



### Section A Long type answer

- Question 1 What are the five main differences between a file-processing system and a DBMS?
- Question 2 What are two major disadvantages of a database system?
- Question 3 Define a relational, Domain, Attribute, Primary key.
- Question 4 What are candidate and alternate key.
- Question 5 Describe the two components of a relation in a relational database.
- Question 6 Define a relational database.
- Question 7 List tow reasons why null values may be introduced into the database.
- Question 8 What is referential integrity?
- Question 9 Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examination conducted.
- Question 10 Explain the difference between a weak entity set and a strong entity set.
- Question 11 Consider the entity Employee with following attributes.  
EMP\_ID, Employee-Name, Address, Phone, Dependent-Name, Relationship-to-Employee, Skill, Designation, Designation-Start-Date, Salary, Salary-Start-Date.
- Question 12 Give examples of
- A many-to-many relationship in which one of the participant is a weak entity.
  - A Many-to-many relationship in which one of the participant is another relationship.
  - An existence dependency.
  - A weak entity
  - An entity with composite attributes
  - An entity with multi-valued attributes.

**Consider the supplier relations.**

S# Supplier No.	Sname (Supplier Name)	Status	City
S1	Smith	20	London
S2	Jones	10	Paris

S3	Blake	30	Paris
S4	Adams	30	Athens
S4	Clark	20	London

S#	P# (Part No.)	Quantity
S1	P1	300
S1	P2	200
S2	P1	100
S2	P2	400
S3	P2	200
S4	P2	200

- Question 1 Get suppliers with status supplier numbers for >20 and city is Paris.
- Question 2 Get supplier Numbers and status for suppliers in Paris, in descending order on status.
- Question 3 Get all Paris of supplier numbers such that the two suppliers are located in the same city.
- Question 4 Get unique supplier names for suppliers who supply part P2.
- Question 5 Give the same query above by using the operator IN.
- Question 6 Get part numbers supplied by more than one supplier. (Hint: it is retrieval with a sub-query, with inter-block reference and same table involved in both blocks).
- Question 7 Get supplier numbers for suppliers who are located in the same city as supplier S1. (Hint: Retrieval with sub query and unqualified comparison operator).
- Question 8 Get supplier names for suppliers who supply part P1. (Hint: Retrieval using EXISTS)
- Question 9 Get part numbers for parts whose quantity is greater than 200 or are currently supplied by S2. (Hint: Use a retrieval using union).
- Question 10 Suppose for the suppliers, who are supplying at least one part. (Hint: Retrieval using NULL).
- Question 11 Get the number of Suppliers, Who are supplying at least one part. (Hint: This query is using the built-in function count).
- Question 12 For each part supplied, get the part no. and the total quantity supplied for the part. (Hint: the query using GROUP BY).

- Question 13 Get part numbers for all parts supplied by more than one supplier. (Hint: it is GROUP BY with HAVING).
- Question 14 For all parts such that the total quantity supplied is greater than 300 (exclude from the total all shipments for which quantity is less than or equal to 200). get the part no. and the maximum quantity of the part supplied, and order the result by descending part no. within those maximum quantity values which are in ascending order.
- Question 15 Double the status of all suppliers in London. (Hint: UPDATE Operation).
- Question 16 Define the following terms:
- |              |          |           |
|--------------|----------|-----------|
| (a) Database | (b) DBMS | (c) RDBMS |
|--------------|----------|-----------|
- Question 17 What are various object in MS-Access?
- |             |             |             |
|-------------|-------------|-------------|
| (a) Table   | (b) Queries | (c) Forms   |
| (d) Reports | (e) Macros  | (f) Modules |
- Question 18 Plan the fields and the data types for creating a table, which will store the details of a customer.
- Question 19 Write down the steps for creating a table named 'TRANS' having the following fields.
- Trans\_No. which is of Numeric type and is unique.
  - Item\_No. which will store the transaction date. (Field size should be 5).
  - Trans\_Date which will store the transaction date. (Format:- 12' Jan 96)
  - Qty to be issued
- Question 20 How many kinds of Queries are there in MS-Access?
- Question 21 What is the difference between all of the Queries provided by MS-Access?
- Question 22 What is Query Wizard used for?
- Question 23 Can we make all kinds of Queries with the help of Query Wizard?

**Section A Multiple Choices**

**Question 1:-** Extension name of MS access database file is---

- (a) .mdb                      (b) .cdr                      (c) .doc                      (d) .xls

**Question 2:-** Relational model was given by

- (a) Von Neumann      (b) Blaise Pascal      (c) Charles Babbage      (d) EF Codd

**Question 3:-** Image data type is

- (a) Auto number      (b) currency      (c) OLE      (d) Hyperlink

**Question 4:-** Unique key can not take---

- (a) Null Values      (b) Duplicate Value      (c) Both      (d) default Value

**Question 5:-** Which is not a constraint

- (a) Not Null      (b) Primary key      (c) Foreign key      (d) Hyperlink

**Question 6:-** Auto number data type is used for -

- (a) Name      (b) Number      (c) Narration      (d) None

**Question 7:-** Which is not a RDBMS

- (a) ORACLE      (b) SQL Server      (c) Linux      (d) M.S.Access

**Question 8:-** Anomalies of database is

- (a) Redundancy      (b) Insertion      (c) Deletion      (d) All

**Question 9:-** Example of database is

- (a) Telephone Directory      (b) Patient record      (c) Inventory      (d) All

**Question 10:-** Three level architecture of data is-

- (a) Internal level      (b) Conceptual level      (c) External level      (d) All

**Section B True / False**

**Question 1:-** Validation rule is called constraints.

**Question 2:-** Accessing of record is called query.

**Question 3:-** Overall database design is called schema.

**Question 4:-** Refinement of database is used for optimize anomalies of database.

**Question 5:-** View is an logical internal object

**Question 6:-** Number of attribute in a relation is called degree.

**Write short notes of following-**

(A) Schema

(B) Pages

(C) Report

**Section C Long type answer**

**Question 1:-** What is database? How database manage by DBMS.

**Question 2:-** Explain about SQL Query and access design view query method with the help of example.

**Question 3:-** Perform query on following table object.

EMP (empno, ename, job, sal, deptno).

(a) To display all employee records.

(b) To display employee record who is found highest salary.

(c) To display employee record who is found second lowest salary.

(d) To display employee record whose job is same as job of "Neeraj".

(e) To display average salary, maximum salary, minimum salary in each department.

**Question 4:-** Explain about E-R model with the help of example. Also describe generalization, aggregation, specialization.

**Question 5:-** What are different types of Normalization technique? Explain each with suitable example.

**Question 6:-** What are different types of constraints in M.S. Access? Explain with suitable example.

**Question 7:-** What are different types of joining technique? Explain with suitable example.

**Question 8-** What are different types of data modeling technique? Explain each with suitable example.

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### Section A Multiple Choices

1. In the relational modes, cardinality is termed as:  
a. Number of tuples.                      b. Number of attributes.      c. Number of tables.                      d. Number of constraints.
2. Relational calculus is a \_\_\_\_\_ Language  
a. Procedural.                      b. Non- Procedural.                      c. Data definition language.                      d. High level language
3. In the architecture of a database system external level is the  
a. physical level.                      b. logical level.                      c. conceptual level                      d. view level.
4. In a database table, the category of information is called \_\_\_\_\_  
a. tuple                      b. field                      c. record                      d. All of above
5. Which of the following is not a database object?  
a. Tables                      b. Queries                      c. Relationships                      d. Reports

### Section B True/False

1. A file is a collection of similar records.
2. A database is a collection of interrelated files.
3. An historical advantage of using conventional files has been processing speed. They can be optimized for the access of the application.
4. Duplication of data items in multiple files is normally cited as the principal disadvantage of file-based systems.
5. A database is not necessarily dependent on the applications that use it.

### Section C Long type answer

**Note:** - Write **any six** answers of the following-

1.    a)    Describe any four Codd's rules/laws of RDBMS.  
      b)    What is Relational Model? Give Suitable example.
2.    What are the different Number field types in Access? Also differentiate between 'ANY' and 'ALL'
3.    Explain what joins are and how you can open the database in Access?
4.    Construct an E-R diagram for a hospital with a set of patients and a set of medical doctors. Associate with each patient a log of the various tests and examination conducted
5.    Describe following keys.  
      i.    What are command buttons? How to use command buttons?  
      ii.    What are the differences between a form and a report?
6.    What is the meaning of following field properties? Field Size, Format, Input Mask, Caption, Decimal Places, Default Value, Validation Rule, Validation Text, Required, Allow Zero Length, Indexed.
7.    How many kinds of Queries are there in MS-Access?

### **8. Consider Following Schema**

**Employee (ENO, ENAME, Dept, Designation, DOJ, Salary, Dept\_Location)**

#### **Write the following query**

- i)    List the employees having Designation as "Chairman" and .Dept\_Location as "Chennai"
- ii)    Set the salary as Rs.8,000/- having Designation as "Developer"
- iii)    List employee records ascending order by ename.
- iv)    List Ename of employees having 3rd alphabet in the name as "O".
- v)    List employee records who is find third highest, third lowest, second highest, second lowest, highest and lowest salary.