



BRAINWARE UNIVERSITY
Term End Examination 2020 - 21
Programme – Master of Science in Multimedia

Course Name – DBMS

Course Code - MMM302B

Semester / Year - Semester III

Time allotted : 75 Minutes

Full Marks : 60

[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)

1 x 60=60

1. *(Answer any Sixty)*

(i) A _____ in a table represents a relationship among a set of values.

- | | |
|-----------|----------|
| a) Column | b) Key |
| c) Row | d) Entry |

(ii) The term attribute refers to a _____ of a table.

- | | |
|-----------|-----------|
| a) Record | b) Column |
| c) Tuple | d) Key |

(iii) For each attribute of a relation, there is a set of permitted values, called the _____ of that attribute.

- | | |
|-----------|-------------|
| a) Domain | b) Relation |
| c) Set | d) Schema |

(iv) A _____ integrity constraint requires that the values appearing in specified attributes of any tuple in the referencing relation also appear in specified attributes of at least one tuple in the referenced relation.

- | | |
|----------------|----------------|
| a) Referential | b) Referencing |
| c) Specific | d) Primary |

(v) If you were collecting and storing information about your music collection, an album would be considered a(n) _____

- a) Relation
- b) Entity
- c) Instance
- d) Attribute

(vi) A _____ constraint requires that an entity belong to no more than one lower-level entity set.

- a) Disjointness
- b) Uniqueness
- c) Special
- d) Relational

(vii) Which of the following are the process of selecting the data storage and data access characteristics of the database?

- a) Logical database design
- b) Physical database design
- c) Testing and performance tuning
- d) Evaluation and selecting

(viii) Which one of the following is a set of one or more attributes taken collectively to uniquely identify a record?

- a) Candidate key
- b) Sub key
- c) Super key
- d) Foreign key

(ix) Consider attributes ID, CITY and NAME. Which one of this can be considered as a super key?

- a) NAME
- b) ID
- c) CITY
- d) CITY, ID

(x) The _____ is the one in which the primary key of one relation is used as a normal attribute in another relation.

- a) Referential relation
- b) Referencing relation
- c) Referenced relation
- d) Referred relation

(xi) The function that an entity plays in a relationship is called that entity's _____

- a) Participation
- b) Position
- c) Role
- d) Instance

(xii) The attribute name could be structured as an attribute consisting of first name, middle initial, and last name. This type of attribute is called

- a) Simple attribute
- b) Composite attribute
- c) Multivalued attribute
- d) Derived attribute

(xiii) Which of the following can be a multivalued attribute?

- a) Phone_number
- b) Name
- c) Date_of_birth
- d) All of these

(xiv) The entity relationship set is represented in E-R diagram as

- a) Double diamonds
- b) Undivided rectangles
- c) Dashed lines
- d) Diamond

(xv) Consider a directed line (à) from the relationship set advisor to both entity sets instructor and student. This indicates _____ cardinality

- a) One to many
- b) One to one
- c) Many to many
- d) Many to one

(xvi) We indicate roles in E-R diagrams by labeling the lines that connect _____ to _____

- a) Diamond , diamond
- b) Rectangle, diamond
- c) Rectangle, rectangle
- d) Diamond, rectangle

(xvii) For a weak entity set to be meaningful, it must be associated with another entity set, called the

- a) Identifying set
- b) Owner set
- c) Neighbour set
- d) Strong entity set

(xviii) Which relationship is used to represent a specialization entity?

- a) ISA
- b) AIS

c) ONIS

d) WHOIS

(xix) If an entity set is a lower-level entity set in more than one ISA relationship, then the entity set has

a) Hierarchy

b) Multilevel inheritance

c) Single inheritance

d) Multiple inheritance

(xx) _____ can help us detect poor E-R design.

a) Database Design Process

b) E-R Design Process

c) Relational scheme

d) Functional dependencies

(xxi) Which of the following has each related entity set has its own schema and there is an additional schema for the relationship set.

a) A many-to-many relationship set

b) A multivalued attribute of an entity set

c) A one-to-many relationship set

d) All of these

(xxii) Which of the following is an attribute that can uniquely identify a row in a table?

a) Secondary key

b) Candidate key

c) Foreign key

d) Alternate key

(xxiii) Course(course_id, sec_id, semester) Here the course_id, sec_id and semester are _____ and course is a _____

a) Relations, Attribute

b) Attributes, Relation

c) Tuple, Relation

d) Tuple, Attributes

(xxiv) Updates that violate _____ are disallowed.

a) Integrity constraints

b) Transaction control

c) Authorization

d) DDL constraints

(xxv) The _____ clause allows us to select only those rows in the result

relation of the ____ clause that satisfy a specified predicate.

- a) Where, from
- b) From, select
- c) Select, from
- d) From, where

(xxvi) The Oracle RDBMS uses the ____ statement to declare a new transaction start and its properties.

- a) BEGIN
- b) SET TRANSACTION
- c) BEGIN TRANSACTION
- d) COMMIT

(xxvii) In SQL, which command is used to issue multiple CREATE TABLE, CREATE VIEW and GRANT statements in a single transaction?

- a) CREATE PACKAGE
- b) CREATE SCHEMA
- c) CREATE CLUSTER
- d) All of these

(xxviii) What are the different events in Triggers?

- a) Define, Create
- b) Drop, Comment
- c) Insert, Update, Delete
- d) Select, Commit

(xxix) Which is the subset of SQL commands used to manipulate Oracle Database Structures, including tables?

- a) Data Definition Language
- b) Data Manipulation Language
- c) Data Described Language
- d) Data Retrieval Language

(xxx) Which of the following SQL command can be used to modify existing data in a database table?

- a) MODIFY
- b) UPDATE
- c) CHANGE
- d) NEW

(xxxi) _____ provides option for entering SQL queries as execution time, rather than at the development stage.

- a) PL/SQL
- b) SQL*Plus

c) SQL

d) Dynamic SQL

(xxxii) A lock that allows concurrent transactions to access different rows of the same table is known as a

a) Any one of these

b) Database-level lock

c) none of these

d) Page-level lock

(xxxiii) Functional dependencies are a generalization of

a) Key dependencies

b) Relation dependencies

c) Database dependencies

d) None of these

(xxxiv) Tables in second normal form (2NF)

a) Eliminate all hidden dependencies

b) Eliminate the possibility of a insertion anomalies

c) Have a composite key

d) Have all non key fields depend on the whole primary key

(xxxv) Functional Dependencies are the types of constraints that are based on _____

a) Key

b) Key revisited

c) Superset key

d) None of these

(xxxvi) Which forms simplifies and ensures that there are minimal data aggregates and repetitive groups:

a) 1NF

b) 2NF

c) 3NF

d) All of these

(xxxvii) Which forms has a relation that possesses data about an individual entity:

a) 2NF

b) 3NF

c) 4NF

d) 5NF

(xxxviii) Which of the following is not Armstrong's Axiom?

- a) Reflexivity rule
- b) Transitivity rule
- c) Pseudotransitivity rule
- d) Augmentation rule

(xxxix) The normal form which satisfies multivalued dependencies and which is in BCNF is

- a) 4 NF
- b) 3 NF
- c) 2 NF
- d) All of these

(xl) Which of the following is a tuple-generating dependencies?

- a) Functional dependency
- b) Equality-generating dependencies
- c) Multivalued dependencies
- d) Non-functional dependency

(xli) Which forms has a relation that possesses data about an individual entity?

- a) 2NF
- b) 3NF
- c) 4NF
- d) 5NF

(xlii) If a multivalued dependency holds and is not implied by the corresponding functional dependency, it usually arises from one of the following sources.

- a) A many-to-many relationship set
- b) A multivalued attribute of an entity set
- c) A one-to-many relationship set
- d) Both A many-to-many relationship set and A multivalued attribute of an entity set

(xliii) Fifth Normal form is concerned with

- a) Functional dependency
- b) Multivalued dependency
- c) Join dependency
- d) Domain-key

(xliv) The functional dependency can be tested easily on the materialized view, using the constraints _____.

- a) Primary key
- b) Null

c) Unique

d) Both Null and Unique

(xlv) Which normal form is considered adequate for normal relational database design?

a) 2NF

b) 5NF

c) 4NF

d) 3NF

(xlvi) Suppose the user finds the usage of room number and phone number in a relational schema there is confusion. This is reduced by

a) Unique-role assumption

b) Unique-key assignment

c) Role intergral assignment

d) None of these

(xlvii) Designers use which of the following to tune the performance of systems to support time-critical operations?

a) Denormalization

b) Redundant optimization

c) Optimization

d) Realization

(xlviii) Thus a _____ of course data gives the values of all attributes, such as title and department, of all courses at a particular point in time.

a) Instance

b) Snapshot

c) Both Instance and Snapshot

d) All of these

(xlix) Which of the following is the oldest database model?

a) Relational

b) Deductive

c) Physical

d) Network

(l) Ensuring isolation property is the responsibility of the

a) Recovery-management component of the DBMS

b) Concurrency-control component of the DBMS

c) Transaction-management component of the DBMS

d) Buffer management component in the DBMS

(li) If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called

- a) Consistent state
- b) Parallel state
- c) Durable state
- d) Inconsistent state

(lii) Consider money is transferred from (1) account-A to account-B and (2) account-B to account-A. Which of the following form a transaction?

- a) Only 1
- b) Only 2
- c) Both 1 and 2 individually
- d) Either 1 or 2

(liii) Identify the characteristics of transactions

- a) Atomicity
- b) Durability
- c) Isolation
- d) All of these

(liv) The property of a transaction that persists all the crashes is

- a) Atomicity
- b) Durability
- c) Isolation
- d) All of these

(lv) Transaction processing is associated with everything below except

- a) Producing detail summary or exception reports
- b) Recording a business activity
- c) Confirming an action or triggering a response
- d) Maintaining a data

(lvi) Which of the following protocols ensures conflict serializability and safety from deadlocks?

- a) Two-phase locking protocol
- b) Time-stamp ordering protocol
- c) Graph based protocol
- d) None of these

(lvii) If transaction T_i gets an explicit lock on the file F_c in exclusive mode, then it has an _____ on all the records belonging to that file.

- a) Explicit lock in exclusive mode
- b) Implicit lock in shared mode
- c) Explicit lock in shared mode
- d) Implicit lock in exclusive mode

(lviii) Selecting the victim to be rolled back to the previous state is determined by the minimum cost. The factors determining cost of rollback is

- a) How long the transaction has computed, and how much longer the transaction will compute before it completes its designated task
- b) How many data items the transaction has used
- c) How many more data items the transaction needs for it to complete
- d) All of these

(lix) The deadlock in a set of a transaction can be determined by

- a) Read-only graph
- b) Wait graph
- c) Wait-for graph
- d) All of these

(lx) When transaction T_i requests a data item currently held by T_j , T_i is allowed to wait only if it has a timestamp larger than that of T_j (that is, T_i is younger than T_j). Otherwise, T_j is rolled back (T_j is wounded by T_i). This is

- a) Wait-die
- b) Wait-wound
- c) Wound-wait
- d) Wait