TMC–204/MSD–203

M. C. A./ M. SC. (DATA SC. AND STATISTICS) (SECOND SEMESTER) MID SEMESTER EXAMINATION, April, 2023

DATABASE MANAGEMENT SYSTEM

Time : 1½ Hours

Maximum Marks : 50

Note : (i) Answer all the questions by choosing any *one* of the sub-questions.

(ii) Each sub-question carries 10 marks.

1. (a) Explain the concept of Independence with suitable example. (CO1)

OR

(b) Explain the three-tier architecture of database management system. (CO1)

P. T. O.

2. (a) Discuss and differentiate between Network model and Hierarchical model.

(CO2)

OR

(b) Explain the limitations of ER Diagram. Briefly discuss about specialization, generalization and aggregation with example. (CO2)

3. (a) Explain about the domain and integrity constraint. (CO4)

OR

(b) Construct an ER Model for a Car Insurance company whose customers own one or more cars each. Each car has associated with it zero to any number of recorded accidents. Make assumption if necessary. (CO4)

4. (a) What are the characteristics and basic structure of SQL ? (CO2)

OR

(b) What is relational algebra ? Explain the different operations of relational algebra.

(CO2)

5. (a) Write the SQL command for the following :

(i) To add the NOT NULL constraint after creating the table.

(ii) To add a column in existing table.

(iii) To retrieve the data of all the students who are in MCA and staying in hostel.

(iv) To retrieve the data of all students who have joined the course before the end of November 2022.

(v) Update the Course from BCA to MCA for the student whose id is S001. (CO3)

OR

(b) How many types of attribute are there ? Discuss in detail. (CO3)