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Roll No. _____

DIT-05

Diploma Management System

Diploma in Information Technology (DIT-17)

2nd Semester Examination 2019

Time : 3 Hours

Max. Marks 80

Note : This paper is of Eighty (80) marks divided into three(03) sections A,B & C. Attempt the questions contained in these sections according to the detailed instruction given therein

Section –A

(Long Answer Type question)

Note : Section 'A' contains four (04) long-answer-type question of nineteen (19) marks each.learners are required to answer any two(02) question only. (2x19=38)

1. a. What do you mean by Database Administrator? Discuss the various functions of DBA.
b. Discuss in detail SELECT, PROJECT and UNION with suitable example.
2. Define the following terms .
 - a. Data Abstraction
 - b. Database Schema
 - c. Data independency
 - d. Data Redundancy
 - e. DDL & DML
3. What is Deadlock ? When does it occur ? How is it detected in database system ?How it can be avoided ? Discuss in detail.

4. a. Explain Concurrency ? And also explain about concurrency control techniques.
- b. How many types of failure ? Explain about the various recovery techniques.

Section – B

(Short-Answer-Type Question)

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.

(4x8=32)

1. Define the terms generalization , Specialization and Aggregation with suitable Example.
2. a. Explain the three levels Architecture of DBMS in detail. (04)
- b. Explain codd's rules. (04)
3. Draw the E-R diagram of the registration process of the student in a Particular course; convert the E-R diagram into table also.
4. Explain the following
 - (i) Integrity Constraints
 - (ii) Foreign key
 - (iii) Primary key
 - (iv) Candidate key
 - (v) super key
5. Distinguish between:
 - I. Primary and secondary indexing.
 - II. Ordered indexing and hashing.
6. Explain briefly about 3NF, 4NF & BCNF with suitable example.
7. What is functional Dependency? Explain type and properties of FD's.
8. What is join ? Discuss different types of joins.

Section –C
(Objective-Type Question)

Note : Section 'C' contains ten(10) objective- type questions of one (01) mark each. All the questions of this section are Compulsory. (10 x 1 = 10)

1. Cardinality is :
 - (a) Number of tuples
 - (b) Number of attributes
 - (c) Number of tables
 - (d) Number of constraints.
2. In an E-R diagram attributes are represented by
 - (a) rectangle
 - (b) square
 - (c) ellipse
 - (d) triangle
3. SET concept is used in :
 - (a) Network Model
 - (b) Hierarchical Model
 - (c) Relational Modal
 - (d) None of these
4. In RDBMS a row is called as
 - (a) tuple
 - (b) relation
 - (c) attribute
 - (d) degree
5. DDL is
 - (a) Dynamic Data Language
 - (b) Data Difinition Language
 - (c) Datailed Data Language
 - (d) Data Derivation Language

6. Which database level is closest to the users ?
 - (a) External
 - (b) Internal
 - (c) Physical
 - (d) Conceptual
7. Relational calculus is a
 - (a) Procedural language
 - (b) Non-Procedural
 - (c) Data definition language
 - (d) High level language
8. In relational algebra, Cartesian product is
 - (a) Unary operator
 - (b) Binary operator
 - (c) Ternary operator
 - (d) None of them
9. Architecture of the database can be viewed as
 - (a) Two levels
 - (b) Four levels
 - (c) Three levels
 - (d) One level
10. Which of the following is a comparison operator in SQL ?
 - (a) =
 - (b) LIKE
 - (c) BETWEEN
 - (d) All of them
