



## UNIT 1

### PART – A

1. List some of the new features that are unique to c# language?
2. State few words about the two important entities of .NET frame work
3. What is .NET? Name any 4 applications that are supported by .Net framework.
4. How will you determine the operator's value?
5. What is the significance of MSIL?
6. What is an immutable string? How can we modify such a string?
7. Differentiate Const. and read only
8. Compare value type and reference type.
9. Compare array with structure.
10. How managed codes differ from unmanaged codes
11. What are the major categories of data types in C#
12. Illustrate with an example the implicit and explicit conversions?
13. Relate Boxing and unboxing, provide suitable example for each.
14. What are the differences between classes and structures?
15. Why do we use methods as members of a struct?
16. How does an Array List differ from Array
17. Can an array hold objects of varying types? Explain how.
18. Decide when concurrent programming is chosen for application development.
19. Develop an application with jagged arrays?
20. What if the language Java is considered instead c# for an application development.

### PART B

- 1.i) Describe in detail about various operators available in C#.  
ii) Explain with example structures and enumerations.
- 2.i) Briefly note on control structures in C# with suitable examples.  
ii) What are arrays? Explain the types of arrays.
- 3.i) Write a short note on mutable strings with example.  
ii) Explain the different types of expressions used in C# in detail.
- 4.i) Describe in detail the role of Common Language Runtime (CLR) in .NET.  
ii) Brief with example the processes boxing and unboxing.
- 5.i) Discuss the command line compilation of C#.  
ii) Explain how you will use primitive data types in code. Demonstrate with example.



- 6.i) Explain with example structures and enumerations.
- ii) Create an array of 10 integers. Populate the array by having the user enter integers at the console (Console Readline) Output the integers sorted from the greatest to least.
- 7.i) Explain with example enumerations and arrays in C#.
- ii) Discuss the type of parameter passed to methods of C#.
- 8.i).Write a program that assigns the value 25 to variable x and 5 to variable y. Output the sum, difference, quotient, product and modulus of x and y.
- ii).What will be the output of the following method? Why?
- ```
Static void Main ()  
{  
intvarA = 5;  
intvarB = ++varA;  
intvarC = varB++;  
Console.WriteLine("A: {0}, B: {1}, C: {2}",varA,  
varB, varC);  
}
```
- 9.i) Explain the salient features of .NET framework.
- ii) Explain the important characteristics of C# in detail
10. i)Develop a C# code to find the sum of all the elements of a jagged array
- ii)Write a C# code to compare two strings using "Equals" method.

## UNIT II

### PART – A

1. What is inheritance and explain the use of new keyword in C# inheritance
2. Define Polymorphism.
3. Define a constructor and list its different types.
4. What are the uses of indexers
5. Define Delegates.
6. What are the uses of namespaces?
7. Discuss about exceptions and Name any four system defined exceptions.
- 8.Differentiate errors from exceptions.
9. List the difference between abstract classes and interfaces?
- 10.Give an example for virtual method and polymorphism.



11. What is the relationship between specialization and generalization?
12. Discuss about multicast delegate?
13. Illustrate with an example the call to a base class constructor from a derived class?
14. Arrange atleast three important features of properties.
15. Point out the methods through which reusability is achieved in C#.
16. Differentiate Multitasking and Multithreading
17. Justify that Operators need to be overloaded. List the operators that can be overloaded?
18. What support is provided by c# for events?
19. What if there are no sealed classes in c#
20. Develop a c# application with method hiding ?

## **PART-B**

1. i) What do you mean by delegates? State their use with an example.  
ii) Explain the process of handing events through delegates.
- 2.i) Define an abstract class and explain the role of abstract classes in an application development  
ii). Explain with an example multitasking and multithreading in c#.
- 3.i) What are abstract classes and how to implement their interfaces?  
ii) Brief note on Defining operator pairs and implementing an operator.
- 4.i) Describe how C# support multiple inheritance? Explain by giving an example.  
ii) Describe the use of properties with an example.
- 5.i) Discuss briefly about interfaces with example.  
ii) Write a program to find area of various shapes like rectangle, circle and triangle using the concept of interfaces.
- 6.i) Demonstrate both sealed classes and sealed methods with example program  
ii) Illustrate with an example how the events are generated and handled in c#.
- 7.i) Explain exception handling in C#.  
ii) Write user defined exception for overflow and sta empty exceptions in a Stack class.
- 8.i) Write a brief note on comparing Properties, Arrays an Indexes.  
ii) Compare and contrast Indexes and delegates
- 9.i) Explain about the concept of operator overloading in detail.  
ii) Consider a student class with feet and inches as attributes which describes the height of the student.  
Write a C# program to overload the + operator and to find the average of N students.



- 10.i) Develop an application in C# example with polymorphism .  
ii) Develop a c# application which demonstrates dynamic polymorphism

### UNIT III

#### PART-A

1. What is the use of scrollable control?
2. What is a form? List out the properties of Form Type?
3. What is an Error Provider?
4. List out the various ADO.NET Namespaces.
5. List the distinct commands supported by Data adapter
6. What is Data Binding? give the uses of simple data binding
7. Describe the disconnected architecture of ADO. Net's data access model.
8. What are major difference between classic ADO and ADO.NET?
9. Discuss about various properties of Data Column?
10. Describe the role of the Dataset, Data Reader objects in ADO.NET?
11. How to relate the two different types of data providers available in .NET Framework.
12. Illustrate with example any two stored procedures to update a database
13. Compare and contrast the two fundamental objects in ADO.NET?
14. How does ADO.NET connected and disconnected models differ from each other?
15. Analyze the two kinds of dialog boxes?
16. Point out the two different methods in which a data set can be populated.
17. Select the namespace that is used to include .NET Data Provider for SQL server in .NET code.
18. Justify that a stored procedure is better suitable for the repetitive task than a function
19. Develop a window based application to display a message.
20. Design an application with SDI and MDI and state the scenario in which these applications are used.

#### PART-B

1. What is dialog box? What are the different types of dialog box? Write the program for creating dialog boxes with its different types.
- 2.i) Brief the steps involved with the development of SDI application.  
ii) Explain in detail how a MDI application can be created.
3. Describe in short the following controls. Develop an application with each control.  
i) Checkbox (ii) Radio button (iii) Group box



- 4.i) Compare the features of ADO.NET with ADO
- ii). Describe how the data are accessed using ADO.NET
- 5.i) Discuss about ADO.NET in brief. What are the benefits of using of ADO.NET in .NET 4.0.
- ii) Brief discussion on the classification of the basic classes in ADO.NET
6. Apply the methods available for window based applications and build an application to accept the reservation details of a train ticket and to store the details in a database table. Use drop down list box to choose the train number and name. Accept source and destinations in text boxes. Allow the user to enter the date of journey one month in advance. Assume that in each train, there are thirty tickets and every booking should have a unique number.
- 7.i) Write a C# code that uses DataReader class to issue query to read data from dataset. Assume your own example.
- ii) Explain in detail about the steps to be followed to create the complete data table.
- 8.i) Explain in detail the exception handling procedure in ADO.NET.
- ii) List the validating controls supported by ADO.NET. Explain each in detail with example.
- 9.i) Explain in detail the process of creating menus in a windows-based application.
- ii) Develop a window based application with atleast 5 controls and event handling methods.
10. Develop a menu-driven application using
- (i) File Menu option
- (ii) About Menu option.
- Demonstrate the execution model using an example.

## UNIT IV

### PART – A

1. What is ASP.NET?
2. Define a web service? List few real-time web services.
3. What are the different levels of State management in ASP.NET?
4. List the types of authentications in ASP.NET
5. Write down the different types of value mode that can hold session state in web.config
6. Define virtual directory.
7. Describe the procedure involved with database connectivity
8. What are the differences between user and custom controls?
9. Describe the procedure in which to authenticate users using web.config.



10. Write down the reasons for not using attributes to store data.
11. Apply the features of ASP.NET web forms and web pages and design an application
12. Illustrate with example how the datasets are passed as parameters.
13. How would you relate master page with ASP.NET pages.
14. State the advantages and disadvantages of session state management
15. Differentiate the development process of web applications from normal applications
16. Compare different Session management techniques
17. Data sets are Objects -Justify
18. Summarize the benefits provided by XML classes in .NET
19. Why the transaction properties need to be followed. What happens if they are not followed
20. Develop a simple application that returns an exception from SQL server

### **PART-B**

- 1.i) List the different object models associated with ASP.NET and highlight the features of each object.
- ii) Summarize the validator controls and their applications in ASP.NET.
- 2.i) List the three different session management techniques and explain each with an example
- 3.Short note on role of XML in .NET, and explain how to read data from XML file using ASP.NET
- 4.i).Compare the features of ASP.NET with ASP.
- ii) Explain the steps involved in creation of web services.
- 5.Differentiate between client-side and server-side validations in Web pages. Explain in detail how this can be done.
- 6.What is Query String? What are its advantages and limitations? Develop an application with query string
- 7.Explain how data sets are passed as parameter and return from a web service. Give an example code.
- 8.What is the difference between SQL notification and SQL invalidation? Explain with example that handles both.
- 9.i). Explain what happens when transaction is performed without following the procedure.
- ii). Explain about exception handling in ASP.NET.
- 10.Develop a web application for railway ticket booking and cancellation process with following features
  - User friendly interfaces
  - Implementation of transaction properties
  - Handling of exceptions.



## UNIT V

### PART – A

1. What is a frame work and list the main features of .NET framework.
2. Write about assemblies and list the two different views of assemblies
3. Define CLR and list down its responsibilities.
4. What are the four sections contained in assembly
5. Define assembly manifest
6. Define attributes and Write down the four different attributes of assembly
7. Differentiate .EXE files from .DLL files
8. Discuss several aspects of providing security to .Net applications
9. State the two distinct ways of expressing version information of assemblies and compare each with the other.
10. Describe metadata and specify the method through which Meta data are inspected.
11. What is the relationship between marshalling and unmarshalling
12. Analyze and write the sequence of the processes authentication and authorization
13. List and compare the two predefined .Net remoting channels
14. Discuss about the information's stored in the configuration file for remoting
15. Point out the way to restrict the access to resources.
16. Difference between managed and unmanaged code with respect to security
17. Summarize when ACL's are used. List its two different lists.
18. List the members of AttributeTargets and convince when they need to be used
19. Use the reflection method and inspect an application at runtime. List all the elements inspected.
20. Create a secured application. List the key elements you have considered

### PART-B

1. i)What is reflection? Explain how to invoke methods using reflection with an example  
ii) Write about the typical uses of reflection
- 2.i) Brief note on the procedure in which meta data are viewed  
ii) What do you mean by typerevealing process, explain how it is achieved through reflection
- 3.Explain the .Net framework architecture with neat diagram
- 4.Describe some of the security concerns when calling unmanaged code.



5. Discuss with neat sketch the .NET remoting architecture in detail
6. Use all the .NET coding design guidelines and develop any code on your choice following the guidelines
7. i) Illustrate with an example the Process assemblies and library assemblies  
ii) Explain how the version numbers are given for assemblies with example.
8. Explain in detail the aspects of providing security to .Net applications
9. What is remoting? Explain the steps involved in the process of creating remote application. What if the remoting is not used?
10. i) Write a web service using SOAP to convert Celsius To Fahrenheit  
ii) Develop an application which requires simple and compound marshalling , Explain how these are performed