

21. Explain the purpose of a Database Management System (DBMS).
Answer: A DBMS is software used to create, manage, and manipulate databases efficiently.

22. What is the difference between a field and a record?
Answer: A field represents a single data attribute (column), while a record is a complete set of fields (row).

23. What is the importance of referential integrity?
Answer: It ensures consistency between related tables, preventing orphaned records.

24. Define a One-to-One relationship with an example.
Answer: A relationship where one record in Table A matches only one record in Table B, e.g., Employee and Company Car.

25. How does a One-to-Many relationship differ from Many-to-Many?
Answer: In One-to-Many, one record relates to many; in Many-to-Many, both tables have multiple related records.

Section 5 – Practical Access Tasks

26. Create a new database in Access named 'SchoolDB' and Design the following database tables and establish the indicated relationships in Microsoft Access.

1. Students Table – Fields:

* StudentID (Primary Key)
* Name
* Age

2. Courses Table – Fields:

* CourseID (Primary Key)
* CourseName
* Credits

3. Enrollments Table (Junction Table) – Fields:

* EnrollmentID (Primary Key)
* StudentID (Foreign Key)
* CourseID (Foreign Key)
* EnrollmentDate

4. Customers Table – Fields:

* CustomerID (Primary Key)
* CustomerName
* Phone
* Email

5. Orders Table – Fields:

* OrderID (Primary Key)
* OrderDate
* CustomerID (Foreign Key)
* OrderTotal

Required Relationships:

* One-to-Many: Customers → Orders (linked by CustomerID)
* Many-to-Many: Students ↔ Courses (linked through Enrollments table)

26. define a table 'Students' with fields: StudentID, Name, and Age. Set StudentID as the primary key.

Answer: Steps: Open Access → New Blank Database → Create Table Design → Define fields → Set Primary Key → Save as 'Students'.

27. Design a 'Courses' table and link it to 'Students' with a many-to-many relationship using a junction table 'Enrollments'.
Answer: Steps: Create 'Courses' table with CourseID (PK) → Create 'Enrollments' with StudentID and CourseID (FKs) → Use Relationships to link tables.

28. In the 'Orders' table, use Lookup Wizard to select a Customer from the 'Customers' table.
Answer: Steps: In Table Design → Select 'CustomerID' → Data Type → Lookup Wizard → Choose Customers table → Select CustomerID field.

29. Enable referential integrity between 'Customers' and 'Orders' tables.
Answer: Steps: Database Tools → Relationships → Drag CustomerID → Check 'Enforce Referential Integrity' → Save.

30. View all existing relationships in a database.
Answer: Steps: Database Tools → Relationships → Existing relationships will be displayed; click 'Show All Relationships'.