

Roll No. ....

**D-1787**

**P. G. Diploma in Computer Application  
(Second Semester) EXAMINATION, 2020**

**(Old Course)**

**DATABASE MANAGEMENT SYSTEM**

**(PGDCA-107)**

*Time : Three Hours ]*

*[ Maximum Marks : 100*

**Note :** Attempt any *two* parts from each question. All questions carry equal marks.

**Unit—I**

1. (a) Explain DBMS architecture in detail.
- (b) What is data independence ? Why is data independence important ?
- (c) Write short notes on the following :
  - (i) Hierarchical model
  - (ii) Data dictionary
  - (iii) ODBC

**Unit—II**

2. (a) What is Entity ? Define entity set and attribute with example.
- (b) Explain the characteristics of specialization and aggregation.

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- (c) Write short notes on the following :
- (i) Primary key
  - (ii) Super key
  - (iii) Relationship

### **Unit—III**

3. (a) What is joins ? Explain outer joins and semi joins in detail with example.
- (b) What is the difference between simple and complex queries ? Explain with example.
- (c) Write short notes on the following :
- (i) Select operation
  - (ii) Cartesian product
  - (iii) Intersection

### **Unit—IV**

4. (a) What is Normalization ? How is second normal form different from third normal form ?
- (b) Explain multivalued dependency and functional dependency with example.
- (c) What is decomposition ? What is the difference between good and bad decomposition ? Explain with example.

### **Unit—V**

5. (a) What are the SQL functions ? Explain :
- (i) Numerical function

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(ii) Character function

(iii) Date function

(iv) Aggregate function

with each type of *two* examples.

(b) Discuss the following SQL clauses with example :

(i) order by

(ii) group by

(iii) like operator

(iv) update statement

(c) Write short notes on the following :

(i) Granting roles and privilege

(ii) Subqueries

(iii) Views