

**BCA-09/BA-IT-06****Database Management System**

Bachelor of Computer Application  
(BCA-11/16/17)

Third Semester, Examination, 2017

**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 any *two* (02) questions only.

1. Discuss in detail the operators SELECT, PROJECT, UNION, INTERSECTION, RENAME with suitable examples.
2. What is a view ? How can it be created ? Explain with an example. Also discuss applications of it.
3. What is a data integrity ? Explain the types of integrity constraints with suitable examples.

4. Construct an E-R diagram for a car-insurance company whose customers own one or more cars.

## 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 any *four* (04) questions only.

1. Discuss operations over a file. Also explain primary file organization.
2. Describe DBMS. Also explain different types of DBMS.
3. Define entities, attributes and relationships with a suitable example.
4. What do you understand by the concept of key ? Why do we need it ? Also discuss different kinds of keys like—Primary key, Foreign key, Composite key and Candidate key with suitable example.
5. Define functional dependency with suitable example. Also explain the concept of prime and non-prime attribute(s).
6. What is Multi-Valued Dependency (MVD) ? Explain it with example. Define 4NF with MVD.
7. Differentiate between Data Manipulation Languages (DMLs) and Data Definition Languages with at least three commands of each.
8. Explain the concept of recovery. Discuss the various types of failures and database recovery.

## 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.

1. ER model comes under :
  - (a) Physical data model
  - (b) Record based logical model
  - (c) Object based logical model
  - (d) All of the above
2. Which of the following is not a logical database structure ?
  - (a) Tree
  - (b) Network
  - (c) Chain
  - (d) Relational
3. The index consists of :
  - (a) A list of keys
  - (b) Pointers to the master list
  - (c) Both (a) and (b)
  - (d) None of the above
4. In a relational schema, each tuple is divided into fields called :
  - (a) Relations
  - (b) Domains
  - (c) Queries
  - (d) None of these
5. E-R modelling technique is a :
  - (a) Top-down approach
  - (b) Bottom-up approach
  - (c) Left-right approach
  - (d) None of the above

6. The command used to select only one copy of each set of duplicable rows :
  - (a) Select distinct
  - (b) Select unique
  - (c) Select different
  - (d) None of these
7. Which command is used to remove rows from a table ?
  - (a) Delete
  - (b) Remove
  - (c) Truncate
  - (d) Both (a) and (c)
8. 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
9. A data dictionary is a special file that contains :
  - (a) The names of all fields in all fields
  - (b) The data types of all fields in all files
  - (c) To width of all fields in all files
  - (d) All of the above
10. If every non-key attribute is functionally dependent on the primary key, then the relationship will be in :
  - (a) First normal form
  - (b) Second normal form
  - (c) Third normal form
  - (d) Fourth normal form