Code: AC73/AT73   **Subject: C# AND .NET**

AMIETE – CS/IT

Time: 3 Hours   **JUNE 2014**   **Max. Marks: 100**

PLEASE WRITE YOUR ROLL NO. AT THE SPACE PROVIDED ON EACH PAGE IMMEDIATELY AFTER RECEIVING THE QUESTION PAPER.

NOTE: There are 9 Questions in all.

- **Question 1 is compulsory and carries 20 marks. Answer to Q.1 must be written in the space provided for it in the answer book supplied and nowhere else.**
- **The answer sheet for the Q.1 will be collected by the invigilator after 45 minutes of the commencement of the examination.**
- **Out of the remaining EIGHT Questions answer any FIVE Questions. Each question carries 16 marks.**
- **Any required data not explicitly given, may be suitably assumed and stated.**

Q.1   **Choose the correct or the best alternative in the following:**   **(2×10)**

   a. The global assembly cache:

      (A) can store two dll files with the same name
      (B) can store two dll files with the same name, but different version
      (C) can store two dll files with the same name and same version
      (D) cannot store dll files with the same name

   b. Which of the following statements is correct with regard to .NET framework managed web pages?

      (A) They interact directly with the runtime
      (B) They do not execute in the native code language
      (C) They are interpreted and scripted
      (D) All of these

   c. What are the core components of the .Net framework data provider model?

      (A) DataAdapter and DataReader
      (B) Connection and Command
      (C) DataAdapter, Connection and Command
      (D) DataAdapter, DataReader , Connection and Command

   d. _____ helped overcome the DLL conflict (faced by the versions prior to .NET).

      (A) CLR   **(B)** JIT
      (C) CTS   **(D)** GAC

   e. Can you overload a function in C# with the same number and types of arguments (parameters) but with a different return type?

      (A) Yes   **(B)** No
      (C) Yes, but only if function is static **(D)** Yes, but only if function is virtual

f. Which of the following are true about constructors and member functions in C#?

(A) A constructor can return values, but a member function cannot
(B) A member function can declare and define values, but a constructor cannot
(C) A member function can return values, but a constructor cannot
(D) All of these

g. Which of the following statements are correct with regard to Polymorphism?

(A) Polymorphism is a process by which a class can exist in multiple forms
(B) Polymorphism is a process by which a class can exist in only two forms
(C) Polymorphism is a process by which objects of a reference type can display different behavior
(D) Polymorphism is a process by which different instances of the same class display different behavior

h. What happens when the below code is executed?
```
abstract class Shape
{
  public abstract void draw();
}

class Rectangle: Shape
{
  public override void draw();
  //Some more member functions.....
}

class CCheck
{
  public static void Main()
  {
    Shape objShape;
  }
}
```

(A) The code will compile and run
(B) Compile error for draw method will be encountered first
(C) Defining the body of the draw() method in class Rectangle would let the class compile.
(D) None of these

i. Which access specifier will you use to make base class members accessible in the derived class and not accessible for the rest of the program?

(A) public access specifier   (B) private access specifier
(C) protected access specifier   (D) static access specifier

j. File extension of response file is _____.

(A) .exe   (B) .obj
(C) .rsp   (D) .res

Answer any FIVE Questions out of EIGHT Questions.
Each question carries 16 marks.

Q.2 a. Describe the building blocks of .NET Platform with the help of a diagram. **(8)**

   b. Describe briefly any four .NET namespaces.   **(8)**

Q.3 a. What is the significance of pre-processor directive? Explain any two C# pre-processor directives.   **(8)**

   b. Describe System Environment class. Illustrate with the help of a program. **(8)**

Q.4 a. Differentiate between the value type and reference type. Is there any mechanism in C# to convert between value types and reference types? Explain.   **(8)**

   b. Explain four methods of System. Array & System. String   **(8)**

Q.5 a. What is the significance of encapsulation? How it is ensured using class properties? Describe it with examples.   **(8)**

   b. What are the significance of virtual and override function? Demonstrate C# Polymorphic support with an example.   **(8)**

Q.6 a. Define errors and exceptions. Explain any four members of System.Exception Type.   **(8)**

   b. With the help of an example, describe building custom exceptions.   **(8)**

Q.7 a. Explain how can you implement standard IEnumerable and IEnumerator interfaces on a custom type.   **(8)**

   b. Explain the significance of interface. How the interfaces can be used to have Multiple Base interfaces?   **(8)**

Q.8 a. Describe call back interface and write a program to demonstrate the same. **(8)**

   b. Describe the concept of multicast delegate using a program demonstrating it.
                                                                                 (8)

Q.9 a. Explain the steps to build a shared assembly.   **(8)**

   b. Write short notes on any **TWO**:

      (i)   VS .NET Add References Dialog Box
      (ii)   GAC Internals
      (iii) Versioning shared Assemblies   **(8)**