DiplETE – CS

Time: 3 Hours   **DECEMBER 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. The C++ feature missing from C# is_____.

   (A) Encapsulation   **(B)** Macros
   (C) Inheritance   **(D)** None of these

b. _____ technology is used by microsoft to enable interprocess communication.

   (A) OLE   **(B)** COM
   (C) .NET   **(D)** None of these

c. _____ is responsible for loading and executing programs in .NET framework.

   (A) CLR   **(B)** Framework base classes
   (C) user and prg. interfaces   **(D)** None of these

d. _____ is the Boolean literals in C# programming language.

   (A) 0 & 1   **(B)** True & False
   (C) T & F   **(D)** None of these

e. The size of double precision numbers in C# programming language is _____

   (A) 2 bytes   **(B)** 4 bytes
   (C) 6 bytes   **(D)** 8 bytes

f. Default value of a Boolean variable in C# is _____

   (A) 0   **(B)** true
   (C) false   **(D)** 1

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g. Using which of the following modifier, a method can be accessed with class in which it is defined and from a derived class.

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

h. The ternary operator available in C# is

(A) ?:   (B) ++
(C) <<   (D) !:

i. An interface in C# is a _____

(A) static type   (B) reference type
(C) constructor type   (D) none of these

j. The process in which more than one method is created with the same name is called _____

(A) Overloading   (B) Overriding
(C) Virtual functions   (D) Inheritance

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

Q.2   a. List and briefly explain the characteristics of C#   **(8)**

         b. Explain CLR of .NET framework.   **(8)**

Q.3   a. With a block diagram, explain a general C# program structure.   **(8)**

         b. Write a C# program to convert decimal number into its equivalent binary format.**(8)**

Q.4   a. Write a program in C# to print multiplication table using do-while loop.   **(8)**

         b. Differentiate between pass by value and pass by reference using suitable examples.
                                                                                   (8)

Q.5   a. Distinguish between write and writeline methods. Write a C# program that demonstrates the application of these methods.   **(8)**

         b. Explain compare(), equals() methods and == operator used to compare strings with an example for each.   **(8)**

Q.6   a. Explain the use of regular expressions in C# with an example.   **(8)**

         b. Explain C# access modifiers used to control member access.   **(8)**

Code: DC69   **Subject: C# & .NET**

Q.7   a.   Illustrate method overriding in C# using an example program.

b.   When do we use static methods? What is the difference between a static method and an instance method?   **(4)**

c.   What are abstract classes? What are abstract methods? Explain with an example for each.   **(8)**

Q.8   a.   What is the need of operator overloading? Write a program to demonstrate overloading of unary minus.   **(8)**

b.   Explain delegate methods and delegate instantiation with examples in C#   **(8)**

Q.9   a**.** Can the Threads priority be set? Write a C# program that illustrate the use of priority property.   **(8)**

b.   With an example code, explain how we can throw our own exception.   **(8)**