



SM – 618

II Semester B.C.A. Examination, May/June 2018  
(CBCS) (F + R) (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 of the following. Each question carries two marks : (10×2=20)

1. Define :
  - a) DBMS
  - b) Data Model.
2. Define Data Independence. Mention the types.
3. Differentiate centralized database architecture and client server database architecture.
4. What is an entity ? Mention the types of entities.
5. Define RAID.
6. What are database anomalies ? Mention the types.
7. Define normalization.
8. Explain different data types in SQL.
9. Expand PL/SQL. Mention any two advantages.
10. What is a view ? Give the syntax for view creation.
11. List different types of failures.
12. What is concurrency control ?

P.T.O.



## SECTION - B

Answer **any 5** of the following. **Each** question carries **10** marks :

(5×10=50)

13. a) Explain the advantages of DBMS. 5  
 b) Explain three schema architecture. 5
14. a) Define different types of keys. 5  
 b) Explain different Hashing Techniques. 5
15. Draw an ER diagram for STUDENT DATABASE SYSTEM. 10
16. a) Explain generalization and specialization with examples. 6  
 b) Explain trivial dependency. 4
17. a) Explain Relational Algebra in detail. 5  
 b) Explain 1 NF, 2 NF, 3 NF. 5
18. a) Explain different aggregate functions in SQL with syntax and examples. 5  
 b) What are JOINS ? Explain INNER JOIN and OUTER JOIN. 5
19. a) Explain different DDL commands with syntax and example. 5  
 b) Create an EMPLOYEE Database using the following fields : 5
- | Field name | Data type |
|------------|-----------|
| EMPNO      | NUMBER    |
| ENAME      | CHAR      |
| DOB        | Date      |
| Dept       | String    |
| Salary     | Real      |
- a) Create the table  
 b) Enter 5 tuples  
 c) Find sum of salaries of all employees  
 d) Find highest and least salaries of all employees.
20. a) Explain ACID properties of a Transaction. 5  
 b) Explain different states of transaction. 5