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School of Computing Science and Engineering

Bachelor of Technology in Computer Science and Engineering

Mid Term Examination - Nov 2023

Duration : 90 Minutes

Max Marks : 50

Sem III - E2UC302B - Data Base Management SystemGeneral Instructions*Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Elaborate the term RDBMS. K1 (1)
- 2) List any four significant differences between a File Management System & DBMS. K2 (2)
- 3) Consider the relation Employees having attributes (EID, Ename, Esal, Ecity) . Write SQL query to list out the ID and names of employees group by city and order by salary. K3 (3)
- 4) Consider a table Employee having columns (eID, Ename, eCity, eSal). Write SQL Syntax for the following:- (a) Add a new column named eProjects. (b) Drop the column eCity. (c) Rename the table as Employee_Info. K3 (6)
- 5) Consider the relational database of employee (person name, street, city) works (person name, company name, salary) company (company name, city). Give an expression in the relational algebra to express each of the following queries: (a) Find the names of all employees who work for "First Bank Corporation". (b) Find the names and cities of residence of all employees who work for "First Bank Corporation". (c) Find the names, street address, and cities of residence of all employees who work for "First Bank Corporation" and earn more than \$10,000. K3 (9)
- 6) Provide a brief description of normalization in relational database architecture, explaining the different levels of normalization using illustrative examples. K4 (8)
- 7) Write SQL syntax to create tables, attribute types and relationships. Find the minimum number of tables required for the ER diagram in the above relational tables. K5 (15)
- 8) Consider the relations Orders (OrderID, Orderdate, ordertype, orderitemsID) and Items (ItemID, Quantity). Write SQL statements for performing theta Join and outer join operations. K6 (6)