**SATYAWATI SECONDARY SCHOOL**

**VYAS-2, DAMAULI**

**Class: - 10 E Learning Achievement Exam 2081 F.M. 50**

**Subject: DBMS**

**Time: 2 hrs.**

***Group A***

***1. Which of the following is the correct relationship between data, information, and a database management system (DBMS)?***

*A) Data is processed into information, and information is stored in a DBMS.*

*B) Data is always stored as information in a DBMS.*

*C) DBMS directly processes data into information without any intermediate steps.*

*D) Information is always generated from raw data manually, not through a DBMS.*

***2. Which of the following is true about the Entity-Relationship (ER) model in database design?***

*A) The ER model uses entities and relationships to visually represent data.*

*B) The ER model only represents data types without showing their relationships.*

*C) Entities in the ER model are always connected using keys.*

*D) The ER model focuses solely on storing data in tables.*

***3. Which of the following describes a "many-to-many" relationship in an ER diagram?***

*A) One entity is associated with exactly one instance of another entity.*

*B) One entity is associated with many instances of another entity, but not vice versa.*

*C) Many instances of one entity are associated with many instances of another entity.*

*D) Two entities are related with no defined number of occurrences.*

***4. Which of the following is true about a relational model in database design?***

*A) A relational model uses tables to represent entities and relationships.*

*B) A relational model does not require keys to uniquely identify records.*

*C) Data is stored as a network of nodes and links, not in tables.*

*D) A relational model only supports one type of data structure, the entity.*

***5. Which SQL command is used to retrieve data from a database?***

*A) INSERT*

*B) UPDATE*

*C) SELECT*

*D) DELETE*

***6. Which of the following best describes an INNER JOIN in SQL?***

*A) Returns all rows from the left table and matching rows from the right table.*

*B) Returns all rows from both tables, including those without matches.*

*C) Returns only rows where there is a match between both tables.*

*D) Returns all rows from the right table and matching rows from the left table.*

***7. What is the primary goal of normalization in a database?***

*A) To make the database faster*

*B) To organize data to reduce redundancy and improve data integrity*

*C) To store data in multiple formats*

*D) To create unnecessary tables in the database*

***8. Which of the following is NOT one of the ACID properties of a transaction?***

*A) Atomicity*

*B) Consistency*

*C) Isolation*

*D) Duplication*

***9. Which of the following is true about physical backup in a database?***

*A) It involves backing up the data in a readable format for easy transfer.*

*B) It includes copying the actual data files, transaction logs, and database configurations.*

*C) It is limited to backing up just the database schema.*

*D) It does not require any specific tools or software for backup.*

***Group B***

***Attempt short answer for the following questions (5\*5 = 25)***

*10. What is Relational model? Explain attribute, degree and domain.*

*11. Define SQL clause and explain any two of them.*

*12. Define Normalization, explain 2NF with example.*

*13. Explain Transaction and ACID properties.*

*14. Define database backup. Explain concept of database recovery,*

*Redo/undo.*

***Group C***

***Attempt long answer for the following questions (2\*8 = 16 )***

*15. Explain different symbols used in ER diagram. Define and discuss different types of mapping cardinalities.*

*16. Write SQL commands to create a table named Student\_info with the following columns:*

**regno** (as an integer)

**name** (as a string of up to 25 characters)

**class** (as an integer)

**gender** (string of 1 character (e.g., "M" or "F"))

**address** (string of up to 25 characters)