BRAINWARE UNIVERSITY

Term End Examination 2019 – 20

Programme – Master of Business Administration

Course Name –Database Management System

Course Code –SM301

(Semester – 3)

Time allotted: 3 Hours **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A

(Multiple Choice Type Question) 20 x 1 = 20

1. Answer any *twenty* from the following

(i) DBMS is a set of _____ to access the data

a. Codes b. Programs

c. Information d. Metadata

(ii) DBMS provides a convenient and efficient environment

a. True b. Not always true

c. False d. None of the above

(iii) Which of the following isn't a level of abstraction?

a. Physical b. Logical

c. User d. view

(iv) A level that describes how a record is stored

a. Physical b. Logical

c. User d. view

(v) The _____level helps application programs hide the details of data types

a. Physical b. Logical

c. User d. View

(vi) A logical structure of the database

a. Schema
b. Attribute
c. Parameter
d. Instance

(vii) The actual content in the database at a particular point

a. Schema
b. Attribute
c. Parameter
d. Instance

(viii) Which of the following is not an object-based logical model

a. ER
b. Network
c. Semantic
d. Functional

(ix) SQL is _____

a. Relational
b. Network
c. IMS
d. Hierarchical

(x) A level that describes data stored in a database and the relationships among the data.

a. Physical
b. Logical
c. User
d. view

(xi) Choose the correct statement regarding superkeys

a. A superkey is an attribute or a group of multiple attributes that can uniquely identify a tuple
b. A superkey is a tuple or a set of multiple tuples that can uniquely identify an attribute
c. Every superkey is a candidate key
d. A superkey is an attribute or a set of attributes that distinguish the relation from other relations

(xii) What is an Instance of a Database

a. The logical design of the database system
b. The entire set of attributes of the Database put together in a single relation
c. The state of the database system at any given point of time
d. The initial values inserted into the Database immediately after its creation

(xiii) What is a foreign key

a. A foreign key is a primary key of a relation which is an attribute in another relation
b. A foreign key is a superkey of a relation which is an attribute in more than one other relations
c. A foreign key is an attribute of a relation that is a primary key of another relation
d. A foreign key is the primary key of a relation that does not occur anywhere else in the schema

(xiv) What action does operator perform in relational algebra

a. Output specified attributes from all rows of the input relation and remove duplicate tuples from the output

b. Outputs pairs of rows from the two input relations that have the same value on all attributes that have the same name

c. Output all pairs of rows from the two input relations (regardless of whether or not they have the same values on common attributes)

d. Return rows of the input relation that satisfy the predicate

(xv) What does the ”X” operator do in relational algebra?

a. Output specified attributes from all rows of the input relation. Remove duplicate tuples from the output

b. Output pairs of rows from the two input relations that have the same value on all attributes that have the same name

c. Output all pairs of rows from the two input relations (regardless of whether or not they have the same values on common attributes)

d. Returns the rows of the input relation that satisfy the predicate

(xvi) An attribute is a _____ in a relation.

a. Row

b. Column

c. Value

d. Tuple

(xvii) In a relational schema, each tuple is divided into fields called

a. Row

b. Column

c. Value

d. Tuple

(xviii) In an ER model, ……. is described in the database by storing its data

a. Entity

b. Attribute

c. Relationship

d. Notation

(xix) DFD stands for

a. Data Flow Document

b. Data File Diagram

c. Data Flow Diagram

d. None of them

(xx) A top-to-bottom relationship among the items in a database is established by a

a. Hierarchical schema

b. Network schema

c. Relational Schema

d. None of them

(xxi) A basic element of data in a file

a. Memory

b. Record

c. Field

d. Value

(xxii) _____ refers to the logical structuring of records

a. Physical organization
b. Logical organization
c. Structural organization
d. File organization

(xxiii) Which of the following is not an appropriate criterion for file organization?

a. Larger access time
b. ease of update
c. simple maintenance
d. economy of storage

(xxiv) _____ itself is a file owned by the operating system

a. Logical file
b. Record
c. Database
d. Directory

(xxv) Which of the following isn't a part of the file directory?

a. Attributes
b. Protocol
c. Location
d. Ownership

Group – B

(Short Answer Type Questions) 4 x 5 = 20

Answer any *four* from the following

2.	Define DBMS & its features.	5
3.	Define ER Diagram.	5
4.	Define Primary & Secondary Indexing.	5
5.	Define Clustering.	5
6.	Compare between DBMS & RDBMS.	5
7.	Define Database.	5

Group – C

(Long Answer Type Questions) 3 x 10 = 30

Answer any *three* from the following

8.	Define the advantages of using a database over file management system.	10
9.	Define embedded SQL with an example	10
10.	Discuss how multilevel indexing are constructed using B trees & B+ trees.	10
11.	Discuss the various search algorithms used to implement search operations.	10
12.	Explain Query Optimization in DBMS.	10
