

Tribhuvan University

Bachelor in computer Application(BCA)

Full Mark 60

Course Title: DataBase Management System

Pass Mark 24

Semester 4th

Time: 3 hour

MODEL SET I Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- i. Database security threats includes loss of
 - (a) Confidentiality
 - (b) Integrity
 - (c) Availability
 - (d) All of the above
- ii. A database log that is used mainly for security purpose is called
 - (a) Database audit
 - (b) An audit trail
 - (c) History
 - (d) All of the above
- iii. SQL Authorization mechanism grants privileges on _____?
 - (a) Entire relation
 - (b) Specified attribute
 - (c) Both a and b
 - (d) Specified tuples
- iv. Privileges that are granted implicitly to all current and future users are called?
 - (a) Private
 - (b) Natural
 - (c) Unnatural
 - (d) Public
- v. Long form of DBA is
 - (a) None of these
 - (b) Database application
 - (c) **Database administrator**
 - (d) Database admin
- vi. DBMS stands for
 - (a) Database Administrator system
 - (b) None of these
 - (c) **Database management system**
 - (d) Database basic management system
- vii. A database is a complex type of _____

- (a) None of these
(b) Manager
(c) Data Structure
(d) Application
- viii. In _____ data can be stored in structured manner.
(a) CPU
(b) Database
(c) None of these
(d) ALU
- ix. A property of the entire relation, rather than of the individual tuples, is known as....
(a) Attribute
(b) Constant
(c) Variable
(d) Key

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MODEL SET II Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- i. Which of these levels deals with the physical representation of the database on the computer?
(a) External level
(b) Conceptual level
(c) Internal level
(d) None of these
- ii. The ability to change the conceptual schema without affecting the external schemas or application programs is known as
(a) Program data independence

- (b) Logical data independence
 - (c) Physical data independence
 - (d) Data abstraction
- iii. Which of these is not a representational data model
- (a) Entity – relationship model
 - (b) Hierarchical data model
 - (c) Relational data model
 - (d) Network data model
- iv. Which of these is not a feature of Hierarchical model?
- (a) Organizes the data in tree-like structure
 - (b) Parent node can have any number of child nodes
 - (c) Root node doesnot have any parent
 - (d) Child node can have any number of parent nodes**
- v. Which of these data models is an extension of relational data model
- (a) Object- oriented data model
 - (b) Object relational data model**
 - (c) Semi-structured data model
 - (d) None of these
- vi. the information about data in a database is called
- (a) Metadata**
 - (b) Hyperdata
 - (c) Tera data
 - (d) None of these
- vii. Which of these DBMS languages is employed by end users and programmers to manipulate data in the database,
- (a) Data definition language
 - (b) Data presentation language
 - (c) Data manipulation language**
 - (d) Data translation language
- 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. The subset of a super key is a candidate key is a candidate key under what condition?
- (a) No proper subset is a superkey**
 - (b) All subsets are superkeys
 - (c) Subset is a super key
 - (d) Each subset is a super key
- x. A function that has no partial functional dependencies is in _____ form
- (a) 3NF
 - (b) 2NF**
 - (c) 4NF
 - (d) BCNF

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MODEL SET III Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- I. Triggers are supported in
 - (a) Delete
 - (b) Update
 - (c) Views**
 - (d) All of the mentioned
- II. What are the after triggers?
 - (a) Triggers generated after a particular operation
 - (b) These triggers run after an insert, update or delete on a table.
 - (c) These triggers run after an insert, views update or delete on a table
 - (d) All of the mentioned
- iii. the default extension for an oracle SQL *Plus file is:
 - (a) .txt
 - (b) .pls
 - (c) .ora
 - (d) .sql**
- iv. which of the following is not an oracle supported trigger?
 - (a) BEFORE
 - (b) DURING**
 - (c) AFTER
 - (d) INSTEAD OF
- v. Pipelines can be executed in ways
 - (a) 4
 - (b) 3
 - (c) 2**
 - (d) 5
- vi. Database security threats includes loss of:

- (a) Confidentiality
- (b) Integrity
- (c) Availability
- (d) All of the above

vii. A database log that is used mainly for security purpose is called

- (a) Database audit
- (b) An audit trail
- (c) History
- (d) All of the above

viii. SQL authorization mechanism grants privileges on

- (a) Entire relation
- (b) Specified attribute
- (c) Both a and b
- (d) Specified tuples

ix. Privileges that are granted implicitly to all current and future users are called as

- (a) Private
- (b) Natural
- (c) Unnatural
- (d) Public

X. collections of operations that form a single logical unit of work are called.....

- (a) Views
- (b) Networks
- (c) Units
- (d) Transactions

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MODEL SET IV Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- i. When primary key is null of new tuple then constraint violated is.....
 - (a) Null integrity constraint

- (b) Primary integrity constraint
 - (c) Secondary integrity constraint
 - (d) Entity integrity constraint**
- ii. In formal relational model, set of indivisible values is called.....
- (a) Range
 - (b) Domain**
 - (c) Relation
 - (d) Tuple
- iii. In relational model terminology , table is considered as.....
- (a) Range
 - (b) Domain
 - (c) Relation**
 - (d) Tuple
- iv. Format or data type must be specified for.....?
- (a) Table ender
 - (b) Entity domain
 - (c) Range
 - (d) Domain**
- v. Constraint violated when given value of attribute is not included in corresponding domain is
- (a) Domain constraint**
 - (b) Attribute constraint
 - (c) Key constraint
 - (d) Lock constraint
- vi. If two or more constraints are violated by using insert operation then by default the
- (a) Insert is accepted
 - (b) Insert is rejected**
 - (c) Insertion ermanently blocked
 - (d) None of above.
- vii. Constraints which deals with changes in database are classified as
- (a) Assertion constraints
 - (b) Trigger constraints
 - (c) Specified constraints
 - (d) Transition constrains**
- viii. Functional dependencies are the types of constraints that are based on -----
- (a) Key**
 - (b) Key revisited
 - (c) Superset key
 - (d) None of the mentioned
- ix. Which forms simplifies and ensures that there are minimal data aggregates and repetitive groups.
- (a) 1NF
 - (b) 2NF
 - (c) 3NF**
 - (d) All of the mentioned
- x. Which form has a relational that passessses data about an individual entity?

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

MODEL SET V
Group A

Attempt all the questions.

[$10 \times 1 = 10$]

Circle (O) the correct answer.

- I. In existing table, ALTER TABLE statement is used to
 - (a) Add columns
 - (b) Add constraints
 - (c) Delete columns
 - (d) Delete constraints
- ii. in a table , a column contains duplicate value, if you want to list all different value only, then which SQL clause is used?
 - (a) SQL DISTINCT
 - (b) SQL UNIQUE
 - (c) SQL BETWEEN
 - (d) SQL Exist
- iii. to give a temporary name to a table, or a column in a table for more readability, what is used?
 - (a) SQL wildcards
 - (b) SQL aliases**
 - (c) SQL Likes
 - (d) SQL comments
- iv. in a SQL subquery, which operator is used to check for existence of record?
 - (a) AQL NOT NULL
 - (b) SQL AS
 - (c) SQL EXISTS
 - (d) NONE
- v. which is called as a virtual table in SQL?
 - (a) INNER JOIN**

- (b) JOIN
- (c) VIEW
- (d) NONE**

vi. Which key have automatically indexes, but you might want to create an index on a foreign key?

- (a) Primary
- (b) Unique
- (c) Both a and b
- (d) None of the above

vii. which of the following reasons are included to drop an index?

- (a) Applications do not use the index to query the data
- (b) The index has become invalid and must be dropped before being rebuilt.
- (c) The index has become too fragmented and must be dropped before being rebuilt
- (d) The index is no longer required
- (e) All of the mentioned**

viii. which of the following are steps in quey processing?

- (a) Parsing and translation
- (b) Optimization
- (c) Evaluation
- (d) All of the above**

ix. The concept which checks the syntax of query whether is written according to the rule of grammer is classified as

- (a) query graph
- (b) query tree
- (c) scanner
- (d) parser**

x. in query processing, the.....is the lowest-level operator to access data.

- (a) index search
- (b) linear search
- (c) file scan**
- (d) access Path

MODEL SET Vi
Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- i. Which one of the following attribute can be taken as primary key?
(a) Name
(b) Street
(c) ID
(d) Dipartment
- ii. An attribute in a relation is a foreign key if the _____ key from one relation is used as an attribute in that relation.
(a) Candidate
(b) Primary
(c) Super
(d) Sub
- iii. A property of the entire relation, rather than of the individual tuples, is known as.....
(a) Attribute
(b) Constant
(c) Variable
(d) Key
- iv. The primary key should be chosen such that its attribute values are.../
(a) Updated
(b) Dependent
(c) Changed
(d) Never changed
- v. In unary relational operations, the SELECT operation is partition of relation usually classified as.....
a) Horizontal partition
b) Verticala partition
c) Insert partition
d) Delete partition
- vi. Which of the following is a fundamental operation in relational algebra?
(a) Set intersection
(b) Natural join
(c) Assignment
(d) None of the mentioned

- vii. Which is a unary operation.....
(a) Selection operation
(b) Primitive operation
(c) Projection operation
(d) Generalized selection
- viii. Which is a join condition contains an equality operator.
(a) Equijoins
(b) Cartesian
(c) Natural
(d) Left
- ix. Which forms are based on the concept of functional dependency?
(a) 1NF
(b) 2NF
(c) 3NF
(d) 4NF
- x. A functional dependency is a relationship between or among;
(a) Tables
(b) Rows
(c) Relations
(d) attributes

MODEL SET VII
Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

i) Which of the following is a fundamental operation in relational algebra?

- a) Set intersection b) Natural join
c) Assignment **d) None of the mentioned**

ii) Which is a unary operation

- a) Selection operation b) Primitive operation
c) Projection operation **d) Generalized selection**

iii) A function that has no partial functional dependencies is in form:

- a. 3NF
- b. 2NF**
- c. 4NF
- d. BCNF

iv) A BCNF is

- a. loss less join and dependency preserving
- b. loss less join but not dependency preserving
- c. not loss less join but dependency preserving
- d. none of these

v) Before use of DBMS information was stored using

- a. Data System
- b. None of these
- c. Cloud Storage
- d. File Management System**

vi) The DBMS acts as an interface between what two components of a database system?

- a. Database and SQL
- b. Data and Database
- c. Database Application and Database**
- d. Database and User

vii) Which of these data models is an extension of relational data model?

- a. Object-oriented data model
- b. Object-relational data model**
- c. Semi-structured data model
- d. None of these

viii) The information about data in a database is called

- a. **Metadata**
- b. Hyper data
- c. Tera data
- d. None of these

ix) Which of these DBMS languages is employed by end users and programmers to manipulate data in the database?

- a. Data definition language
- b. Data presentation language
- c. Data manipulation language**
- d. Data translation language

x. pictorial representation of an expression is called?

- (a) expression tree
- (b) operator tree**
- (c) expression flow
- (d) expression chart

MODEL SET VII
Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- i. Long form of DBA is
 - a. None of these b. Database Applications
 - c. **Database Administrator** d. Database Admin
- ii) DBMS stands for
 - a. Database Administrator System
 - c. **Database Management System.**
 - d. Database Basic Management System
 - b. None of these
- iii) A database is a complex type of
 - a. None of these b. Manager
 - c. Data Structure d. Application
- iv. In..... data can be stored in structured manner.
 - a. CPU b. **Database** c. None of these d. ALU
- v) An attribute in a relation is. a foreign key if the..... from one relation is used as an attribute in that relation.
 - a. Candidate b. **Primary** c. Super d. Sub
- vi) A property of the entire relation, rather than of the individual tuples, is known as.....
 - a. Attribute b. Constant c. Variable d. **Key**
- vii) Column header of table in relational model terminology is classified as

- a. attribute b. table starter
c. table ender d. entity domain
- viii) Operation which violates only one constraint called referential integrity when it is performed is called.
- a. New operation b. Modify operation
c Delete operation d. insert operation
- ix) SQL authorization mechanism grants privileges on
- a. entire relation b. specified attribute
c both a and b d. specified tuples
- x) Privileges that are granted implicitly to all current and future users are as.....
- a.private
b.natural
c.unnatural
d. public

MODEL SET ix
Group A

Attempt all the questions.

[$10 \times 1 = 10$]

Circle (O) the correct answer.

- i. Execution of transaction in isolation preserves the of a database
- a. atomicity c. durability
b. consistency d. all of the mentioned
- ii. The "all-or-none" property is commonly referred to as
- a. isolation b. durability **C. atomicity** d. none of the mentioned
- iii. A transaction that has not been completed successfully is called as

- a. compensating transaction **b. aborted transaction** c. Active transaction d. partially committed transaction
- iv. If a schedule S can be transformed into a schedule S' by a series of swap of non-conflicting instructions, then S and S' are
a) non conflict equivalent b. equal **c. conflict equivalent** d. isolation equivalent
- v. The set of in a precedence graph consists of all. the transactions participating in the schedule
a vertices
b. edges
c. directions
d. . none of the mentioned
- vi. The phenomenon in which one failure leads to a series of transaction rollbacks is called as
a. cascading rollback c. cascade cause
b. cascadeless rollback d. none of the mentioned .
- vii) If a transaction has obtained a lock, it can both read and write on the item
a. read only mode c. shared mode
b. exclusive mode d. write only mode
- viii) Which of the following is not a method in deadlock handling?
b. deadlock detection **d. deadlock distribution**
a. deadlock prevention c. deadlock recovery
- ix. Which of the following cannot be used to implement a timestamp?
a. system clock **b. external time counter** c, logical counter d. None of the mentioned
- x. A database log that is used mainly for security purpose is called
a. database audit b an audit trail
c. history d. all of the above

MODEL SET x
Group A

Attempt all the questions.

[10×1 = 10]

Circle (O) the correct answer.

- i. Which is called as a virtual table in SQL?
 (a) INNER JOIN
 (b) JOIN
 (c) VIEW
 (d) NONE
- ii. which SQL keyword is used to retrieve a maximum value?
 a) MOST
 b) TOP
 c) MAX
 d) UPPER
- iii. Which of the following SQL clauses is ssisd to DELETE tuples (rum a database table'
A DELETE b. REMOVE c. PROPd. CLEAR
- iv. Which 01 the followilig ,TCL commandds?
 a, UPDATE and tRUNCATE b. SELECT and INSERT
 c. GRANT and REVOKE d. ROLLBACK and SAVEPOINT
- v) which of the following statement is true?
 a. **DELETE does not tree the space containing the table and TRUNCATE free the space containing the table**
 b. Both DELETE and TRUNCATE free the space containing the table
 c. Both DELETE and TRUNCATE does not free the space containing the table
 d. DELETE free the space containing the table and TRUNCATE does not free the space containing the table
- vi) Which forms are based on the concept of functional dependency?

a) INF . 2NF **c) 3NF** d) 4NF

The table is in 3NF if every non-prime attribute of R is non-transitively dependent (i.e. directly dependent) on every superkey of R.

vii) A functional dependency is a relationship between or among:

- a. tables b. rows
- c. relations **d. attributes**

viii) Which of the following is a fundamental operation in relational algebra?

- a) Set intersection b) Natural join
- c) Assignment **d) None of the mentioned**

ix) Which is a unary operation

- a) Selection operation b) Primitive operation
- c) Projection operation **d) Generalized selection**

