**1. Who is a DBA? What are the responsibilities of a DBA? April/May-2011**

A database administrator (short form DBA) is a person responsible for the design, implementation, maintenance and repair of an organization's database.

**2. What is a data model? List the types of data model used. April/May-2011**

A **database model**is the theoretical foundation of a database and fundamentally determines inwhich manner data can be stored, organized, and manipulated in a database system. It thereby defines the infrastructure offered by a particular database system. The most popular example of a database model is the relational model.

**3. Define database management system?**

Database management system (DBMS) is a collection of interrelated data and a set of programs to access those data.

**5. What are the disadvantages of file processing system?**

The disadvantages of file processing systems are

a) Data redundancy and inconsistency b) Difficulty in accessing data

c) Data isolation

d) Integrity problems

e) Atomicity problems

f) Concurrent access anomalies

**6. What are the advantages of using a DBMS?**

The advantages of using a DBMS are a) Controlling redundancy

b) Restricting unauthorized access

c) Providing multiple user interfaces

d) Enforcing integrity constraints. e) Providing backup and recovery

**7. Give the levels of data abstraction?**

a) Physical level

b) Logical level c) View level

**8. Define instance and schema?**

**Instance:**Collection of data stored in the data base at a particular moment is called an Instance of the database.

**Schema:**The overall design of the data base is called the data base schema.

**9. Define the terms**

**1) Physical schema**

**2) logical schema.**

**Physical schema:**The physical schema describes the database design at the physical level,

which is the lowest level of abstraction describing how the data are actually stored.

**Logical schema:**The logical schema describes the database design at the logical level, which

describes what data are stored in the database and what relationship exists among the data.

**11. What is conceptual schema?**

The schemas at the view level are called subschema‟s that describe different views of the

database.

**12. Define data model?**

A data model is a collection of conceptual tools for describing data, data relationships, data

**13. What is storage manager?**

A storage manager is a program module that provides the interface between the low level data

stored in a database and the application programs and queries submitted to the system.

**14. What are the components of storage manager?**

The storage manager components include

a) Authorization and integrity manager b) Transaction manager

c) File manager

d) Buffer manager

**15. What is the purpose of storage manager?**

The storage manager is responsible for the following a) Interaction with the file manager

b) Translation of DML commands in to low level file system commands c) Storing, retrieving and updating data in the database

**17. What is a data dictionary?**

A data dictionary is a data structure which stores meta data about the structure of the database ie. the schema of the database.

**19. What are attributes? Give examples.**

An entity is represented by a set of attributes. Attributes are descriptive properties possessed by

each member of an entity set.

**Example:**possible attributes of customer entity are customer name, customer id, Customer

Street, customer city.

**20. What is relationship? Give examples**

A relationship is an association among several entities.

**Example:**A depositor relationship associates a customer with each account that he/she has.

**22. Define single valued and multivalued attributes.**

**Single valued attributes**: attributes with a single value for a particular entity are called single

valued attributes.

**Multivalued attributes**: Attributes with a set of value for a particular entity are called

multivalued attributes.

**23. What are stored and derived attributes?**

**Stored attributes**: The attributes stored in a data base are called stored attributes.

**Derived attributes:**The attributes that are derived from the stored attributes are called derived attributes.

**24. What are composite attributes?**

Composite attributes can be divided in to sub parts.

**25. Define null values**

In some cases a particular entity may not have an applicable value for an attribute or if we do not know the value of an attribute for a particular entity. In these cases null value is used.

**26. Define the terms i) Entity type ii) Entity set**

**Entity type:**An entity type defines a collection of entities that have the same attributes.

**Entity set:**The set of all entities of the same type is termed as an entity set.

**27. What is meant by the degree of relationship set?**

The degree of relationship type is the number of participating entity types.

**28. Define the terms i) Key attribute**

**ii) Value set**

**Key attribute**: An entity type usually has an attribute whose values are distinct from each

individual entity in the collection. Such an attribute is called a key attribute.

**Value set:**Each simple attribute of an entity type is associated with a value set that specifies the

set of values that may be assigned to that attribute for each individual entity.

**29. Define weak and strong entity sets?**

Weak entity set: entity set that do not have key attribute of their own are called weak entity sets.

Strong entity set: Entity set that has a primary key is termed a strong entity set.

**35. What is meant by functional dependencies?**

Consider a relation schema R and a C R and ß C R. The functional dependency a ß holds on

relational schema R if in any legal relation r(R), for all pairs of tuples t1

**37. Explain trivial dependency?**

Functional dependency of the form a ß is trivial if ß C a. Trivial functional dependencies are satisfied by all the relations.

and t2 in r such that t1 [a] =t1 [a], and also t1 [ß] =t2 [ß].