

(i) Printed Pages : 3

Roll No.

(ii) Questions : 9

Sub. Code :

8	6	8	5
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Exam. Code :

1	2	1	9
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PGDCA 1st Semester

(1129)

DATABASE MANAGEMENT SYSTEM

Paper—PGD-1103

Time Allowed : Three Hours]

[Maximum Marks : 60

Note :— Attempt five questions in all, by selecting one question each from Unit I, II, III and IV. Question No. 9 is compulsory.

UNIT—I

- I. (a) What is a database ? How is it different from File Oriented Approach ? Discuss the advantages and disadvantages of DBMS. 6
- (b) Explain the following terms with reference to E-R model :
- (i) Entity
- (ii) Attributes
- (iii) Relations. 6
- II. (a) What are distributed databases ? Discuss its structure and design. 6
- (b) Who is a Database Administrator (DBA) ? Explain the functions of a DBA. 6

UNIT—II

III. (a) Explain with an example, the following operations of Relational Algebra :

(i) Cartesian product

(ii) Division

(iii) Difference.

6

(b) What is Database security ? Discuss the various data security risks and password related threats.

6

IV. Explain the following in detail :

(i) Functional Dependency

(ii) Multivalued Dependency

(iii) Transitive Dependency.

3×4=12

UNIT—III

V. (a) Write the syntax, purpose and example of the commands to do the following :

(i) Create a Table

(ii) Insert values in a Table

(iii) Update columns of a Table.

6

(b) Explain the different data types available in SQL.

6

VI. (a) How do we match a pattern from a table ? Explain with suitable examples.

6

(b) What are Aggregate Functions ? Explain the syntax of any three aggregate functions.

6

UNIT—IV

- VII. (a) Define a view. How can we create a view and remove a view ? 6
- (b) Define a Transaction. Explain the ACID properties of a transaction. 6
- VIII. (a) What are Joins ? Discuss the various Joins with examples. 6
- (b) Explain the following SET operations :
- (i) UNION
 - (ii) INTERSECT
 - (iii) MINUS. 6

(Compulsory Question)

- IX. (a) What is a Foreign key ?
- (b) Define concurrency.
- (c) Define Data Independence and its types.
- (d) What do you mean by Data Anomalies ?
- (e) What is Network model ?
- (f) List any two character functions of SQL. $6 \times 2 = 12$