



SA – 909

II Semester B.C.A. Degree Examination, April/May 2015  
(CBCS) (2014-15 and Onwards)  
COMPUTER SCIENCE  
BCA 204 : Database Management Systems

Time : 3 Hours

Max. Marks : 70



**Instruction** : Answer **all** Sections.

SECTION – A

- I. Answer **any ten** questions. **Each** question carries **two** marks. (10×2=20)
- 1) What is DBMS ? Why do we need a DBMS ?
  - 2) Write down any two responsibilities of data base administrator.
  - 3) List the implicit properties of data base approach.
  - 4) Differentiate between single value and multi valued attributes.
  - 5) Define referential integrity constraints with example.
  - 6) What is heap file ? How pages organized in a heap file ?
  - 7) List out different types of Join operations.
  - 8) What is group by clause ? Give example.
  - 9) Mention the kind of constraints we can specify in the create command DDL.
  - 10) What are the advantages of PL/SQL ?
  - 11) Define two-phase locking.
  - 12) What is time stamp ? Explain.

SECTION – B

- II. Answer **any five** questions. **Each** question carries **ten** marks. (5×10=50)
- 13) a) List and explain the main characteristics of database approach. 6
  - b) Explain the difference between logical and physical data independence. 4
  - 14) a) Design E-R diagram for keeping track of information about company database taking into account of at least four entities. 7
  - b) What is a relationship ? Give an example of one-to-one and many-to-many relationships. 3

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- 15) a) Discuss techniques for allocating file blocks on disks. 6  
b) Differentiate between primary and secondary storage with example. 4
- 16) a) Differentiate between prime and non-prime attributes. 2  
b) What is normalization ? Explain third normal form with example. 4  
c) Which normal form based on concept of functional dependencies ? Explain the same with neat diagram. 4
- 17) a) What is constraint ? Give the detailed explanation of key constraint and domain constraint. 5  
b) Explain selection and projection operation in relational algebra with an example. 5
- 18) a) Explain insert, delete and update statements in SQL with example. 5  
b) Consider the following relation.  
Emp-salary (Emp-no. Ename, DOB, DNo., Salary)  
Write the SQL for the followings :  
a) Display the number of employees working in each department. 7  
b) Find the sum of salaries of all employees 8  
c) Find sum and average salaries of employee of 'BCA' department. 9  
d) Find the highest salary that an employee draws. 10  
e) Find the least salary that an employee draws. 11
- 19) a) What is cursor ? What are the cursor attributes ? Explain. 12  
b) Explain for...loop statement in PL/SQL with an example. 5
- 20) a) Define transaction. Explain ACID properties of transaction. 5  
b) Discuss the types of locks in brief. 5