



'সমানো মন্ত্র: সমিতি: সমানী'

UNIVERSITY OF NORTH BENGAL

BCA Honours 4th Semester Examination, 2022

CC10-BACHELOR OF COMPUTER APPLICATION (43)

DATABASE MANAGEMENT SYSTEMS

Time Allotted: 2 Hours

Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

Answer any five questions

1×5 = 5

1. Define DDL.
2. List any two integrity constraints on databases.
3. Define attribute.
4. What is logical schema?
5. Define metadata.
6. What is a procedural DML?
7. What are the components of a database?
8. What do you mean by functional dependency?

GROUP-B

Answer any three questions

5×3 = 15

9. Explain the advantages of DBMS approach over traditional file oriented systems to store data.
10. Describe briefly the role of DBA in database design.
11. State Armstrong's axioms.
12. Explain EQUIJOIN with an example.
13. $R(A, B, C, D, E)$ and $FD = \{A \rightarrow B, BC \rightarrow E, ED \rightarrow A\}$ in R . Find the Candidate Key(s) for R .

GROUP-C

Answer any *two* questions

10×2 = 20

14. Draw an E-R diagram of a Bank management system.
15. Explain 3-layered approach of database design along with its advantages.
16. Give an algorithm to determine whether a decomposition of a relation is lossless or lossy.
17. Define the following with an example:
 - (a) Weak entity type
 - (b) Participation constraint
 - (c) Cardinality ratio
 - (d) Recursive relationship
 - (e) Specialization.

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