



II Semester B.C.A. Examination, Sept./Oct. 2021
(F+R) (CBCS) (2014-15 and Onwards)
COMPUTER SCIENCE
BCA 204 : Database Management System

Time : 3 Hours

Max. Marks : 70

Instruction : Answer all Sections.**SECTION – A**Answer **any ten** questions. **Each** question carries **two** marks. **(10×2=20)**

1. What is DBMS ?
2. Write down any two responsibilities of database administrator.
3. Name any four types of attributes.
4. Define functional dependency.
5. How are storage devices classified ?
6. What is group by clause ? Give example.
7. What is heap file ? How are pages organized in a heap file ?
8. Define primary key and foreign key.
9. List any two advantages of PL/SQL.
10. Define two-phase locking.
11. Explain commit and Rollback commands.
12. What is RAID ?

SECTION – BAnswer **any five** questions. **Each** question carries **ten** marks. **(5×10=50)**

13. a) Explain the advantages of DBMS. 5
- b) Explain different people behind DBMS. 5

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14. a) Design an ER-diagram for keeping track of information about company database, with atleast four entities. 7
- b) What is a relationship ? Give an example of one-to-one and many-to-many relationships. 3
15. a) Explain the structure of Hard disk. 5
- b) Discuss the concept of generalization and specialization. 5
16. a) Discuss how disk mirroring helps in improving reliability. 5
- b) List the operations of relational algebra and the purpose of each. 5
17. a) Discuss the various types of join operations. 5
- b) Explain briefly DDL statements with syntax and examples. 5
18. a) Define transaction. Explain different states of transaction with a neat state transaction diagram. 5
- b) Explain 2NF and 3NF with examples. 5
19. a) Write an SQL Query for the following : 6
- i) To create a table of employee database with minimum 5 fields.
- ii) To insert two records in the employee table.
- iii) To add new field to the employee table.
- b) Explain ACID properties of transaction. 4
20. a) What is a view in SQL, and how is it defined ? Discuss the problems that may arise when one attempts to update a view. 5
- b) What is two-phase locking protocol ? How does it guarantee serializability ? 5

SECTION - B

(5x10=50)

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