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**Faculty of Technology and Engineering**

**Chandubhai S. Patel Institute of Technology (CSPIT)**

**Department of Computer Science & Engineering**

Date: / /

**Laboratory Manual**

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| Academic Year | : | 2024-25 | Semester | : | 4 |
| Course code | : | CSE206 | Course name | : | DATABASE MANAGEMENT SYSTEM |

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| **Practical - 12** |
| **AIM -** Your task is to design and implement database functionalities for managing product information in an e-commerce system. The system should allow users to create, retrieve, update, and delete product data, compute discounts on products using a function, and maintain an audit trail for product updates using a trigger. |

**Tasks:-**

1. Create a stored procedure to insert a new product into the Product table.

2. Create a stored procedure to retrieve product details by product\_id.

3. Create a stored procedure to update the stock of a product.

4. Create a stored procedure to delete a product by product\_id.

5. Create a function to calculate the discounted price of a product.

6. Implement a trigger to maintain an audit trail of updates made to the Product table. Before any update, the trigger should insert a record into an AuditTrail table, storing the old product details along with the update timestamp.

Test Cases :-

Task 1: CRUD Operations

1. **Add Product**: Add a product with name "Laptop", category "Electronics", price 50000, and stock 10.

**Expected Result**: Product is added successfully.

1. **Retrieve Product Details:** Retrieve details of the product with product\_id = 1.

**Expected Result:** Product details are displayed correctly.

1. **Update Stock**: Update the stock of product\_id = 1 to 15.

**Expected Result**: Stock is updated successfully.

1. **Delete Product**: Delete the product with product\_id = 1.

**Expected Result:** Product is removed from the table.

Task 2: Discount Calculation

1. **Input:** Price = 1000, Discount = 10%.

**Expected Result:** Discounted Price = 900.

Task 3: Trigger Validation

1. **Update Product Price or Stock**: Update the price of product\_id = 2 to 55000.

**Expected Result**: Old price and stock are recorded in AuditTrail with a timestamp.