

TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT

Office of the Dean
September 2017

Full Marks: 40
Time: 2 hrs.

BIM / Fourth Semester / IT 220 / ITC 218: Database Management System

Candidates are required to answer all the questions in their own words as far as practicable.

Group "A"

Brief Answer Questions:

[10 × 1 = 10]

1. Why should organizations use database?
2. What is data abstraction?
3. What is importance of generalization?
4. Define set operation in SQL.
5. Write the SQL statement to display current date.
6. What is assertion?
7. Define partial dependency.
8. Write SQL Grant statement to provide read privilege on table students to user Ram.
9. List process state for transaction processing.
10. What do you mean by concurrent transactions?

Group "B"

Exercise Problems:

[5 × 4 = 20]

1. A company stores information about employee(ssn, phone, salary), department (dno, dname, budget) and children of employee (childid, name, age). Create ER diagram using given entities in previous sentence, make your own assumptions about the relationships between the entities.
2. Write the DDL statements to construct the table with following fields:

Table Name: Music

Field Name	Data Type	Constraint
Music_ID	Text	Primary key
Title	Text	Should not more than 40 character
Lyricist	Text	Not null
Rating	Numeric	Must be positive
Gender	Character	Must be 'm' OR 'f' OR 'o'

13. Consider the following schema:

Suppliers(sid, sname, address)

Parts(pid, pname, color)

Catalog(sid, pid, cost)

Write the following queries in SQL:

- Find the name of parts for which there is one supplier.
 - Find the name of suppliers who supply only red color parts.
 - Increase the cost of catalog by 20%.
 - Find the name of parts supplied by Acme Widget Suppliers.
14. What is SQL join? Explain different types of join operation with example.
15. Normalize the following relation up to BCNF.

<u>ID</u>	FirstNa me	LastName	SchoolName	SchAddress	SchCity	SchState	SchPhone
1	Joe	Smith	Carver	123 Easy Street	Little Rock	AR	72201,21113
2	Freda	Joseph	Carver	123 Easy Street	Little Rock	AR	72201,23434
3	Busy	Body	Cloverdale	456 Anywhere	Little Rock	AR	72209
4	Pikup	Andropov	Lakewood	789 High	North Rock	AR	72222,22222

Group "C"

Comprehensive Answer Questions:

(2 × 5 = 10)

- Explain serializable transaction schedule with example.
- Explain different points of a transaction schedule at which transaction may fail and also explain how transaction can be recovered from those mentioned points of a transaction schedule.
