

AMIETE – CS/IT (Current Scheme)

Time: 3 Hours

December - 2017

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)

- Boxing is a concept that allows a user to convert
 - integer to double
 - reference type to value type
 - integer to any other type
 - value type to reference type
- Classes declared with sealed keyword
 - behaves like abstract class
 - prevents class from being inherited
 - allows methods of the class to be overridden
 - allows class to be inherited
- The code `public class P : Q { }`
 - defines a class that inherits the public and protected methods of Q only
 - P Cannot be inherited from Q
 - defines a class that inherits all the methods of Q
 - (A) & (C)
- Which of the following assemblies can be stored in Global Assembly Cache?
 - Private Assemblies
 - Friend Assemblies
 - Public Assemblies
 - Shared Assemblies
- The benefit of invoking the default constructor of a structure is that each piece of field data is automatically set to its
 - garbage value
 - default value
 - zero value
 - None of these
- The global assembly cache
 - can store two dll files with the same name
 - cannot store dll files with the same name
 - can store two dll files with the same name and same version
 - can store two dll files with the same name, but different version
- File extension of resource file is _____.
 - .rsp
 - .obj
 - .exe
 - .res
- Delegates in C# are used for
 - callbacks
 - overloading
 - event Handling
 - Both (A) & (C)

- i. A strong name is composed of the following information
(A) The name of the binary without its file extension and version number of the assembly
(B) A public key and a culture identity
(C) Both (A) and (B)
(D) None of these
- j. Which of the following is NOT a Bitwise operator in C#.NET?
(A) && (B) <<
(C) | (D) ^

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

- Q.2** a. What are the various services that can be facilitated using Base Class Library in .NET Platform? (8)
b. Describe briefly any four .NET namespaces. (8)
- Q.3** a. How C# Command-line compiler can be correctly configured? Explain. (8)
b. Briefly explain the use of Response file. How will you instruct the C# compiler to use a response file? Does C# compiler support multiple response files? (8)
- Q.4** a. What are various method parameter modifiers in C#? Explain each modifier with suitable function definition and call. (8)
b. Write the anatomy of basic C# class with suitable example. Write the variations of main() method. (8)
- Q.5** a. Explain, how method overloading is implemented in C#? Demonstrate using suitable code. (8)
b. Define nested Classes. Is it possible to define a type within the scope of another type? (8)
- Q.6** a. What is the purpose of finalize() method in the process of garbage collection? (8)
b. Differentiate between System-Level and Application-Level exceptions. What are the different ways to build your own custom exceptions? (8)
- Q.7** a. How standard IEnumerable and IEnumerator interfaces can be implemented on a custom type? (8)
b. Distinguish between shallow and deep copy in cloning. How would you implement cloning for a custom class using ICloneable interface? (8)
- Q.8** a. How delegates can be used to implement callbacks in .NET framework? Write a delegate in C# to add two integers. (8)
b. How can one invoke methods asynchronously? Explain using suitable C# code. (8)
- Q.9** a. Briefly describe Single file and multifile assemblies. (8)
b. What are the advantages of “shared” assembly? Create a new C# Class Library named Shared Assembly. (4+4)