**DIT – RELATIONAL DATABASE MANAGEMENT SYSTEM**

**SECTION A (30 MARKS)**

**Answer ALL the questions in this section.**

**Question 1**

1. Explain in brief the following; (4 Marks)
2. Primary key
3. Foreign key
4. Explain the following data types as use in RDBMS. (6 Marks)
5. Varchar
6. Number
7. Date/time
8. Describe the benefits of database in business. (4 Marks)
9. Distinguish the following; (4 Marks)
10. DQL
11. DDL
12. Explain Alter Table command with syntax and example. (7 Marks)
13. Discuss five major parts of a database system. (5 Marks)

**SECTION B (40 MARKS)**

**Answer any two questions from this section.**

**Question 2**

1. Define the term normalization. (2 Marks)
2. Explain **four** different types of normal forms. (8 Marks)
3. List **five** different types of operators in SQL. (5 Marks)
4. Discuss **five** types of database systems. (5 Marks)

**Question 3**

1. Describe the **two** components of a relation in a relational database. (4 Marks)
2. Define a relational database. (2 marks)
3. List **two** reasons why null values may be introduced into the database. (2 Marks)
4. Distinguish between DBS and RDBMS as you give an example in each.

(7 Marks)

1. Highlight **five** importance of a database system to an organization. (5 Marks)

**Question 4**

1. Consider the entity EMPLOYEE with following attributes: Emp-Id, Employee-Name, Address, Phone\_ No, Designation and Salary. Using the EMPLOYEE entity, write a code to create the database and table. (10 Marks)
2. Write a query that will display the table. (2 Marks)
3. What command will use to insert data into the table you have created on (a) above. (3 Marks)
4. List **five** characteristics of relational data structure. (5 Marks)

**Question 5**

1. Consider the following Relational database. e~nployees (eno, ename, address, basic salary) projects (pno, pname, nos-of-staff-alotted) . Two queries regarding the data in the above database have been formulated in SQL. Describe the queries in English sentences. (14 Marks)
2. SELECT ename

FROM employees

WHERE eno IN ( SELECT eno

FROM workin

GROUP BY eno

HAVING COUNT (+) =

(SELECT COUNT (\*) FROM projects));

1. SELECT pname

FROM projects

WHERE pno IN ( SELECT pno

FROM projects

MINUS

(SELECT DISTINCT pno

FROM workin

GROUP BY eno));

1. Explain **three** types of relationships. (6 Marks)