

DiplETE - CS

Time: 3 Hours

DECEMBER 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. The code that satisfies the CLR at runtime in order to execute is referred to as _____ code.

- (A) source (B) object
(C) managed (D) None of these

b. C# supports multiple-inheritance.

- (A) True (B) False

c. _____ are symbols used for grouping and separating code. They define the shape and function of a program.

- (A) Literals (B) Operators
(C) Punctuators (D) None of these

d. _____ Strings are those strings that start with @ symbol

- (A) Verbatim (B) To
(C) Concatenating (D) System

e. _____ is not a method of a Thread class

- (A) Join (B) Start
(C) Stop (D) Resume

f. It is possible to create methods that have the same name, but different parameter lists and different definitions. This is called method _____

- (A) overcreating (B) overtaking
(C) protecting (D) overloading

- g. When we call a method in an object, C# matches up the method name first and then the number and type of parameter to decide which one of the definitions to execute. This process is known as_____.
- (A) Encapsulation (B) Polymorphism
(C) IDE (D) None of these
- h. Which of the following is not from the Input / Output streams?
- (A) Console.In (B) Console.Out
(C) Console.InOut (D) Console.Error
- i. An exception is a condition that is caused by a _____ error in the program.
- (A) Compiling (B) Runtime
(C) Both (A) & (B) (D) None of these
- j. After a priority is set for a thread, the thread runs according to its priority. This means that a Below Normal Priority thread runs after the_____ priority thread but before the _____ priority thread.
- (A) Normal, Lowest (B) Lowest, Normal
(C) Above Normal, Lowest (D) None of these

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

- Q.2** a. What features of C++ have been dropped from C# and what enhancements have been made to C++ in C#? (8)
- b. What is boxing? Illustrate through examples. (6)
- c. When unboxing, we need to use explicit cast. Why? (2)
- Q.3** a. What are the various forms of if statement? Give uses of any two forms of if statement. (8)
- b. Write a program to count the even and odd numbers in a list of numbers (103, 112, 11, 23, 40, 58, 50, 60, 56, 71, 81). (8)
- Q.4** a. What is “VALUE PARAMETER”? Illustrate through an example. (8)
- b. What do the System.Array Class methods Sort() and Reverse() do? Write a program to demonstrate to sort and reverse an array, by sorting the list of numbers (88, 76, 55, 49, 90, 22, 104).What will be the output after Sorting? What will be the output after reversing? (8)
- Q.5** a. What are “regular expressions”? What are they used for? State any four examples of regular expressions. (8)

- b. What is a struct? What are the differences between classes and structs? (8)
- Q.6** a. Describe the concept of member access modifiers. List the C# access modifiers alongwith their accessibility controls. Illustrate with an example.Can we declare more than one member under a visibility modifier? (8)
- b. What is an containment inheritance? Explain by giving an example. (4)
- c. What is a subclass Constructor? (4)
- Q.7** a. How an interface can be extended? Can you combine several interfaces together into a single interface? Can subinterfaces define the methods declared in the superinterfaces? Explain. (8)
- b. What is the need for operator overloading? (4)
- c. What can be the possible programming errors while implementing operator overloading? (4)
- Q.8** a. What is another name for of multicast delegates? What conditions must be satisfied by of multicast delegates? Write a small C# code to illustrate implementation of multicast delegates. What would be the output? (8)
- b. Write a C# code to display the following on the screen:
- Display Begin
- ```
1
2 2
3 3 3
4 4 4 4
5 5 5 5 5
6 6 6 6 6 6
7 7 7 7 7 7 7
8 8 8 8 8 8 8 8
9 9 9 9 9 9 9 9 9
```
- Display End (8)
- Q.9** a. Write a program to show a simple implementation of nested try blocks. (8)
- b. What is thread pooling? How is it implemented in the .NET framework? (8)