ST JOSEPH'S UNIVERSITY, BENGALURU -27
BCA (DATA ANALYTICS) – 4th SEMESTER
SEMESTER EXAMINATION: APRIL 2024
(Examination conducted in May / June 2024)
BCADA 4122: DATABASE MANAGEMENT SYSTEM
(For current batch students only)

Time: 2 Hours   **Max Marks: 60**
This paper contains TWO printed pages and THREE parts

PART - A

Answer All the questions   **5 X 2 = 10**

1. Define the term database and database management system.
2. Name the different types of attributes.
3. Differentiate DDL and DML.
4. List any four applications of DBMS.
5. What is conceptual schema?

PART - B

Answer any Five questions   **5 X 4 = 20**
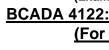
6. Who is a DBA? What are the responsibilities of a DBA?
7. With a neat sketch, explain Three Schema Architecture.
8. Draw an ER Diagram for University Database by considering at least 5 entities, assume your own data requirements.
9. What is normalization? Explain the different Armstrong axioms.
10. Define BCNF. How does it differ from 3NF.
11. What is a data model? Briefly explain the types of data model available.
12. Explain the entity integrity and referential integrity constraints in SQL with example.

PART - C

Answer any Three questions   **3 X 10 = 30**

13. Explain 3-tier architecture and technology relevant to each tier. Write the advantages of 3- tier architecture with a neat diagram.
14. Explain insertion, deletion and modification anomalies. Why are they considered bad? Discuss with an example.

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15. Explain the procedures of ER to Relational Mapping Algorithm.
16. Consider the following tables and write the query for the following:
    Employee (Emp_no, Name, Emp_city)
    Company (Emp_no, Company_name, Salary)
    a. Write a SQL query to display Employee name and company name.
    b. Write a SQL query to display employee name, employee city, company name and salary of all the employees whose Salary >10000
    c. Write a query to display all the employees working in 'XYZ' company