II Semester B.C.A. Examination, September/October 2022
(NEP) (2021 – 22 and Onwards)
COMPUTER SCIENCE
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. Mention one application of DBMS.

2) Mention the different types of relationship types.

3) What is primary key and candidate key ?

4) What are the different categories of SQL statements ?

5) What is concurrency control ?

6) Mention the two problems caused by the use of locks.

PART – B

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

7) Explain the different types of Data Model with an example.

8) What is an attribute ? Explain any 4 types of attributes with example.

9) Explain UNION, INTERSECTION and SET DIFFERENCE operations with an example.

10) Explain Boyce Code Normal Form (BCNF) with an example.

11) Discuss the different operators used in SQL.

12) Explain deadlock and starvation.

PART – C

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

13) a) Explain the DBMS interfaces.   4

    b) Explain the three schema architecture of DBMS.   4

14) a) Write short notes on hierarchical and network data model.   4

    b) Explain about any two secondary storage devices with example.   4

15) Construct an E-R diagram of student database.   8

16) a) Explain any 2 types of normalization with an example.   6

    b) What are the applications of relational algebra in RDBMS ?   2

17) a) Explain DDL statements with syntax and examples.   4

    b) Discuss any 4 types of join operations.   4

18) a) What is a transaction ? Explain its properties.   5

    b) Write a note on database failures.   3