



UNIVERSITY OF NORTH BENGAL
BCA Honours 4th Semester Examination, 2023

CC10-BACHELOR OF COMPUTER APPLICATION (43)

DATABASE MANAGEMENT SYSTEMS

Time Allotted: 2 Hours

Full Marks: 40

*The figures in the margin indicate full marks.
All symbols are of usual significance.*

GROUP-A

Answer any *five* of the following

1×5 = 5

1. What is schema?
2. What are weak entities?
3. Define DML.
4. Name any optimistic concurrency protocol.
5. Define data dictionary.
6. What is a view in DBMS?
7. Define granularity.
8. What is cardinality of a relationship?

GROUP-B

Answer any *three* of the following

5×3 = 15

9. Explain the different states of a transaction in DBMS with suitable diagram.
10. State the advantages of DBMS approach over traditional file approach.
11. Discuss the Armstrong's axioms.
12. Explain the relational data model along with its merits and demerits.
13. Discuss the ACID properties of a transaction.

GROUP-C

Answer any *two* of the following

10×2 = 20

14. Explain different types of joins with suitable examples.
15. What is database normalization? Why is it needed? Explain various normal forms with appropriate examples.
16. Explain 2-phase locking protocol.
17. Write short notes on the following: (any *two*)
 - (i) Data independence
 - (ii) ANSI/SPARC architecture
 - (iii) Recovery in DBMS
 - (iv) Integrity constraints.

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