MCA–07/PGDCA–07/M.Sc.(IT)–07

Fundamentals of Database Management System

MCA/PGDCA/M.Sc.(IT)-11/12/16/17

Second 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. Explain the concept of DBMS with architecture.
2. Write short notes on the following :
   (a) Suner key
   (b) Candidate key
   (c) Primary key
   (d) Foreign key
   (e) Tuple
3. Define SQL with its characteristics and basic structure.
4. What is data model in DBMS ? Explain any *three* models.

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. What do you understand by data normalization ?
2. Explain E-R diagram with example.
3. Explain commands in DML.
4. Write a note on records and its types.
5. Write *five* advantages and disadvantages of DBMS.
6. What is file and operation on files ?
7. Write difference between 1NF and 2NF.
8. Explain SUM and AVG function with example.

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. A minimal set of super key is called :
   (a) Primary key
   (b) Candidate key
   (c) Unique key
   (d) None of these

2. (A) Primary key cannot have NULL value.
   (B) Unique key can have NULL value.
   (a) (A) is correct
   (b) (B) is correct
   (c) Both (a) and (b) are correct
   (d) None of these

(B-86)

3. The view of total database content is :

(a) Conceptual view

(b) Internal view

(c) External view

(d) Physical view

4. The statement in SQL which allows to change the definition of a table is :

(a) Create

(b) Update

(c) Alter

(d) Select

5. Key to represent relationship between tables is called :
(a) Primary key

(b) Foreign key

(c) Unique key

(d) None of these

6. Which of the following is a comparison operator in SQL ?

(a) =

(b) LIKE

(c) BETWEEN

(d) All of the above

7. Hierarchical model is also called :

(a) Tree structure

(b) Plex structure

(c) Normalize structure

(d) None of these

8. What is advantage of Normalization ?

    (a) To avoid the repetitions

    (b) To prevent fragmentation

    (c) Avoid redundancy

    (d) None of these

9. Consider the join of a relation R with relation S. If R has m tuples and S has n tuples, then the maximum size of join is :

    (a) mn

    (b) $m + n$

    (c) $(m + n)/2$

    (d) $2(m + n)$

10. The database schema is written in :

    (a) HLL

    (b) DML

    (c) DDL

    (d) DCL