## MODULE3

## TOPICS(Fundamentals, OOPs)

## Assignment Basic Level

## B1. What is C#?

## Ans: It is an object-oriented programming language created by Microsoft that runs on the .NET Framework.

## B2. Can we use keywords as a identifier? Why?

## Ans: Keywords are predefined, reserved words used in programming that have special meanings to the compiler. Keywords are part of the syntax and they cannot be used as an identifier.

## B9.What do you mean by loop variable?

## Ans: In computer programming, a loop variable is a variable that is set in order to execute some iterations of a "for" loop or other live structure. A loop variable is a classical fixture in programming that helps computers to handle repeated instructions.

## B10. What do you mean by interation?

## Ans: IT integration, or systems integration, is the connection of data, applications, APIs, and devices across your IT organization to be more efficient, productive, and agile.

## B11. What is Array?

## Ans: An array is a collection of similar data elements stored at contiguous memory locations. It is the simplest data structure where each data element can be accessed directly by only using its index number.

## B13. What is jagged array? Explain with exampleAns: A jagged array is an array whose elements are arrays, possibly of different sizes. A jagged array is sometimes called an "array of arrays." The following examples show how to declare, initialize, and access jagged arrays.

## B21. How can we manage runtime errors?

## Ans: To handle an error inline, **use the Resume Next statement with On Error**. Any errors that occur during runtime cause InfoConnect to continue executing the macro at the next statement. If an error occurs, it is handled by opening a dialog box, passing control to another procedure or to a routine within the same procedure.

## B22. What is abstract class?

## Ans: An abstract class is **a class that is declared abstract** —it may or may not include abstract methods. Abstract classes cannot be instantiated, but they can be subclassed. When an abstract class is subclassed, the subclass usually provides implementations for all of the abstract methods in its parent class.

## B23. What is thread?

## Ans: A thread is defined as **the execution path of a program**. Each thread defines a unique flow of control. If your application involves complicated and time consuming operations, then it is often helpful to set different execution paths or threads, with each thread performing a particular job.

## B24. What is dll?

## Ans: A Dynamic Link library (DLL) is **a library that contains functions and codes that can be used by more than one program at a time.**

## B25. What is namespace?

## Ans: The namespace keyword is **used to declare a scope that contains a set of related objects**. You can use a namespace to organize code elements and to create globally unique types.

## Assignment Intermediate Level

## I3. What is difference between else if ladder and switch case

## Ans: In else if ladder, the control goes through the every else if statement until it finds true value of the statement or it comes to the end of the else if ladder. In case of switch case, as per the value of the switch, the control jumps to the corresponding case.

## I4. What will occur if we not write break statement in switch case

## Ans: **Break will return control out of switch case**.so if we don't use it then next case statements will be executed until break appears. The break statement will stop the process inside the switch.

## I6. What is difference between entry loop and exit loop? Explain with example

## Ans: **The loop in which test condition is checked in the beginning of the loop are known as entry controlled loop**. For Example: while loop. Whereas when statements inside the loop body is executed and then the condition is checked that loop is known to be as exit controlled loop. For Example: do-while loop.

## I7. What do you mean by multi-dimention array?

## Ans: A multidimensional array is **an array with more than two dimensions**. In a matrix, the two dimensions are represented by rows and columns. Each element is defined by two subscripts, the row index and the column index.

## I11. What is difference between for loop and foreach loop

## Ans: for loop executes a statement or a block of statement until the given condition is false. Whereas foreach loop executes a statement or a block of statements for each element present in the array and there is no need to define the minimum or maximum limit.

## I19. What is dictionary? Advantages of Dictionary?

## Ans: The Dictionary<TKey, TValue> Class in C# is **a collection of Keys and Values**. It is a generic collection class in the System. Collections. Generic namespace. The Dictionary <TKey, TValue> generic class provides a mapping from a set of keys to a set of values. In C#, Dictionary is a generic collection which is generally used to store key/value pairs. The working of Dictionary is quite similar to the non-generic hashtable. The advantage of Dictionary is, **it is generic type**. Dictionary is defined under System.

## I20. What is multithread?

## Ans: Multithreading in C# is **a process in which multiple threads work simultaneously**. It is a process to achieve multitasking. It saves time because multiple tasks are being executed at a time. To create multithreaded application in C#, we need to use System. Threding namespace.

## I21. How to prevent class to be instantiate?

## Ans: **Making the class static** is the best approach, if you absolutely don't want any instances. This stops anyone from creating instances. The class will be both sealed and abstract, and won't have any constructors.

## Assignment Advanced Level

## A2. What is mutable and immutable string?

## Ans: **Mutable means the string which can be changed**. So String objects are immutable but String Builder is the mutable string type. It will not create a new modified instance of the current string object but do the modifications in the existing string object.

## A5. What is difference between array and list?

## Ans: An Array is a collection of data items of the same type. An Array is reference type so memory for the array is allocated on the heap. We can initialize an Array using the "new" operator and by specifying the type and number of elements inside the Array.

## ->ArrayList implements the IList interface. ArrayList is one of the most flexible data structures from C# collection. Collection classes are special classes for data storage and retrieval.

## A16. What is generics? Explain with example?

## Ans: Generic is **a class which allows the user to define classes and methods with the placeholder**. Generics were added to version 2.0 of the C# language. The basic idea behind using Generic is to allow type (Integer, String, etc and user-defined types) to be a parameter to methods, classes, and interfaces.

## A17. What is use of method overriding?

## Ans: Method Overriding in C# is similar to the virtual function in C++. Method Overriding is a technique that **allows the invoking of functions from another class (base class) in the derived class**. Creating a method in the derived class with the same signature as a method in the base class is called as method overriding.