

Roll No.

MCA–07/PGDCA–07/M. Sc.(IT)–07

Fundamentals of Database Management System

Master of Computer Applications/P. G. Diploma in

Computer Applications/Master of Science in

Information Technology

(MCA–11/16, PGDCA–11/16, M. Sc.(IT)–12/16)

Second Semester, Examination, 2017

Time : 3 Hours

Max. Marks : 70

Note : This paper is of **seventy (70)** 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 fifteen (15) marks each. Learners are required to answer *two* (02) questions only.

1. What are the characteristics of SQL ? Explain the different DML and DDL commands with the help of example.
2. What do you mean by Generalization and Specialization ? Also explain aggregation with the help of suitable example.
3. Define 3 NF. How does it differ from 1 NF ? Why is it considered to be the strong form 2 NF ?

4. What is Relational Algebra ? Explain the following relation algebra functions with the help of example :
- (a) Select
 - (b) Project
 - (c) Union
 - (d) Difference

Section-B

(Short Answer Type Questions)

Note : Section 'B' contains eight (08) short answer type questions of five (5) marks each. Learners are required to answer *six* (06) questions only.

1. What do you mean by integrity constraints and domain constraints ?
2. What are the different types of database users explain with suitable example ?
3. What is the difference between data and information ? Explain.
4. Explain different Mapping Constraints with suitable example.
5. What do you understand by the term Entity Set, Relationship Set and Attribute Set Entity relationship Model ?
6. Explain the term Primary key and Foreign key with help of example.
7. Differentiate between object based logical model and Record based logical model.
8. Explain any *two* of the following :
 - (a) Cardinality
 - (b) Databases Designers
 - (c) LIKE Operator
 - (d) Extended features of ERD

Section-C

(Objective Type Questions)

Note : Section 'C' contains ten (10) objective type questions of one (1) mark each. All the questions of this section are compulsory.

1. The collection of information stored in a database at a particular moment is called as
 - (a) Schema
 - (b) Instance of the database
 - (c) Data Domain
 - (d) Independence
2. To eliminate duplicate rows is used.
 - (a) NO DUPLICATE
 - (b) ELIMINATE
 - (c) DISTINCT
 - (d) None of the above
3. is the complex search criteria in the where clause.
 - (a) Substring
 - (b) Drop Table
 - (c) Predict
 - (d) Predicate
4. The number of tuples in a relation is called its while the number of attributes in a relation is called it's
 - (a) Degree, Cardinality

- (b) Cardinality, Degree
 - (c) Rows, Columns
 - (d) Columns, Rows
5. The language that requires a user to specify the data to be retrieved without specifying exactly how to get it is :
- (a) Procedural DML
 - (b) Non-Procedural DML
 - (c) Procedural DDL
 - (d) Non-Procedural DDL
6. Which two files are used during operation of the DBMS ?
- (a) Query languages and utilities
 - (b) DML and query language
 - (c) Data dictionary and transaction log
 - (d) Data dictionary and query language
7. Which one of the following statements is false ?
- (a) The data dictionary is normally maintained by the database administrator
 - (b) Data elements in the database can be modified by changing the data dictionary
 - (c) The data dictionary contains the name and description of each data element
 - (d) The data dictionary is a tool used exclusively by the database administrator

8. operator is basically a join followed by a project on the attributes of first relation.
- (a) Join
 - (b) Semi-join
 - (c) Full Join
 - (d) Inner Join
9. Which character function can be used to return a specified portion of a *character string* ?
- (a) INSTR
 - (b) SUBSTRING
 - (c) SUBSTR
 - (d) POS
10. Which of the following SQL command can be used to modify existing data in a database table ?
- (a) MODIFY
 - (b) UPDATE
 - (c) CHANGE
 - (d) NEW

