

Government Polytechnic For Girls, Surat

Information Technology Department

Subject: Database Management (4331603)

ASSIGNMENT 1

UNIT 1 : Introduction to Database System

1. Differentiate: Data v/s Information
2. What is DBMS? Explain the purpose of DBMS in detail.
3. Explain Applications of DBMS.
4. Give definition of Field, Record and File.
5. What is file oriented system? Write Advantages and Disadvantages of it.
6. What is database system? Write Advantages and Disadvantages of it.
7. Explain Components of database system Environment.
8. Who is DBA? Describe the responsibility of DBA in detail.
9. Difference between Data Administrator and Database Administrator.
10. Define : 1) Data Dictionary 2) Metadata.
11. Explain Three-level architecture of DBMS in detail.
12. Give definition of Database schema, Database Instance and Subschema.
13. Write short note on: Data Independence.
14. What is Data Model? List out different categories of Data Model.
15. What is Entity? Write a short note on The Entity Relationship Model.

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Assignment 2

UNIT 2: **Entity Relationship Model**

1. What is Attribute? Explain Different types of Attributes with example.
2. Explain Mapping cardinality in detail.
3. Define Super Key, Candidate key, Primary key, Alternate key.
4. What is Weak Entity set? Explain it with Example.
5. What is E-R Diagram? List out different symbols used in E-R diagram.
6. Explain specialization, Generalization in detail.

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Assignment 3

1. Explain the Entity Integrity constraints.
2. Explain the NULL constraint with example.
3. Differentiate Primary key and Unique key.
4. What do you mean by constraints in database? Why it is needed?
5. what is constraint? Explain Primary key and Foreign key constraint in detail.
6. what is check constraint? Explain it with example.
7. Create following table having following specification.

STUDENT: (stu_id, stu_name, Address, City, contact_no, Branch_name)

(i) Define stu_name as not null.

(ii) Student branch must be 'IT', 'Electrical', 'Mechanical' or 'Civil'

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ASSIGNMENT : RELATIONAL ALGEBRA

1. What is Relational Algebra?
2. Consider a following relational schema & give Relational Algebra Expressions for following queries.
 - o Employee(Emp_name, Emp_id, birth_date, Post, salary)
 - o (i) List out all Employees having Post="Manager".
 - o (ii) Find out only Emp_id and Emp_name having salary greater than 40000.
3. Explain select operation and project operation in a relational algebra with example
4. What is Natural join? Explain it with example.
5. Explain Outer join with example.

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Assignment 5:RELATIONALDATABASE DESIGN

1. Write the importance of Normalization.
2. Explain fully functional dependency with example.
3. Explain second Normal Form (2NF) with example.
4. Explain first Normal Form (1NF) with example.
5. Explain 3NF by giving a suitable example