

National School of Business Management
BSc in Software Engineering, Networking & Security -13.2
1st Year 2nd Semester
Software Engineering
Module Code XXXXXXXX

Time: 03Hrs

Answer all questions

Date: 07 July 2014

A - Underline the Correct answer (2 X 10 = 20 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 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
3. 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
4. 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.
5. 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();`
6. Which of the following cannot be facilitated by the Inheritance mechanism?
 - a. Use the existing functionality of base class.
 - b. Override the existing functionality of base class.
 - c. Implement new functionality in the derived class.
 - d. Implement polymorphic behaviour.

7. 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

8. 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.

9. 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.

10. What are the namespaces, Classes required to Read, Write and Append text files?
 - a. System.Text , FileReader, FileWriter
 - b. System.IO, StreamReader, StreamWriter
 - c. System.TextFile , Reader, Writer
 - d. None of the above

B - Write C# Programs(5 X 4 = 20 Marks)

Below Table shows balance of deposits in a financial organization.

Account NO	Balance	Interest
25,000 – 50,000	56,000	5%
50000 - 100000	23,000	6%
100000 - 300000	80,000	8%
Over 300000	230,000	10%

- 1) Write a program to calculate interest value for given account balance value. You can assume balance as a User Input.
- 2) Write a multi-threaded program to show numbers from 10 – 0 in descending order such that each number should print after one second gap from the previous number.

- 3) Write a program to save user typed comments (TextBox in a windows form) in a text file.
- 4) Code the following class using C#.

Student
Private StdNo
Private Name
Private Batch
Public void ShowDeatils()

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

- 1) What is the difference between the value-type variables and reference-type variables?
- 2) Draw a diagram to show components of the .NET framework.
- 3) What does it mean by the Common Language Runtime?
- 4) Describe .NET Class library
- 5) Discuss the advantages of using the .NET framework.
- 6) What is MSIL, Managed Code and unmanaged code?
- 7) How does the “**for each**” statement differ from the “**for**” statement? Give a typical example where the “**for each**” is used.
- 8) What is **inheritance**? Give an example.
- 9) Explain **Encapsulation**.
- 10) What is **Polymorphism**?
- 11) What is the different between **Private** and **Protected** access modifiers?
- 12) What is the purpose of **Static** variable? Show the declaration of an integer static variable called Count.
- 13) What is class constructor? Write required code for class “Banker” with two constructor methods.
- 14) What is the purpose of switch case statement?
- 15) What is an Exception? Give 2 examples.
- 16) Explain the purpose of try, catch statements.
- 17) Write a function (Console application) in C# to find the sum of the Even Numbers and Odd Numbers separately from 1 to N, where the value of N is input as a command line argument.

Consider the following regarding a MS Access database.

Database name = “Bank”
 Username = “myuser”
 Password = “AB12XY”
 Table Name – Customer
 Fields – CustomerID, CustomerName, Email, Telephone

- 18) Write the correct code create connection object to connect to the database (use OleDbConnection object).
- 19) Extend the above code to create the command object to view the following customer details.
- 20) Finally show the customer details in a Windows Form. (Use a Data Grid or Text Boxes)