

Bachelor Level / Second Year/ Forth Semester/ Science
Computer Science and Information Technology (CSC 260)
(Database Management System)
(OLD COURSE)

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

Candidates are required to give their answers in their own words as far as practicable.
All figures in the margin indicate full marks.

Section A

Long Answer Questions.

Attempt any **TWO** questions.

[2 × 10 = 20]

1. How is enhanced ER model different from ER model? Construct an ER diagram to store data in the library where students borrow books from the library. Make necessary assumptions. [5 + 5]
2. How do you implement referential integrity in SQL? Explain different types of Joins with suitable example of each. [5 + 5]
3. Explain two phase locking technique in detail. What do you mean by lock conversion? [8 + 2]

Section B

Short Answer Questions.

Attempt any **EIGHT** questions.

[8 × 5 = 40]

4. What are the responsibilities of the DBA and the database designers? [2.5 + 2.5]
5. Explain database schema with appropriate example. [5]
6. Define the terms DDL, DML, SDL, VDL, and host language. [5]
7. What do you mean by domain of an attribute? Explain recursive relationship with example. [1.5 + 3.5]
8. Explain key constraint and constraints on NULL values. [5]
9. What are different relational algebra operations from set theory? [5]
10. Explain 3NF with example. Compare 3NF with BCNF. [3 + 2]
11. What do you mean by serializable schedule? What are desirable properties of transactions? [2 + 3]
12. What is write-ahead logging? What are Possible ways for flushing database cache to database disk? [1.5 + 3.5]