

- N. B.: (1) All questions are compulsory.
(2) Make suitable assumptions wherever necessary and state the assumptions made.
(3) Answers to the same question must be written together.
(4) Numbers to the right indicate marks.
(5) Draw neat labeled diagrams wherever necessary.
(6) Use of Non-programmable calculators is allowed.

1. **Attempt any three of the following:** 15
- Explain foreach loop with suitable example.
 - Distinguish between interface and abstract classes.
 - What is namespace? Describe the System namespace.
 - What is an assembly? Explain the difference between public and private assembly.
 - Write a sample C# program to demonstrate class, object and method call. Use comments wherever require.
 - Define the accessibility modifiers-public, private, protected, internal, and protected internal.
2. **Attempt any three of the following:** 15
- What is postback? Explain IsPostBack property with suitable example.
 - List and describe the various file types used in an ASP.NET application.
 - What is an event? How is an event handler added?
 - Write a short note on List controls in ASP.NET.
 - Explain the need of user control. How is it created and used?
 - What is the purpose of validation controls? List and explain the use of validation controls available in ASP.NET.
3. **Attempt any three of the following:** 15
- Describe the use of multiple catch statements in exception handling using example.
 - What is QueryString? How to send a name and marks of a student from one page to another using QueryString?
 - Explain the events in global.asax file with respect to state management.
 - How the connection between the content page and the master page is established?
 - What is the theme? Explain how to create and use a theme on a website.
 - What is URL mapping? How is URL mapping and routing implemented in ASP.NET?
4. **Attempt any three of the following:** 15
- Describe the SqlConnection class with an example.
 - Differentiate between DataSet and DataReader.
 - Write c# code to insert data in database table. Write comments wherever required.
 - What is use of data source control? Explain various types of data sources in ASP.NET.
 - Write a code to display data from a table named Students(RollNo, Name, Marks) and display on grid view control when page is loaded.
 - Describe (i) ExecuteNonQuery, (ii) ExecuteScalar, and (iii) ExecuteReader.

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5. Attempt *any three* of the following:
- a. Write a code to save employee data as empId, empName, empDept, and empDesignation data in an XML file.
 - b. What is XML? List and explain the various XML classes.
 - c. What do you mean by "authentication"? Describe its various types of authentication..
 - d. Explain the use of UpdateProgress control in AJAX.
 - e. What is use of timer control? Write the steps with appropriate code to create an application to display real-time timing (clock) on an asp.net web page
 - f. What are the benefits using Ajax? Explain UpdatePanel and ScriptManager.
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