UTTARANCHAL UNIVERSITY, DEHRADUN
UTTARANCHAL SCHOOL OF COMPUTING SCIENCES
MID-TERM EXAMINATION

Odd Semester 2024-25

BCA | 3rd semester |

DATABASE MANAGEMENT SYSTEMS | BCA – C301

Time: **1:15 Hour** Max. Marks: **30**

Note: All questions are compulsory.

Q.1- Answer the following questions. (1 x 6 = 6)

Multiple Choice Questions

a) What is the full form of DBMS? (CO-1, BL-1)

a.Data of Binary Management System
b. Database Management System
c. Database Management Service
d. Data Backup Management System

b) Which of the following is not an example of DBMS? (CO-1, BL-1)

a. MySQL
b. Microsoft Acess
c. IBM DB2
d. 13th June 1995

c) Analyze which one of the following given statements possibly contains the error? (CO-3, BL-4)

a. select * from emp where empid = 10003;
b. select empid from emp where empid = 10006;
c. select empid from emp;
d. select empid where empid = 1009 and Lastname = 'GELLER';

d) Which of the following refers to the level of data abstraction that describes exactly how the data actually stored? (CO-1, BL-2)

a. Conceptual Level
b. Physical Level
c. File Level
d. Logical Level

State True/ False

e) DELETE is a type of Data Manipulation Command. (CO-3, BL-2)

f) A column or a combination of columns that canuniquely identify one or more rows (tuples) in a table is called a Primary key of the table.

Q.2-Write short note on any two **(up to 70 words)** (2 x 3 = 6)

a) Write an SQL Query to apply the PRIMARY KEY, NOT NULL, CHECK,and DEFAULT Constraints while creating a table. (CO-1, BL-3)

b) Compare and Contrast between Primary Key, Unique Key and Foreign key. (CO-3, BL-3)

c) Discuss the ACID Properties of DBMS. (CO-4, BL-6)

Q.3- Attempt any one of the following. (1 x 6 = 6 Marks)

a) Explain different levels of data abstraction in a DBMS. (CO- 1, BL-5)

OR

b) Create SQL statements for: (CO- 1, BL-6)

i. Creating a table **student** with the following information: Name of table: student, columns and data types: **student_idvarchar(12), name varchar(20), student_age integer;**
ii. Inserting 3 tuples into the student table
iii. Altering table by adding new column **student_age integer**
iv. Deleting a row from the table
v. Drop column **student_age**
vi. Alter table by changing the data type of **student_id**column to **integer.**
vii. Delete all the data from the **student** table.
viii. Delete the table along with its schema.

Q.4- Attempt any one of the following. (1 x 6 = 6 Marks)

a) Explain Codd's 13Rule of RDBMS. (CO-1, BL-5)

b) Compare and Contrast between the 2-Tier & 3-Tier Architecture along with a suitable diagram. (C0-1,BL-3)

Q.5- Attempt any one of the following. (1 x 6 = 6 Marks)

a) What are the types of attributes in E-R Model. Discuss in detail. (C0-1,BL-3)

b) Case Study: In a university, a Student enrolls in Courses. A student must be assigned to at least one or more Courses. Each course is taught by a single Professor. To maintain instruction quality, a professor can deliver only one course. Create an ER Diagram of the following case defining all the step. (C0-2,BL-6)