



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.  
b) Find the sum of salaries of all employees  
c) Find sum and average salaries of employee of 'BCA' department.  
d) Find the highest salary that an employee draws.  
e) Find the least salary that an employee draws. **5**
- 19) a) What is cursor ? What are the cursor attributes ? Explain. **5**  
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**