

## **BCA–09/BA–IT–06**

### **Database Management System**

Bachelor of Computer Application (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. 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. Explain advantages of DBMS over file-processing system in detail.
2. Discuss the DBMS architecture in detail with neat and clean diagram.
3. What is Data Model ? Explain E-R data model in detail.
4. What is Normalization ? Why do we required normalization ? Define 1NF, 2NF, 3NF and BCNF.

**Section–B****(Short Answer Type Questions)**

**Note :** Section ‘B’ contains eight (08) short answer type questions of eight (8) marks each. Learners are required to answer *four* (04) questions only.

1. What are pitfalls in relational database design ? With a suitable example, explain the functional dependency in the process of normalization.
2. Explain static and dynamic SQL in detail.
3. Describe static hashing and dynamic hashing.
4. Explain about immediate update and deferred update recovery techniques.
5. Explain the BCNF with an example. Also state how it differs from that of 3NF.
6. Define data and information. How we can declare a file ? Give a suitable example.
7. What do you understand by database design ? Also explain decomposition.
8. What is SQL ? Discuss the characteristics of SQL. Also discuss advantages of SQL.

**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. A computer file can be best described as :
  - (a) A single data item.
  - (b) A general collection of data item.
  - (c) A orderly collection of data item.
  - (d) A random collection of data item.

2. An audit trail :
  - (a) is used to make back-up copies.
  - (b) is recorded history of operations performed on a file.
  - (c) can be used to restore lost information.
  - (d) None of the above
3. A file produced by a spreadsheet :
  - (a) is generally stored on disk in an ASCII text format.
  - (b) can be used as it by the DBMS.
  - (c) can be used for graphic.
  - (d) All of the above
4. A set of permitted values of each attribute is called its :
  - (a) Attribute set
  - (b) Attribute range
  - (c) Domain
  - (d) Group
5. Relations produced from an E-R model will always be in :
  - (a) First normal form
  - (b) Second normal form
  - (c) Third normal form
  - (d) Fourth normal form
6. Which of the following is/are DML commands ?
  - (a) Delete
  - (b) Select
  - (c) Update
  - (d) Create

7. Which command is used remove a table or index from the database in SQL ?
  - (a) Delete table
  - (b) Drop table
  - (c) Erase table
  - (d) None of the above
8. Which of the following is/are record based logical model(s) ?
  - (a) Network model
  - (b) Object-Oriented model
  - (c) Relational model
  - (d) E-R model
9. DBMS are used to :
  - (a) Eliminate data redundancy
  - (b) Maintain data integrity
  - (c) Establish relationships among different files
  - (d) All of the above
10. The modify operation is likely to be done after :
  - (a) Delete
  - (b) Look-up
  - (c) Insert
  - (d) None of the above