(2½ Hours)

[Total Marks: 75]

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
a.   Draw and explain .NET framework architecture.
b.   How does the Garbage Collector function in the context of .NET? Provide a brief overview of the Base Class Library in .NET.
c.   Explain any five properties/methods of Array class.
d.   Explain the process of data type conversion in C# and identify its various types.
e.   How to derive new class from base class? Give example.
f.   What steps are involved in constructing a fundamental Class in C#? Please delineate the different class modifiers.

2.   Attempt *any three* of the following: 15
a.   Enumerate and elaborate on the different file types accessible within an ASP .NET Application?
b.   What is view state? Give the advantages and disadvantages of view state.
c.   Provide a concise overview of Application Events.
d.   Explain Listbox control with properties and methods.
e.   Write short note on AdRotator and Calendar control.
f.   What is RangeValidator? Describe any four properties of it.

3.   Attempt *any three* of the following: 15
a.   Explain exception handling mechanism in C#.
b.   Explain the predefined classes related to System Exception.
c.   What are the Server-Side State Management techniques? Explain it.
d.   Illustrate the usage of Cookies in an ASP.NET Application with an example.
e.   What is Theme? Explain Global theme.
f.   What is a Master Page? How is it utilized in ASP .NET?

4.   Attempt *any three* of the following: 15
a   Explain the Data Provider Model within ADO .NET.
b   Write short note on Connected and Disconnected Data Access.
c   Write a brief explanation of the types of ASP.NET Data Binding.
d   Explain the Page Life Cycle with Data Binding.
e   Explain the GridView Control and its methods for defining columns.
f   Write short note on DetailsView.

5.   Attempt *any three* of the following: 15
a.   Provide an explanation of the XML TextWriter class, including its methods.
b.   Describe the process of reading an XML document using the XDocument class.
c.   Elaborate Forms Authentication.
d.   Write short note on Authentication and Authorization.
e.   What is AJAX? What are its advantages?
f.   Write short note on Accordion control with appropriate properties.

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