

Tribhuvan University
Institute of Science and Technology

2076

Bachelor level/ Second Year/ Third Semester/ Science
Computer Science and Information Technology (CSC259)
(DBMS)

Candidates are required to give their answers in their own words as far as practicable.

All figures in the margin indicate full marks.

Attempt all the questions:

Section A

Long Answer Questions

Attempt any Two Questions

1. What are the advantages of using Database Management System over traditional filing system? Explain different data models with example.
2. What is concurrency control? Name various methods of controlling the concurrency control? Differentiate between Binary lock and Shared/Exclusive lock.
3. What is normal form? Explain their types. Explain about loss-less join decomposition.

Section B

Short Answer Questions

Attempt any Eight questions.

4. What is data abstraction? What are three levels of data abstraction? Explain.
5. What is difference between Entities and Entity sets? Explain with example.
6. Create two tables Courses (CID, Course, Dept) and HoD (Dept, Head) using SQL language with all constraints (primary key, Foreign Key and Referential Integrity). Assume the types of attributes by your own.
7. Differentiate between Integrity & Security with example.
8. Define schedule and serializability. How can you test the serializability?
9. What is Granularity of data items? How does it effect in concurrency control?
10. Explain 2 phase locking technique in brief.
11. What are different approaches of Database recover? What should log file maintain in log-based recovery?
12. Explain the use of primary and foreign key in DBMS with example. What is the role of foreign key?