

TRIBHUVAN UNIVERSITY
FACULTY OF MANAGEMENT

Office of the Dean
September 2019

Full Marks: 40

Pass Marks: 20

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. List the application areas of DBMS.
2. What is specialization?
3. What is data redundancy?
4. Define a partial dependency.
5. What do you mean by atomicity in transaction?
6. Why views are created in database?
7. What is the role of a query processor?
8. Define relational database.
9. Why is concurrency control required?
10. Write the use of a TRIGGER.

Group "B"

Exercise Problems:

[5 × 4 = 20]

11. Write statement of 3NF. Normalize the following database table to 3NF.

Project Code	Project Name	Project Manager	Project Budget	Employee Name
101	Singh Villa	Pratchi	500,0000	Shamvab, Krishna
102	Mishra Pharma	Poonam	700,0000	Krishna, Saumya
103	Shrestha House	Riti	900,000	Saumya

12. Draw an ER diagram for the following scenario. Make any assumptions if necessary.
"Mrs. Sunaina Pathak is the manager of an art gallery. She wants an online application to keep track of the artists, paintings, customers, orders and payments details. It is known that the admin should store the information of artists and their paintings. Multiple artists can participate to make a painting. A customer can place an order of any number of paintings but must pay in a single installment."
13. How domain integrity and referential integrity constraints can be specified in database? Explain with example.

14. Consider the following relations and answer the following questions:
- Movies(movieID, movieName, releaseDate, ticketPrice, buyPrice)
- Viewers(viewerID, viewerName, email, phone, age)
- Tickets(ticketID, showDateTime, screenNumber, seatNumber, viewerID, movieID)
- Write the DDL statement to create the Tickets table.
 - Write SQL query to find the list of all the movies released in the month of January 2018.
 - Write SQL query to find the name and email of viewers whose name contains "Prakash".
 - Write SQL to find the name of the viewers of age not less than 18 years.
15. Explain serial schedule with example.

Group "C"

Comprehensive Answer Questions:

[2 × 5 = 10]

- What do you mean by data independence? How data independence is achieved in database?
- Why should organizations use database? Explain.

