



SE – 339

**II Semester B.C.A. Examination, September 2020**  
**(CBCS) (Fresher + Repeater)**  
**(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. What is DBMS ? Mention any two functions of DBMS.
2. Mention the different types of SQL statements.
3. Define data independence. Mention its types.
4. Draw an ER diagram for book database.
5. Define entity and attribute.
6. What is Hashing ? Mention its types.
7. Define candidate key and composite key.
8. What is projection ? Give an example.
9. What is the difference between rollback and commit ?
10. What is PL/SQL ? Mention any two advantages.
11. What are ACID properties ?
12. What is starvation ? Give one example.

P.T.O.



## SECTION - B

Answer **any five** of the following. **Each** question carries **ten** marks. **(5×10=50)**

13. a) Write a note on DBA. 5  
b) Explain three schema architecture with a neat diagram. 5
14. a) Explain any five types of attributes with an example for each. 5  
b) What is relationship ? Explain one to many and many to one with example. 5
15. a) What is file ? Explain methods of allocating file block on disk. 5  
b) What is normalization ? Explain BCNF. 5
16. a) Define Join. Explain any 4 types. 5  
b) Define the following terms : 5  
i) Domain  
ii) Tuple  
iii) Constraints  
iv) Relational algebra  
v) Foreign key.
17. a) Explain ALTER and CREATE command with syntax and example. 5  
b) Consider the below relation.  
STUDENT (REG. NO., NAME, COURSE, GENDER)  
TEST (REG. NO., SUB1, SUB2, SUB3, TOTAL, PERCENTAGE, RESULT)  
Write the SQL query statement for the following :  
i) Select name and course of the student who has got highest percentage.  
ii) Count the number of girl students in BCA course.  
iii) Display the reg. no. and name of the student who have failed in the test.  
iv) Display the average marks scored in each of the 3 subjects.  
v) Display reg. no., percentage and result of all the students. 5
18. a) Explain aggregate functions in SQL. 5  
b) Explain database anomalies. 5
19. a) Write PL/SQL program to find factorial of a number using while loop. 5  
b) What are cursers ? Explain its types. 5
20. a) Explain different types of locks. 5  
b) Explain different states of transactions with neat diagram. 5