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. (10x2=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.


10. What is a view? Give the syntax for view creation.

11. List different types of failures.

12. What is concurrency control?
SECTION - B

Answer any 5 of the following. Each question carries 10 marks: (5x10=50)

13. a) Explain the advantages of DBMS.
   b) Explain three schema architecture.

14. a) Define different types of keys.
   b) Explain different Hashing Techniques.

15. Draw an ER diagram for STUDENT DATABASE SYSTEM.

16. a) Explain generalization and specialization with examples.
   b) Explain trivial dependency.

17. a) Explain Relational Algebra in detail.
   b) Explain 1 NF, 2 NF, 3 NF.

18. a) Explain different aggregate functions in SQL with syntax and examples.
   b) What are JOINS? Explain INNER JOIN and OUTER JOIN.

19. a) Explain different DDL commands with syntax and example.
   b) Create an EMPLOYEE Database using the following fields:

<table>
<thead>
<tr>
<th>Field name</th>
<th>Data type</th>
</tr>
</thead>
<tbody>
<tr>
<td>EMPNO</td>
<td>NUMBER</td>
</tr>
<tr>
<td>ENAME</td>
<td>CHAR</td>
</tr>
<tr>
<td>DOB</td>
<td>Date</td>
</tr>
<tr>
<td>Dept</td>
<td>String</td>
</tr>
<tr>
<td>Salary</td>
<td>Real</td>
</tr>
</tbody>
</table>

   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.
    b) Explain different states of transaction.