074

SOUTH EASTERN UNIVERSITY OF SRI LANKA
FIRST EXAMINATION IN BACHELOR OF INFORMATION AND COMMUNICATION TECHNOLOGY – 2022/2023
SEMESTER – I, APRIL 2024

CIS 11051 – PRACTICAL FOR DATABASE DESIGN (G I D)

Answer all Questions **Time: 03 hours**

- **Create a folder in the desktop with your index number.**
- **Database created for Question 01 should be saved with in the folder you created.**
- **Screenshots of the answer for each sub question of Question 02 and the sql statement should be copied to a word document with proper numbering and document should be named as 'CIS11051 Que2 Answer' and saved in the same folder in the desktop.**
- **Frequently save your works.**

Question 01:

ABC bookstore needs a database to manage all the details using Microsoft Access.

1. Create a database named "BookStore_ICTxxx".

2. Create following tables with the given table structures.

Table: Books

Field	Data Type	Other Information
BookID	Number	Primary Key
Title	Text	
Author	Text	
Genre	Text	
ISBN	Text	Unique Identifier for Books
Price	Currency	
Stock	Number	Current number of copies in stock

Table: Sales

Field	Data Type	Other Information
SaleID	Number	Primary Key
BookID	Number	Foreign Key
SaleDate	Date	
Quantity	Number	
SalePrice	Currency	
TotalAmount	Currency	Calculated field based on SalePrice and Quantity

3. Insert the following records to their respective tables

Table: Books

BookID	Title	Author	Genre	ISBN	Price	Stock
1	To Kill a Mockingbird	Harper Lee	Fiction	9780446310727	$12.99	15
2	The Lord of the Rings	J.R.R. Tolkien	Fantasy	9780547928225	$19.99	10
3	Pride and Prejudice	Jane Austen	Romance	9780140435225	$9.99	20
4	The Catcher in the Rye	J.D. Salinger	Fiction	9780316769482	$14.99	8
5	Dune	Frank Herbert	Science Fiction	9780441569864	$17.99	12

Table: Sales

SaleID	BookID	SaleDate	Quantity	SalePrice	TotalAmount
1	1	2024-03-18	1	$12.99	$12.99
2	3	2024-03-19	2	$9.99	$19.98
3	2	2024-03-20	1	$19.99	$19.99

4. Create a form for the table Books named as "BookEntryForm". Using this form, insert the following record to the table Books.

BookID	Title	Author	Genre	ISBN	Price	Stock
7	Harry Potter	J.K. Rowling	Fantasy	9780590353427	$15.99	25

5. What are the books along with their authors and prices, sorted by price from highest to lowest.

6. Filter the records which customers made purchases on or after March 19, 2024.

7. Filter the records which books are currently low in stock, having 10 or fewer copies.

8. Show all fields for sales where SalesPrice is between $10 and $15.

9. Create a form named as "Name of Books" with Combo Box in name of the book (Title) from Books.

10. Create the report for the table "Books".

[100 Marks]

Question 02:

XYZ company needs to store the data in the database. The products details store in the products table, the customers details store in the customers table and orders details store in the orders table respectively.

1. Create a database named as "Inventory_management".

2. Create 3 tables namely Products, Customers and Orders, given in the below schema within the databse created in 1.

   Products (Product_ID, Product_Name, Price, Quantity)

   Customers (Customer_ID, Customer_Name, Email, Phone)

   Orders (Order_ID, Customer_ID, Product_ID, Quantity, Order_Date)

3. Apply appropriate PRIMARY KEY and FOREIGN KEY constraint to the tables.

4. Display the structure of all tables.

5. Insert the following records into each table.

Products Table:

Product_ID	Product_Name	Price	Quantity
1	Laptop	799.99	10
2	Smartphone	299.99	15
3	Headphones	49.99	20
4	Tablet	499.99	8
5	Wireless Mouse	19.99	30

Customers Table:

Customer_ID	Customer_name	Email	Phone
1	John Doe	john@gmail.com	123-456-7890
2	Jane Smith	jane@gmail.com	456-789-0123
3	David Brown	david@gmail.com	789-012-3456
4	Emily Johnson	emily@gmail.com	234-567-8901
5	Michael Lee	michael@gmail.com	567-890-1234

Orders Table:

Order_ID	Customer_ID	Product_ID	Quantity	Order_Date
1	2	3	2	26-03-2024
2	3	1	1	27-03-2024
3	4	2	3	28-03-2024
4	3	4	1	29-03-2024
5	1	5	2	30-03-2024

6. Retrieve the names and prices of all products in the Products table.

7. Find the total number of customers in the Customers table.

8. List all customers whose email start with letter "j".

9. Update the price of the product with Product_ID = 2 to $199.99.

10. Increase the quantity of all products by 5.

11. Calculate the average price of all products in the Products table.

12. List the customers from the Customers table in alphabetical order by their names.

13. Find the total price of products where the quantity is greater than or equal to 22.

14. Display the details of the products where the price is greater than or equal to 50 and the quantity is less than or equal to 20.

15. Retrieve all orders from the orders table where the order date is greater than or equal to "2024-03-26" or less than or equal to "2024-03-28".

16. List all customers who have placed more than 1 order along with the total number of orders they have placed.

17. Calculate the total quantity of products orders by each customer from the orders table. Display only those customers who have ordered more than 2 units of products in total. (Use **Joins** for this question)

18. Delete the order with Customer_ID = 2 from the Orders table.

[200 Marks]