COMSATS University, Abbottabad Campus
Department of Computer Science
Terminal FA-25

Class: BSCS
Subject: Advanced Programming
Total Time Allowed: 03 hours.

Date: 22-12-2025
Max Marks: 50

Name: Registration # CIIT/ -BCS- /ATD

Q1. Solve the following Questions. **[CLO-1]** **(15)**

a) What is meant by **Visual Programming?**
b) Define **Event-Driven** Programming.
c) What is a **Framework**? Give one example used in C#.
d) Differentiate between Windows Forms and WPF (any two points).
e) What is **ASP.NET Core** and why is it preferred over classic ASP.NET?

Q2. Attempt the questions below, each carrying equal marks. **[CLO-2 Applying]** **(15)**

i. **Implement** a C# code snippet to create a DataTable named **"Customer"** with three columns: Cid (int), CName (string), and Address (string). **Use** the table data to populate a ComboBox named `ComboBox1`, setting the Cid column as the `ValueMember` and the CName column as the DisplayMember.

ii. **Implement** a C# Windows Forms application code snippet to connect to a SQL Server database. Assume the database is named **"SchoolDB"** with a table **"Students"** having columns StudentID (INT), StudentName (NVARCHAR(50)), and Grade (INT). The code should:

- **Demonstrate** how to establish a connection to the database SchoolDB on server MyServer.
- **Use** a ListBox control named listBoxStudents to display all student names from the Students table.

Q3. Implement an ASP.NET Core MVC application that performs the following tasks:
Requirements: **[CLO-3 Applying]** **(20)**

1. **Create a Student model class with the following properties:**
   - Id
   - Name
   - Class
   - CGPA
2. **In the Controller:**
   - Create five (5) Student objects
   - Assign appropriate values to each object
   - Store them in a List<Student>
   - Sort the list in descending order of CGPA
   - Pass the sorted list to the View using strongly-typed model (@model)
3. **In the View:**
   - Use Razor syntax to receive the model
   - Display student records in an HTML table
   - Show data in descending order of CGPA

Output Requirements:

- **Table columns must include:**
  - Id
  - Name
  - Class
  - CGPA

19-12-2025

CamScanner