

Roll No.

BCA–09/BA-IT–06

Database Management System

Bachelor of Computer Applications
(BCA–11/16/17)

Third Semester, Examination, 2018

Time : 3 Hours

Max. Marks : 80

Note : This paper is of **eighty (80)** marks containing **three (03)** Sections A, B and C. Learners are required to attempt the questions contained in these Sections according to the detailed instructions given therein.

Section–A

(Long Answer Type Questions)

Note : Section ‘A’ contains four (04) long answer type questions of nineteen (19) marks each. Learners are required to answer *two* (02) questions only.

1. Discuss the limitations of file processing systems. Also explain the advantages of DBMS over file processing systems.
2. What is Data model ? Explain Physical data model, Logical data model, ER data model and Relational data model.
3. What is normalization ? Why do we required it ? Also discuss First normal form (1NF), Second normal form (2NF), Third normal form (3NF), Boycee-Codd normal form (BCNF).

(B-67) P. T. O.

4. What is SQL ? Write differences between DDL and DML. Also write queries for a table Student(Student_Name, Roll_no., Gender, Course, Marks) INSERT, UPDATE, DELETE, VIEW and DROP command.

(**Note :** Make your own assumptions for data.)

Section-B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of eight (08) marks each. Learners are required to answer *four* (04) questions only.

1. Write the difference between fixed length records and variable length records.
2. Discuss the merits and demerits of DBMS.
3. What are weak and strong entities ? How to convert ER model into relational model ?
4. What is Integrity constraint ? Define Primary key, Foreign key, Composite key and Candidate key with example.
5. What is joint dependency ? Explain with example. Discuss Fifth normal form (5NF).
6. Write difference between DDL and DML. Also write *two* commands of each.
7. Why is backup of database required ? How can we recover data ? (Write the steps to recover data.)

8. How can we secure our database ? Discuss goals of database security.

Section-C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective type questions of one (01) mark each. All the questions of this section are compulsory.

Choose the correct answer :

1. Which data manipulation command is used to combines the records from one or more tables ?
(a) SELECT (b) JOIN
(c) INSERT (d) PROJECT
2. Which of the following is not a valid SQL type ?
(a) DECIMAL (b) CHARACTER
(c) FLOAT (d) NUMERIC
3. Which of the following is a relational database ?
(a) Oracle (b) FoxPro
(c) Dbase IV (d) All of the above
4. In a relational schema, each tuple is dividing into fields called :
(a) Relations (b) Domains
(c) Queries (d) None of the above
5. The command is used to create a database user :
(a) Make user
(b) Create user
(c) ADD user to database
(d) All of the above

6. The modify operation is likely to be done after :
 - (a) Delete
 - (b) Look-up
 - (c) Insert
 - (d) None of the above
7. Relations produced from an E-R model will always be in :
 - (a) 1NF
 - (b) 2NF
 - (c) 3NF
 - (d) 4NF
8. Locking can be used for :
 - (a) Deadlock
 - (b) Lost Update
 - (c) Uncommitted dependency
 - (d) Inconsistent data
9. Which of the following is not a logical database structure ?
 - (a) Tree
 - (b) Network
 - (c) Chain
 - (d) Relational
10. E-R model comes under :
 - (a) Physical data model
 - (b) Record based logical model
 - (c) Object based logical model
 - (d) All of the above