XYZ UNIVERSITY

Subject:	DBMS	Date:	28/07/2025
Paper Title:	HIT DBMS Semester Exam	Time:	3 Hours
Max Marks:	70	Difficulty:	5/10

INSTRUCTIONS:

1. Read all questions carefully before attempting.
2. All questions are compulsory.
3. Write your answers clearly and legibly.
4. Time management is crucial for completion.
5. This paper contains 22 questions for 70 marks.
6. For Multiple Choice Questions, select the best answer.
7. For long answer questions, provide detailed explanations with examples.
8. Follow NEP 2020 guidelines: Focus on understanding, application, and critical thinking.

_____

–

SECTION A: Multiple Choice Questions

Q1. Which of the following is NOT an ACID property in database transactions? [1 marks]

(a) Atomicity
(b) Consistency
(c) Isolation
(d) Availability

Q2. In SQL, which command is used to create a new table? [1 marks]

(a) CREATE TABLE
(b) MAKE TABLE
(c) NEW TABLE
(d) BUILD TABLE

Q3. What is the primary purpose of database normalization? [1 marks]

(a) Increase speed
(b) Reduce redundancy
(c) Add more data
(d) Create backups

Q4. Which normal form eliminates partial functional dependencies? [1 marks]

(a) 1NF
(b) 2NF
(c) 3NF
(d) BCNF

Q5. What does SQL stand for? [1 marks]

(a) Structured Query Language
(b) Simple Query Language
(c) Standard Query Language
(d) System Query Language

Q6. Which of the following is NOT an ACID property in database transactions? [1 marks]

(a) Atomicity
(b) Consistency
(c) Isolation
(d) Availability

Q7. In SQL, which command is used to create a new table? [1 marks]

(a) CREATE TABLE
(b) MAKE TABLE
(c) NEW TABLE
(d) BUILD TABLE

Q8. What is the primary purpose of database normalization? [1 marks]

(a) Increase speed
(b) Reduce redundancy
(c) Add more data
(d) Create backups

Q9. Which normal form eliminates partial functional dependencies? [1 marks]

(a) 1NF
(b) 2NF
(c) 3NF
(d) BCNF

Q10. What does SQL stand for? [1 marks]

(a) Structured Query Language
(b) Simple Query Language
(c) Standard Query Language
(d) System Query Language

Q11. Which of the following is NOT an ACID property in database transactions? [1 marks]

(a) Atomicity
(b) Consistency
(c) Isolation
(d) Availability

Q12. In SQL, which command is used to create a new table? [1 marks]

(a) CREATE TABLE
(b) MAKE TABLE
(c) NEW TABLE
(d) BUILD TABLE

Q13. What is the primary purpose of database normalization? [1 marks]

(a) Increase speed
(b) Reduce redundancy
(c) Add more data
(d) Create backups

Q14. Which normal form eliminates partial functional dependencies? [1 marks]

(a) 1NF
(b) 2NF
(c) 3NF
(d) BCNF

Q15. What does SQL stand for? [1 marks]

(a) Structured Query Language
(b) Simple Query Language
(c) Standard Query Language
(d) System Query Language

SECTION J: Medium Answer Questions

Q16. Discuss the different levels of database normalization (1NF, 2NF, 3NF) with examples. [5 marks]

Q17. Explain the concept of concurrency control in databases and the problems it solves. [5 marks]

Q18. Describe the different types of database joins with examples and use cases. [5 marks]

SECTION K: Long Answer Questions

Q19. Design a complete ER diagram for a library management system and convert it to relational schema. [10 marks]

Q20. Explain the working of B+ trees in database indexing with detailed examples. [10 marks]

Q21. Discuss different concurrency control protocols and compare their effectiveness. [10 marks]

Q22. Analyze the CAP theorem and its implications for distributed database systems. [10 marks]