

**U.G. 4th Semester Examination - 2021****BCA****Course Code : BBCACCHC 401****Course Title: Database Management System**

Full Marks : 30

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any **ten** questions: 1×10=10
- a) List four applications of DBMS.
  - b) Write two advantages of Data warehouse.
  - c) What is DML?
  - d) What does the number of tuples in a relation known as?
  - e) What is an entity?
  - f) How can we deal with Hashing collision?
  - g) In 3-tier architecture what is business logic layer?
  - h) Write the command used to add new column to any table.

- i) Has primary key to be auto-incremented? Justify your answer.
- j) What is the degree and cardinality of a table with 60 rows and 5 columns?
- k) With an example explain derived attribute.
- l) Write the difference between DROP and DELETE command in SQL.
- m) Give an example of many-to-one relationship.
- n) Write the common set operations of a Relational Algebra.
- o) What is relational schema?

2. Answer any **five** questions: 2×5=10
- a) What is Multi-valued dependency?
  - b) Explain Metadata with suitable example.
  - c) Which technique of data storage is better Indexing or Hashing? Why?
  - d) Explain the distinction among the terms, primary key, candidate key and super key.
  - e) Explain ACID properties for a transaction.
  - f) With a suitable example explain transitive dependency.

- g) Why cloud database are used?
- h) Why BCNF is also known as 3.5 NF?

3. Answer any **two** questions: 5×2=10

- a) Describe the three-tier architecture of DBMS.
- b) Construct an E-R diagram for a car insurance company whose customers own one or more cars each. Each car is associated with it zero to any number of recorded accidents.
- c) For the given table write the queries of below questions :

**Employees**

EMP ID	Name	Age	Job	Salary	DEPT ID
7369	WASSEN	24	Clerk	24,000	20
7499	FAHEEN	21	Salesman	28,000	30
7521	NAEEM	26	Salesman	21,000	30
7566	ALI RAZA	22	Manager	35,000	20
7654	AHSAN ALI	23	Salesman	24,000	20
7698	MUNEEB	28	Manager	88,000	30
7782	HASEEB	30	Manager	40,000	10

- i) Write a query that display Distinct DEPT ID from Employee Table :
- ii) Write a query that display records of 'Manager' from Employees in alphabetic order with respect to Name.
- iii) Write a query that display all employees who are either 'Clerk' or earn between 20000 and 25000.
- iv) Write a query that display all employees whose name have EE in middle characters.
- v) Write a query that display total columns in Employees Table.

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