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

AMIETE – CS/IT

Time: 3 Hours   **JUNE 2013**   **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. _____ is a metalanguage.

   (A) IDL   **(B)** CSL
   (C) CTR   **(D)** None of these

b. The entity that compiles CIL into meaningful CPU instructions is termed as ____.

   (A) JIT compiler   **(B)** metadata compiler
   (C) CIL compiler   **(D)** None of these

c. _____ classes are types that cannot function as a base class to other types.

   (A) abstract   **(B)** final
   (C) sealed   **(D)** none of these

d. The namespace which defines a number of stock container objects is _____.

   (A) system.data   **(B)** system.collections
   (C) system.IO   **(D)** none of these

e. In C#, every data type is derived from a common base class called_____.

   (A) System.All   **(B)** System.Base
   (C) System.Object   **(D)** All of these

f. When do variables of reference type die ?

   (A) When the managed heap is garbage collected
   (B) When it fall out of the defining scope
   (C) None of these
   (D) Both **(A)** & **(B)**

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g. You may construct methods that take interfaces as parameter as well as method that return values.

(A) True   **(B)** False

h. Every MBR type may be configured to be activated using

(A) WKO   **(B)** CAO
(C) None of these   **(D)** Either of these

i. The default interface of a class may be populated by

(A) Methods   **(B)** Properties
(C) Public field data   **(D)** Any of these

j. _____ methods do not supply default implementation.

(A) Derived   **(B)** Abstract
(C) Overridden   **(D)** None of these

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

Q.2   a. Explain the concepts of CTS and CLS (Common Language Specification).   **(8)**

         b. List any 4 .NET Namespaces and briefly explain their purpose.   **(8)**

Q.3   a. With an example, explain how you compile multiple Source files.   **(8)**

         b. List and briefly explain any four predefined XML documentation elements.   **(8)**

Q.4   a. Write the anatomy of basic C# class. Write the variations of main() method.   **(8)**

         b. List and explain the string formatting flags of C#.   **(8)**

Q.5   a. Explain three pillars of OOP: Encapsulation, Inheritance and polymorphism.   **(8)**

         b. Explain abstract classes and abstract methods with example program.   **(8)**

Q.6   a. What do you understand by errors, bugs and exceptions? Give the important members of the system exception class.   **(8)**

         b. Discuss the difference between catch and throw exceptions.   **(8)**

Q.7   a. Explain in detail, the concept of interfaces with multiple base interfaces.   **(8)**

         b. Distinguish between shallow and deep copy, as applied to cloning. How would you implement cloning for a custom class using ICIoneable interface.   **(8)**

Q.8   a. Which are the inherited members of System.MulticastDelegate. What is their purpose?
                                                                              (8)

b. What do you understand by asynchronous delegates in C#. Explain with an example.   **(8)**

Q.9   Write short notes on the following:

(i) Problem with COM versioning and COM deployment.
(ii) Single file and multifile assemblies.   **(8×2)**