National School of Business Management
Name of the Degree Programme XXXXXX
Semester of the Examination XXXXXXX
Module Name xxxxxxxxxxxxx
Module Code XXXXXXXX

Time: 03Hrs

XXXXXXXXXXXXXXXXXXX **Date: XXXX**

A - Mark True or False (10 marks)

1) C#.NET is a structured programming language**. True / False**
2) Every data type is either a value type or a reference type. **True / False**
3) Data members of a class are by default public**. True / False**
4) Member function of a class are by default private. **True / False**
5) For every try block there must be a corresponding finally block. **True / False**
6) Value types are always created on the heap**. True / False**
7) Constructors never return any value. **True / False**
8) Boolean variable cannot have a value of null**. True / False**
9) Instance members of a class can be accessed only through an object of that class. **Yes / No**
10) C# allows a function to have variable number of arguments. **True / False**

B - Underline the Correct answer (2 X 15 = 30 Marks)

1. Which of the following are the correct ways to increment the value of variable a by 1?
    a. ++a++
    b. a+=1;
    c. a + 1;
    d. a++1;

2. A Constructor
    a. is used to create objects
    b. must have the same name as the class it is declared within
    c. maybe overloaded
    d. all of the above

3. A local variable
    a. Can be used anywhere in the program
    b. Is declared within a method
    c. Must accept a class
    d. Represent a class object

4. An instance method
    a. Represents the behaviour of an object
    b. Represents the attribute of an object
    c. Represents another class
    d. a and b

5. Defining two methods with the same name but with different parameters is called.
    a. Loading
    b. Overloading
    c. Multiplexing
    d. Duplexing

6. Exception objects are derived from the class.
    a. Try
    b. Catch
    c. Exception
    d. System

7. The code public class B : A { }
    a. Defines a class that inherits all the methods of A
    b. Defines a class that inherits the public and protected methods of A only
    c. Errors
    d. a and b

8. Polymorphism occurs when the methods of the child class.
    a. Override the parent class methods but maintain the implementation
    b. Maintain the same return type and arguments as the parent class, but implement it differently
    c. Have different return types and arguments than the parent class
    d. Are Virtual

9. Which of the following statements is correct?
    a. Procedural Programming paradigm is different than structured programming paradigm.
    b. Object Oriented Programming paradigm gives equal importance to data and the procedures that work on the data.
    c. C#.NET is a structured programming language.
    d. Classes and objects are corner stones of structured programming paradigm.

10. Which of the following is the correct way to create an object of the `class Sample`?
    a. `Sample s = Sample();`
    b. `Sample s;`
    c. `Sample s; s = new Sample();`
    d. `s = new Sample();`

11. Which of the following cannot be facilitated by the Inheritance mechanism?
    a. Use the existing functionality of base class.
    b. Overrride the existing functionality of base class.

c. Implement new functionality in the derived class.
d. Implement polymorphic behaviour.

12. In an inheritance chain which of the following members of base class are accessible to the derived class members?
    a. static, private
    b. protected , public
    c. private ,shared
    d. shared , public

13. Assume class B is inherited from class A. Which of the following statements is correct about construction of an object of class B?
    a. While creating the object firstly the constructor of class B will be called followed by constructor of A.
    b. While creating the object firstly the constructor of class A will be called followed by constructor of B.
    c. The constructor of only class B will be called.
    d. The constructor of only class A will be called.

14. Which of the following statements are correct about the C#.NET code snippet given below?
    sample c;
    c = new sample();
    a. It will create an object called sample.
    b. Create an object of the type sample on the stack.
    c. Create a reference c on the stack and an object of the type sample on the heap.
    d. Create an object of the type sample either on the heap or on the stack depending on the size of the object.

15. How can you overload a method?
    a. Different parameter data types
    b. Different parameter names
    c. Different number of parameters
    d. Use different pages

C - Write short answers (3 x 20 = 60 marks)

1) What is the difference between the value-type variables and reference-type variables?
2) How does the "**for each**" statement differ from the "**for**" statement? Give a typical example where the "**for each**" is used.
3) Describe Object Oriented Programming, Class and Object.
4) What is **inheritance**?
5) Explain **Encapsulation**.
6) What is the different between **Private** and **Protected** access modifiers?
7) What is the purpose of **Static** variable? Show the declaration of an integer static variable called Count.
8) Code the following class using C#.

SavingsAccount
Private AccNo

Private Owner Private Balace
Public void ShowBalance()

9) What is class constructor? Write required code for class “Banker” with two constructor methods.
10) What is the purpose of switch case statement?
11) Describe the compilation process for .NET code?
12) Name 4 .Net classes in System.SqlClient namespace.
13) What can you do using ExecuteNonQuery() method in .Net command classes?
14) How do you assign values from text boxes into SQL statements? Show it using C# coding.
15) What are the namespaces, Classes required to Read, Write and Append text files?
16) How could you write while loop to read all the lines in a text file using **ReadLine()** function?
17) What will be the output of the C#.NET code snippet given below?

```
namespace ConsoleApplication
{
    class Baseclass
    {
        public void fun()
        {
            Console.Write("Base class" + " ");
        }
    }
    class Derived1: Baseclass
    {
        new void fun()
        {
            Console.Write("Derived1 class" + " ");
        }
    }
    class Derived2: Derived1
    {
        new void fun()
        {
            Console.Write("Derived2 class" + " ");
        }
    }
    class Program
    {
        public static void Main(string[ ] args)
        {
            Derived2 d = new Derived2();
            d.fun();
        }
    }
 }
```

18) How will you complete the foreach loop in the C#.NET code snippet given below such that it correctly prints all elements of the array a?

```
int[][]a = new int[2][];
a[0] = new int[4]{6, 1 ,4, 3};
a[1] = new int[3]{9, 2, 7};
foreach (int[ ] i in a)
{
   /* Add loop here */
   Console.Write(j + " ");
   Console.WriteLine();
}
```

19) What does the following C#.NET code snippet will print?

```
class Sample
    {
        int i;
        Single j;
        public void SetData(int i, Single j)
        {
            i = i;
            j = j;
        }
        public void Display()
        {
            Console.WriteLine(i + " " + j);
        }
    }
    class MyProgram
    {
        static void Main(string[ ] args)
        {
            Sample s1 = new Sample();
            s1.SetData(10, 5.4f);
            s1.Display();
        }
    }
```

20) Write the correct output for the C#.NET program given below?

```
namespace ConsoleApplication
{
class SampleProgram
    {
        static void Main(string[] args)
        {
            int num = 1;
            funcv(num);
            Console.Write(num + ", ");
            funcr(ref num);
            Console.Write(num + ", ");
        }
```

```
        static void funcv(int num)
        {
            num = num + 10; Console.Write(num + ", ");
        }
        static void funcr (ref int num)
        {
            num = num + 10; Console.Write(num + ", ");
        }
    }
}
```