

QP CODE 2143511802

Reg.No

--	--	--	--	--	--	--	--	--	--



DMI-ST. EUGENE UNIVERSITY

ZAMBIA

DEGREE EXAMINATION – DECEMBER 2023

Semester: IV 351CP18 RELATIONAL DATABASE MANAGEMENT SYSTEMS

Time: 3:00 Hours

Max. Marks: 100

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

1. a) What is a database, and how does it differ from a traditional file-based system? (5 Marks)
b) What roles do the workers behind the scenes play in a database system? (5 Marks)
c) What are some advantages of using the Database Management System (DBMS) approach? (5 Marks)
d) What is the difference between data models, schemas, and instances in a database system? (5 Marks)
2. a) Why is a conceptual data model an essential step in the database design process? Explain. (10 Marks)
b) Can you provide a five example of a real-world database application? (5 Marks)
c) What is a conceptual data model in the context of database design? (5 Marks)
3. a) What is a SQL view, and why is it useful? (5 Marks)
b) What is a SQL query, and how is it used to retrieve data from a database?(5 Marks)
c) What is a sub query in SQL, and how does it differ from a regular query?(5 Marks)
d) What are indexes in SQL, and how do they improve database performance? (5 Marks)
4. a) What are the types of triggers in PL/SQL, and how do they differ? (5 Marks)
b) What is the syntax for creating a PL/SQL trigger? (5 Marks)
c) How do you enable and disable triggers in a database? (5 Marks)
d) What is the process for replacing and dropping triggers in PL/SQL? (5 Marks)
5. a) What is a functional dependency in a relational database? (5 Marks)
b) How do you represent a functional dependency? (5 Marks)
c) What is the First Normal Form (1NF), and what are its requirements? (5 Marks)

- d) What is a candidate key in a relation, and why is it important? **(5 Marks)**
6. a) What is an entity type in an entity-relationship model? **(5 Marks)**
- b) What is a key attribute, and why is it important in database design? **(5 Marks)**
- c) Why are naming conventions important in database design, and can you provide an example?
- d) What is specialization and generalization in an enhanced entity-relationship model? **(5 Marks)**
7. a) What is normalization in the context of relational databases? **(5 Marks)**
- b) Why is normalization important in database design? **(5 Marks)**
- c) What are some informal design guidelines for relation schemas? Explain. **(10 Marks)**