Roll No. .....

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(2043)

BCA (CBCS) RUSA IInd Semester Examination

4209

DATABASE MANAGEMENT SYSTEM

Paper : BCA-0205

Time : 3 Hours] **[Maximum Marks : 70**

Note :– Attempt *five* questions in all. Part–A is compulsory.

Attempt *one* question each from Parts–B, C, D and E.

Part–A

(Compulsory Question)

1. (A) Following questions carry 1 mark each :

(i) What is DBMS ?

(a) DBMS is a collection of queries

(b) DBMS is a high-level language

(c) DBMS is a programming language

(d) DBMS stores, modifies and retrieves data

(ii) Which of the following is a feature of the database ?

(a) No-backup for the data stored

(b) User interface provided

(c) Lack of Authentication

(d) Store data in multiple locations

(iii) The DBMS acts as an interface between ..... and ..... of an enterprise-class system.

(a) Data, DBMS

(b) Application, SQL

(c) Database application, Database

(d) The user, the software

(iv) ..... resembles create view.

(a) Create table ... as

(b) Create view as

(c) Create table ... like

(d) With data

(v) The oldest DB model is :

(a) Network

(b) Physical

(c) Hierarchical

(d) Relational

(vi) The term attribute refers to a ..... of a table.

(a) Record

(b) Column

(c) Tuple

(d) Key

(vii) The tuples of the relations can be of ..... order.

(a) Any

(b) Same

(c) Sorted

(d) Constant

(viii) Relational Algebra is a ..... query language that takes two relations as input and produces another relation as an output of the query.

(a) Relational

(b) Structural

(c) Procedural

(d) Fundamental

(ix) Which is a unary operation ?

(a) Selection operation

(b) Primitive operation

(c) Projection operation

(d) Generalized selection

(x) 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. 1×10=10

(B) Write short notes for the following questions :

(i) Data Abstraction

(ii) ER Model

(iii) Dependency Preservation

(iv) Primary Key

(v) Advantages of DBMS 4×5=20

Part–B

Unit–I 10

Note :– Attempt any *one* question.

2. Discuss the difference between database system and information retrieval system.

3. Explain with a diagram the component modules of a DBMS and the interactions.

Part–C

Unit–II 10

Note :– Attempt any ***one*** **question.**

4. What are the various operations associated with a file ? Explain in detail.

5. Discuss the various types of join operations.

Part–D

Unit–III 10

Note :– Attempt any *one* question.

6. Explain the Second and the Third Normal form in detail.

7. Illustrate how the process of creating first normal form relations may lead to multivalued dependencies. How should the first normalization be done properly so that MVDs are avoided ?

Part–E

Unit–IV 10

Note :– Attempt any *one* question.

8. What is a Form ? What are the differences between Modal and Modeless Forms ?

9. Explain 'Select', 'Make-Table', 'Update', 'Append', 'Delete' operations through suitable examples.