BRAINWARE UNIVERSITY
Term End Examination 2020 - 21
Programme – Bachelor of Science (Honours) in Computer Science
Course Name – Database Management System II
Course Code - BCS501
Semester / Year - Semester V

Time allotted : 85 Minutes   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)   1 x 70=70

1.   *(Answer any Seventy)*

(i) In the _____ normal form, a composite attribute is converted to individual attributes.

a) first   b) second

c) third   d) fourth

(ii) 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

(iii) Functional Dependencies are the types of constraints that are based on_____

a) Key   b) Key revisited

c) Superset key   d) None of these

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

a) 1NF   b) 2NF

c) 3NF   d) All of these

(v) Which forms are based on the concept of transitive functional dependency:

   a) 1NF   b) 2NF

   c) 3NF   d) All of these

(vi) A relation is in _____ if an attribute of a composite key is dependent on an attribute of another composite key.

   a) 1NF   b) 2NF

   c) 3NF   d) BCNF

(vii) R (A,B,C,D) is a relation. Which of the following does not have a lossless join dependency preserving BCNF decomposition?

   a) A->B, B->CD   b) A->B, B->C, C->D

   c) AB->C, C->AD   d) A->BCD

(viii) 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

(ix) Relation R with an associated set of functional dependencies, F, is decomposed into BCNF. The redundancy (arising out of functional dependencies) in the resulting set of relations is

   a) Zero   b) More than zero but less than that of an equivalent 3NF decomposition

   c) Proportional to the size of F+   d) Indeterminate

(x) Life cycle of typical cursor involves _____ steps in SQL Server.

   a) 2   b) 3

   c) 4   d) 5

(xi) How many type of cursor is present in SQL Server?

   a) 3   b) 4

c) 5   d) 6

(xii) Point out the wrong statement.

    a) We should use cursor in all cases   b) A static cursor can move forward and backward direction

    c) A forward only cursor is the fastest cursor   d) All of these

(xiii) Which of the cursors further have their subtypes?

    a) Static Cursors   b) Dynamic Cursors

    c) Keyset Driven Cursors   d) None of these

(xiv) _____ cursor is sensitive to any changes to the data source.

    a) Static Cursors   b) Dynamic Cursors

    c) Keyset Driven Cursors   d) None of these

(xv) Which prefixes are available to Oracle triggers?

    a) : new only   b) : old only

    c) Both :new and : old   d) Neither :new nor : old

(xvi) The default extension for an Oracle SQL*Plus file is:

    a) .txt   b) .pls

    c) .ora   d) .sql

(xvii) The CREATE TRIGGER statement is used to create the trigger. THE _____ clause specifies the table name on which the trigger is to be attached. The _____ specifies that this is an AFTER INSERT trigger.

    a) for insert, on   b) On, for insert

    c) For, insert   d) None of these

(xviii) The "all-or-none" property is commonly referred to as _____

a) Isolation   b) Durability

c) Atomicity   d) None of these

(xix) Execution of translation in isolation preserves the _____ of a database

a) Atomicity   b) Consistency

c) Durability   d) All of these

(xx) Which of the following systems is responsible for ensuring durability?

a) Recovery system   b) Atomic system

c) Concurrency control system   d) Compiler system

(xxi) A transaction that has not been completed successfully is called as _____

a) Compensating transaction   b) Aborted transaction

c) Active transaction   d) Partially committed transaction

(xxii) 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

(xxiii) Identify the characteristics of transactions

a) Atomicity   b) Durability

c) Isolation   d) All of these

(xxiv) _____ states that only valid data will be written to the database.

a) Atomicity   b) Durability

c) Isolation   d) Consistency

(xxv) 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

(xxvi) A transaction is said to be a unit of program's

    a) Evaluation   b) Execution

    c) Computation   d) Controlling

(xxvii) Forming a single logical unit of task from a collection of routine operations is called

    a) Evaluation   b) Execution

    c) Computation   d) Transaction

(xxviii) A transaction for which all committed changes are permanent is called:

    a) atomic   b) consistent

    c) isolated   d) durable

(xxix) Which of the following occurs when a transaction rereads data and finds new rows that were inserted by a command transaction since the prior read?

    a) Non Repeatable read   b) Phantom read

    c) Dirty read   d) Consistent read

(xxx) _____ rollback requires the system to maintain additional information about the state of all the running transactions.

    a) total   b) partial

    c) time   d) commit

(xxxi) With regards to transaction processing, any DBMS should be capable of:

    a) Ensuring that transactions are free from interference from other users   b) Parts of a transaction are not lost due to a failure.

    c) Transactions do not make the database   d) All of these

inconsistent.

(xxxii) Database locking concept is used to solve the problem of
a) Lost Update
b) Uncommitted Dependency
c) Inconsistent Data
d) All of these

(xxxiii) A system is in a _____ state if there exists a set of transactions such that every transaction in the set is waiting for another transaction in the set.
a) idle
b) waiting
c) deadlock
d) ready

(xxxiv) If a transaction has obtained a _____ lock, it can both read and write on the item
a) Shared mode
b) Exclusive mode
c) Read only mode
d) Write only mode

(xxxv) If a transaction can be granted a lock on an item immediately in spite of the presence of another mode, then the two modes are said to be _____
a) Concurrent
b) Equivalent
c) Compatible
d) Executable

(xxxvi) The protocol that indicates when a transaction may lock and unlock each of the data items is called as _____
a) Locking protocol
b) Unlocking protocol
c) Granting protocol
d) Conflict protocol

(xxxvii) If a transaction Ti may never make progress, then the transaction is said to be _____
a) Deadlocked
b) Starved
c) Committed
d) Rolled back

(xxxviii) If a transaction may obtain locks but may not release any locks then it is in _____ phase

    a) Growing phase   b) Shrinking phase

    c) Deadlock phase   d) Starved phase

(xxxix) Which of the following locks the item from change but not from read?

    a) implicit locks   b) explicit locks

    c) committed locks   d) shared locks

(xl) The control feature in database management system which ensures the accuracy of data updated by multiple users is classified as

    a) conceptual implementation control   b) concurrency control

    c) interface modeling control   d) user accessibility control

(xli) Locks held for a short duration are termed as---

    a) Shared locks   b) Exclusive locks

    c) Latches   d) Certify locks

(xlii) Which of the following statements is not correct for serializability of transaction?

    a) In a serial schedule each transaction is independent of others   b) In a non-serial schedule,we allow the two transactions to overlap their execution

    c) A non-serial schedule may not always result in an incorrect outcome.   d) Every schedule is serializable

(xliii) I and J are _____ if they are operations by different transactions on the same data item, and at least one of them is a write operation.

    a) Conflicting   b) Overwriting

    c) Isolated   d) Durable

(xliv) A schedule is _____ if it is conflict equivalent to a serial schedule.

    a) Conflict serializable   b) Conflicting

c) Non serializable   d) None of these

(xlv) Which of the following is the most expensive method?
    a) Timestamping   b) Plain locking
    c) Predicate locking   d) Snapshot isolation

(xlvi) Which of the following cannot be used to implement a timestamp
    a) System clock   b) Logical counter
    c) External time counter   d) None of these

(xlvii) A _____ ensures that any conflicting read and write operations are executed in timestamp order
    a) Organizational protocol   b) Timestamp ordering protocol
    c) Timestamp execution protocol   d) 802-11 protocol

(xlviii) The……. lock allows concurrent transactions to access the same row as long as they require the use of different fields within that row
    a) Table level lock   b) Page level lock
    c) Row level lock   d) Field level lock