MID-TERM EXAMINATION PAPER

FACULTY	**:**	**COMPUTER SCIENCE AND MULTIMEDIA**
COURSE	**:**	**BACHELOR OF INFORMATION TECHNOLOGY (BIT)**
YEAR/ SEMESTER	**:**	**SECOND YEAR / FOURTH SEMESTER**
MODULE TITLE	**:**	**RDBMS**
DATE	**:**	**3RD MARCH 2022**
TIME ALLOWED	**:**	**3 HOURS**
START	**:**	**6:30 AM – 09:30 AM**
SET	**:**	**A**

Instruction to candidates

1. This question paper has THREE (3) Section
2. Answer **ALL** questions in Section A, MCQ.
3. Answer **5** questions in Section B, MSAQ
4. Answer **2** questions in Section C, MEQ
5. No scripts or answer sheets are to be taken out of the Examination Hall.
6. For Section A, answer in the OMR form provided.

Do not open this question paper until instructed.

(Candidates are required to give their answers in their own words as far as practicable)

SECTION A

Multiple Choice Questions **(30*1=30)**

1. Which one of the following refers to the copies of the same data?
   a. Data Repository
   b. Data Inconsistency
   c. Data Mining
   d. Data Redundancy

2. Which one of the following refers to the different data in multiple copies?
   a. Data Repository
   b. Data Inconsistency
   c. Data Mining
   e. Data Redundancy

3. Which of the following property refers Transaction should either happen or do not happen at all?
   a. Data Repository
   b. Data Inconsistency
   c. Atomicity
   d. Data Redundancy

4. The term "Data" refers to:
   a. The electronic representation of the information (or data)
   b. Basic information
   c. Raw Facts and figures
   d. Rows and Columns.

5. Which of the following refers to the number of tuples in a relation?
   a. Entity
   b. Column
   c. Cardinality
   d. None of the above

6. In the relational table, which of the following can also be represented by the term "attribute"?
   a. Entity
   b. Row
   c. Column
   d. Both B & C

7. In an E-R diagram attributes are represented by
   a. Rectangle.
   b. Square.
   c. Oval.
   d. Diamond.

8. DBMS helps achieve
   a. Data independence
   b. Centralized control of data
   c. Neither (A) or (B)
   d. both (A) and (B)

9. Which of the following are the properties of entities?
   a. Groups
   b. Table
   c. Attributes
   d. Switchboards

10. In a relation
    a. Ordering of rows is unimportant.
    b. No two rows are identical.
    c. (A) and (B) both are true.
    d. (A) and (B) both are false.

11. The RDBMS terminology for a row is
    a. Tuple.
    b. Relation.
    c. Attribute.
    d. Degree.

12. NULL value is
    a. The same as 0 for integer.
    b. The same as blank for character.
    c. The same as 0 for integer and blank for character.
    d. Not a value.

13. Which of the following is true
    a. Primary Key can hold a NOT NULL and a Unique value.
    b. Primary Key can hold a NULL and a Unique value.
    c. Primary Key can hold a NOT NULL and a non-Unique value.
    d. Primary Key can hold a NULL and a non-Unique value.

14. Primary key of one table used in another table is called a
    a. Foreign Key
    b. Unique Key
    c. Secondary Key
    d. Table Key

15. Which Database Model organizes data in a tree-like-structure?
    a. Hierarchical Model
    b. Relational Model
    c. Network Model
    d. Object-oriented Model

16. Relationships are created by dividing data into entity and attributes in
    a. Hierarchical Model
    b. Relational Model
    c. Network Model
    d. Object-oriented Model

17. An ER Diagram can be used in
    a. Database design
    b. Database troubleshooting
    c. Business process re-engineering
    d. All of the Above

18. An ER Model does not have a
    a. High-level Design.
    b. Relationships among Entities.
    c. Industry Standard Notation.
    d. All of the Above.

19. Primary key of one table used in another table is called a
    a. Foreign Key
    b. Unique Key
    c. Secondary Key
    d. Table Key

20. An ER Diagram can be used in
    a. Database design
    b. Database troubleshooting
    c. Business process re-engineering
    d. All of the Above

21. Which of the following is the correct order for SQL CREATE TABLE statements?
    a. Create table tablename (col1 datatype1, col2 datatype 2,..)
    b. Create tablename (col1 datatype1 ,col2 datatype2, …)
    c. Create table tablename col1 datatype1 , col2 datatyp2 ,..
    d. Create tablename col1 datatype1 , col2 datatyp2 ,..

22. What is missing in the following SQL statement ?

        Create table employee (EmpId ,EmpName , EmpCode) ;

    a. Datatypes
    b. Constraints
    c. Both a & b
    d. None

23. Which of the following is correct to create a primary key on Id column?
    a. Create table Orders (Id Int Primary key, Name varchar(50))
    b. Create table Orders (Id Int add primary key, Name varchar(50))
    c. Create table Orders (Id Primary key Int, Name varchar(50))
    d. Create table Orders (Id Int and Primary key, Name varchar(50))

24. Which SQL statement is used to update data in a database?
    a. MODIFY
    b. SAVE
    c. SAVE AS
    d. UPDATE

25. Which SQL statement is used to delete data from a database?
    a. DELETE
    b. COLLAPSE
    c. REMOVE
    d. Drop

26. Which SQL statement is used to insert new data in a database?
    a. INSERT NEW
    b. ADD NEW
    c. INSERT INTO
    d. ADD RECORD

27. With SQL, how do you select all the records from a table named "Persons" where the value of the column "FirstName" is "Peter"?
    a. SELECT [all] FROM Persons WHERE FirstName='Peter'
    b. SELECT * FROM Persons WHERE FirstName='Peter'
    c. SELECT * FROM Persons WHERE FirstName like '%Peter'
    d. SELECT [all] FROM Persons WHERE FirstName LIKE 'Peter'

28. With SQL, how can you insert "Olsen" as the "LastName" in the "Persons" table?
    a. INSERT INTO Persons ('Olsen') INTO LastName
    b. INSERT ('Olsen') INTO Persons (LastName)
    c. INSERT INTO Persons (LastName) VALUES ('Olsen')
    d. INSERT Persons (LastName) VALUES ('Olsen')

29. Which of the statements is the correct one?
    a. Select Column1, Sum(Column2) Column2 From Table Group By Column1 Having Sum(Column2) > 10 Order By Column1

b. Select Column1, Sum(Column2) Column2 From Table Having Sum(Column2) > 10 Group By Column1 Order By Column1
c. Select Column1, Sum(Column2) Column2 From Table Group By Column1 Order By Column1 Having Sum(Column2) > 10
d. Select Column1, Sum(Column2) Column2 From Table Having Sum(Column2) > 10 Order By Column1

30. If A and B are two tables, which Join gives all the record from A and common records between A and B
    a. Inner Join
    b. Left Outer Join
    c. Left Inner Join
    d. Full Outer Join

SECTION B
Short Question Answer

Attempt any five (5) questions out of eight (8) questions (5*6=30)

1. What is Data? Why is it important?(3 + 3) (Unit 1 : Introduction)
2. Why do we need a Database? Explain how data can be stored in a Database. (3+3)) (Unit 1 : Introduction)
3. How many Database Models are there? Explain in short about Relational Database Model? (2+4) (Unit 2 : Relational databases)
4. What is an ER Model? Show the symbols used in ER Model. (3+3) (Unit 6 : Data models)
5. Explain the advantages and shortcoming of E-R diagram. (4+2) (Unit 6 : Data models)
6. What are Aggregate Functions? Give Examples. (6) (Unit 3 : Retrieving data)
7. Create a table named "Food" to store the details of Food served in a Restaurant.
   The table should store the data related to the FoodName, Category, Price and ServeDate. The Category of the Foods could be Drink, Appetizer, Dessert, Snacks, Meal, etc. The Default value for ServeDate should be Today's date, the price of the Food should be greater than 10.
   Insert a record in table Food.(4+2) (Unit 3 : Retrieving data)
8. Explain how a query is processed in SQL?(6) (Unit 3 : Retrieving data)

SECTION C
Long Question Answer

Attempt any two (2) questions out of three (3) questions (2*20=40)
(Case study is Compulsory)

1. Explain the differences between a Distributed Database & a Relational Database.(20)
2. What are Joins in SQL? Explain each with examples.(20)

3. CASE STUDY

Texas College of Management and IT needs a Database to keep track of the Student, Departments and Courses offered. Design an ER Model based on facts

- Student admits in College
- College has many Departments
- Each Department offers many courses
- Student can study different Courses(20)

*****Good Luck*****