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DMI-ST. EUGENE UNIVERSITY

ZAMBIA

DEGREE EXAMINATION – DECEMBER 2024

Semester: IV 351CP18 RELATIONAL DATABASE MANAGEMENT SYSTEM

Time: 3:00 Hours

Max. Marks: 100

Answer any FIVE Questions (5 x 20 = 100 Marks)

1. a) Describe the advantages of using a DBMS over a traditional file system. (6 Marks)
b) What are some characteristics of using the Database Management System (DBMS) approach? (6 Marks)
c) Explain the term Relational Data Model with example? (8 Marks)
2. a) Describe the functionalities of RDMBS Relationship types with example? (10 Marks)
b) Discuss Database Modification using SQL, including Insert, Update, and Delete Queries. (10 Marks)
3. a) What are the needs of aggregate functions in SQL? Explain five aggregate functions with example? (10 Marks)
b) List out the Data Manipulation Language? Clarify each with example. (10 Marks)
4. a) Describe the function of comparison operator in SQL. Give example for each. (10 Marks)
b) What is exception handling in SQL, Explain the difference between predefined and user-defined exceptions in SQL. (10 Marks)
5. a) Discuss the various normal forms up to Boyce-Codd Normal Form (BCNF) and the significance of normalization in database design. (10 Marks)
b) What is a join dependency, and when does a relation reach Fifth Normal Form (5NF)? Give Example. (10 Marks)

6. a) Explain in details of SQL data types with examples? **(10 Marks)**
 - b) How are data models, schemas, and instances related in the context of a database system? **(10 Marks)**

7. a) Explain the life cycle of an explicit cursor with the steps of declaration, opening, fetching, and closing with example. **(10 Marks)**
 - b) How do SQL functions and procedures compare to one another? Please give examples. **(10 Marks)**