REV-00 2017/06
BCA/41/46

BACHELOR OF COMPUTER APPLICATION

SECOND SEMESTER

DISCRETE MATHEMATICS

BCA- 203

Duration: 2 Hrs. 40 Mins. **Marks: 50**

{ Part : A (Objective) = 20
Part : B (Descriptive) = 50 }

[PART-B : Descriptive]

[Answer question no. One (1) & any four (4) from the rest]

1. What is the significance of using an ER Diagram in a database? Write down the symbols used in ER Diagram. Draw an ER Diagram for Hostel Management System — 2+4+4 = 10

2. What do you mean by hashing? Explain the hash functions and collision resolution techniques with examples. — 2+6+2 = 10

3. What are the types of statements used in SQL. Explain all the types along with examples. — 3+7= 10

4. Why constraints are necessary to use in DBMS. Explain the different constraints of DBMS. — 2+8=10

5. Why normalization is used? Explain all types of normal forms along with the examples. — 4+6= 10

6. What is a view? Define the types of view along with its restrictions. — 3+7= 10

7. What is the use of concurrency control in DBMS? Write the syntax to lock a table. Give example. How a lock can be released? — 3+3+2+ 2= 10

8. Explain the relational operators along with example. — 10

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REV-00 2017/06
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Duration: 20Mins. **Marks: 20**

[PART-A : Objective]

Choose the correct answer from the following: 1×20=20

1. The _____ is an ordered file with fixed length records with two fields-first field is the primary key & the second is the pointer to a disk block.
   a. Clustering index
   b. Secondary index
   c. Primary index
   d. All of them

2. In a hash function, where the modification takes the form of a function from the set K of keys into the set L of memory addresses can be expressed as:-
   a. K:H → L
   b. L:K → L
   c. H:L → K
   d. H:K → L

3. The database administrator is the focus of the _____ control.
   a. Distributed
   b. Decentralized
   c. Centralized
   d. DBMS

4. The 'like' predicate is used for pattern _____.
   a. Duplication
   b. Matching
   c. Differentiation
   d. Colliding

5. The_____ is a desirable property of transaction.
   a. Isolation
   b. Atomicity
   c. Durability
   d. All of the above

6. An entity that does not have a key attribute is called _____.
   a. Weak entity types
   b. Entity types
   c. Null attribute
   d. Derived attribute

7. In SQL, _____ function has a special meaning in that it counts the number of rows of a relation.
   a. Count(fieldname)
   b. Count(*)
   c. Both a & b
   d. None of them

8. _____ is a unique identifier created by the DBMS to identify a translation.
   a. Locking
   b. Timestamp
   c. Two phase locking
   d. All of these

9. A view is a _____ table that is one which actually does not exist.
   a. Physical
   b. virtual
   c. distinct
   d. log

10. The _____ key is the one which must be unique within the domain and must always have a value.
    a. Candidate
    b. Foreign
    c. Unique
    d. primary

11. The RDBMS minimizes the _____ of data.
    a. Consistency
    b. Redundancy
    c. Sharing
    d. cardinality

12. In _____, database is used for keeping records of calls made, generating monthly bills, maintaining balances on prepaid calling cards & storing information about the communication networks
    a. Telecommunications
    b. Airlines
    c. Reservations
    d. Transportation

13. Address is an example for _____ attribute.
    a. Composite
    b. Unique
    c. Not null
    d. Primary

14. Database System supports one physical schema, one conceptual schema and several _____.
    a. Logical
    b. Subsystem
    c. Storage manager
    d. Recovery manager

15. The acronym ACID is sometimes used to refer to the _____ of transaction.
    a. Begin
    b. End
    c. Four properties
    d. Commit/abort

16. SQL commands can be roughly divided into ____ major categories with regard to their functionality.
    a. One
    b. Two
    c. Three
    d. Four

17. A _____ is an association among several entities.
    a. Relationship
    b. Key
    c. Partial key
    d. Entity

18. The E-R data model based on a perception of the real world that consists of a set of basic objects called _____.
    a. Entities
    b. Relations
    c. Attributes
    d. Primary key

19. A _____ DBMS is the system if many users can use the system.
    a. Single user
    b. Multi user
    c. Anyone of a and b
    d. Both a & b

20. Color of the car & degrees of students are examples of the _____attribute.
    a. Null
    b. Derived
    c. Single valued
    d. Multi valued

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UNIVERSITY OF SCIENCE & TECHNOLOGY, MEGHALAYA

Question Paper CUM Answer Sheet

[PART (A) : OBJECTIVE]

Serial no. of the main Answer sheet

Course : .....

Semester : ..... **Roll No :** .....

Enrollment No : ..... **Course code :** .....

Course Title : .....

Session : 2016-17 **Date :** .....

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Instructions / Guidelines

- The paper contains twenty (20) / ten (10) questions.
- The student shall write the answer in the box where it is provided.
- The student shall not overwrite / erase any answer and no mark shall be given for such act.
- Hand over the question paper cum answer sheet (Objective) within the allotted time (20 minutes / 10 minutes) to the invigilator.

Full Marks	Marks Obtained	Remarks
20		

Scrutinizer's Signature *Examiner's Signature* *Invigilator's Signature*