



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. **1**
 b) Find the sum of salaries of all employees **1**
 c) Find sum and average salaries of employee of 'BCA' department. **1**
 d) Find the highest salary that an employee draws. **1**
 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**