(i) Printed Pages : 3]   Roll No. ....

(ii) Questions   : 9]   Sub. Code : $\boxed{8}\ \boxed{6}\ \boxed{0}\ \boxed{3}$

                          Exam. Code : $\boxed{1}\ \boxed{2}\ \boxed{1}\ \boxed{9}$

PGDCA 1st Semester Examination

1127

DATABASE MANAGEMENT SYSTEM
Paper : PGD-1103

Time : 3 Hours]   **[Max. Marks : 60**

Note :– Attempt *five* questions in all, selecting *one* from each

Units I, II, III and IV. Question No. **9** is compulsory.

Unit–I

1. (a) What is DBMS ? What are various components

of DBMS ? Discuss various advantages and

disadvantages of DBMS.

(b) What are data models ? Explain various features

of E-R data model. Also explain different

symbols used in E-R diagram.   6,6

NA–404   (1)   Turn Over

2. (a) What are distributed databases ? Explain structure and design of distributed databases.

(b) What is Relational Data Model ? Explain various features of Relational Data Model. 6,6

Unit–II

3. (a) Differentiate between Relational Algebra and Relational Calculus.

(b) Why is database security important ? Explain various threats to a database system. How can security of database be ensured ? 6,6

4. Explain the following in detail :

(a) Candidate Keys

(b) Functional Dependency and Fully functional dependency

(c) Concurrency

(d) Log based recovery 4×3=12

Unit–III

5. (a) What are various datatypes available in SQL ?

(b) What are aggregate functions ? How are they used ? Explain any *two* aggregate functions using group by option. 6,6

NA–404 (2)

6. Explain the following SQL statements along with their syntax and example :

(a) Alter table

(b) Pattern matching in SQL queries

(c) Any two date functions

(d) Dropping a column from a table   4×3=12

Unit–IV

7. (a) What are views ? Write advantages and disadvantages of using views.

(b) What are SET operators ? Explain various SET operators with the help of examples.   6,6

8. What purpose do the join operations serve ? Discuss various types of joins available with the help of examples.   12

(Compulsory Question)

9. (a) What do you mean by data independence ?

(b) Define entity and attributes giving example.

(c) What are anomalies ? Give example.

(d) What are checkpoints ?

(e) What is a transaction ? Give example.

(f) How is commit statement different from rollback ?
    6×2=12

NA–404   (3)