



NP – 433

**II Semester B.C.A. Examination, July/August 2024
(NEP Scheme)**

COMPUTER SCIENCE

Paper – 2.3 : Database Management System

Time : 2½ Hours

Max. Marks : 60

Instruction : Answer all Parts.

PART – A

I. Answer **any four** questions. **Each** question carries **two** marks. **(4×2=8)**

- 1) Define DBMS. Give an example.
- 2) Define Hash Index and Hash Function.
- 3) List any 2 unary relational operations.
- 4) What is Anomaly in DB ? Give example.
- 5) Mention the types of locks.
- 6) What is concurrency control ?

PART – B

II. Answer **any four** questions. **Each** question carries **five** marks. **(4×5=20)**

- 7) Explain the characteristics of database approach.
- 8) Briefly explain the Three Schema Architecture.
- 9) Explain the types of attributes with examples.
- 10) Write an ER diagram for a Company Database.
- 11) Define binary relational operations with examples.
- 12) Define normalization. Explain any 2 normal forms.

P.T.O.



PART – C

III. Answer **any four** questions. **Each** question carries **eight** marks. **(4×8=32)**

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| 13) a) What are the roles and responsibilities of a DBA ? | 4 |
| b) Explain the categories of Data Models. | 4 |
| 14) a) Explain the types of relationships. | 4 |
| b) Briefly explain specialization and generalization. | 4 |
| 15) a) List and explain different types of keys in relational database. | 4 |
| b) Explain any four aggregate functions with examples. | 4 |
| 16) a) List and explain types of functional dependency. | 4 |
| b) Explain different datatypes used in SQL. | 4 |
| 17) a) Explain the ACID properties. | 4 |
| b) Describe data recovery in multi-database system. | 4 |
| 18) a) Write a note on embedded SQL. | 4 |
| b) Write a note on secondary storage device. | 4 |
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