

DipIETE – CS (NEW SCHEME)

Time: 3 Hours

JUNE 2012

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. In .NET, CLS means

- (A) Common language specification (B) Common language source
(C) Compiler language specification (D) None of the above

b. In the statement, using system, system is a

- (A) namespace (B) class
(C) object (D) keyword

c. The _____ compiler is used for C#

- (A) CC (B) CSC
(C) C++ (D) CS

d. Which of the following is not a C# keyword?

- (A) Implements (B) If
(C) Private (D) Delegate

e. Which of the following Statement rethrows Exception?

- (A) throw new System.Exception(); (B) throw;
(C) rethrow Exception(); (D) rethrow;

f. Two methods with the same name but with different parameters means_____.

- (A) loading (B) duplexing
(C) multiplexing (D) Overloading

g. A variable which is declared inside a method is called a _____ variable.

- (A) Serial (B) Private
(C) Local (D) Static

h. What are the features of an abstract class?

- (A) It contain instance variables (B) It contain constructors
(C) It may extend another class (D) All of the above

i. A Boxing in .Net allows the user to convert _____.

- (A) an integer type to double (B) a reference type to a value type
(C) a value type to a reference type (D) a double type to integer

j. You can store multiple data types in System.Array.

- (A) TRUE (B) FALSE

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

Q.2 a. What is .NET framework? How do you build components in the .NET Framework? Explain. (8)

b. Differentiate between value type and reference type supported by C#. Give suitable example to illustrate. (8)

Q.3 a. Write a C# application that calculate and prints the sum of integers from 1 to 10. (8)

b. Explain Increment and Decrement operators with an example in C#. (8)

Q.4 a. Write a program in C# to sort arrays by implementing static method of sorting on numeric as well as on string data. (8)

b. What do you mean by nesting of methods? Show by an example the typical use of method nesting. (8)

Q.5 a. What are regular expressions? Where they can be applied? (8)

b. What do you mean by structures? Design a structure data type named Student containing Name, RollNumber and Total Marks. Also explain significant differences between classes and structures. (8)

- Q.6** a. Define a base class Called Room with length and breadth as data members, extend Room to another class StudyRoom with its own data members length, breadth and volume and two methods Area and Volume. Write a program in C# to display Area and Volume on derived objects. (10)
- b. What do you understand by inheritance? Describe important characteristics of inheritance. (6)
- Q.7** a. What is an interface? What are the major differences between class and an interface? (4)
- b. What is operator overloading? Why is it necessary to overload an operator?(4)
- c. Write a C# program to overload the + operator for adding two fractions. (8)
- Q.8** a. What are delegates? Explain with an example how to declare delegate and use of modifier on them. (8)
- b. Write a program to display the following output:
 1
 2 2
 3 3 3
 4 4 4 4 (8)
- Q.9** a. What do you understand by errors? What are different types of errors encountered in C# applications? Identify the errors in the following program:
 Class Error

```

{public static void Main()
    { int a=10;
      Int b=5;
      Int c=5;
      Int x=a/(b-c)
      Consol.WriteLine("x=" +x)
      Int y=a/(b+c)
      Consol.WriteLine("y=" +y)
    }
}

```

(8)
- b. What is the significance of Mutex class? State any three methods of Mutex class. (8)