

DiplETE – CS (Current Scheme)

Time: 3 Hours

December-2016

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.

Q1 Choose the correct or the best alternative in the following:

a. If you do not indicate a return type for a method, its return type is _____ by default.

- (A) void (B) int
(C) Public (D) Private

b. By default, the type of an enum is _____

- (A) int (B) byte
(C) short (D) None of the above

c. After a priority is set for a thread, the thread runs according to its priority. 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

d. In which of the following areas are delegates commonly used?

- (A) Remoting (B) Serialization
(C) File input/output (D) Callback & Event Handling

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. 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

g. A derived class can stop virtual inheritance by declaring an override as _____

- (A) Sealed (B) Extends
(C) Inheritable (D) not inheritable

h. Convert vs parse methods:

- (A) Convert allows null values, Parse cannot
 (B) Convert converts the value, Parse is for parsing
 (C) Both are same
 (D) None of the above

i. Select the relevant output for set of code: `m = 5; int y, x; y = m++; x = ++m;`

- (A) `y = 5, m = 6; x = 5, m = 5` (B) `y = 6, m = 6; x = 7, m = 6`
 (C) `y = 5, m = 6; x = 7, m = 7` (D) `y = 5, m = 6; x = 7, m = 8`

j. C# is _____ language

- (A) Functional (B) Procedural
 (C) Structured (D) Object-oriented

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

- Q2.** a. What is C#? (5)
 b. What prompted Microsoft to come up with .NET? (5)
 c. What are the benefits of .Net strategy advanced by Microsoft? (6)
- Q3.** a. Write a C# program that will print prime numbers upto 100. (8)
 b. Explain, what is conditional operator? Write a program to find the larger of three integers using conditional operator. (8)
- Q4.** a. With suitable example explain the concept of pass by value and pass by reference in C#. (7)
 b. What are jagged arrays? Write a program in C# to sort a list of numbers. (9)
- Q5.** a. State any four differences between classes and structures. (8)
 b. Write a program to reverse a string in C#.Net. (8)
- Q6.** a. What are abstract classes? What are abstract methods? Give an example for each. (6)
 b. What is an Indexer? How does an indexer differ from a property in terms of implementation? (5)
 c. What are the constraints that C# imposes on the accessibility of members and classes when they are used in the process of inheritance? (5)
- Q7.** a. Define abstract class. How it is different from interfaces? (4+4)
 b. What is an operator method? Describe its syntax. Show how a binary operator “+” can be overloaded in C#. (8)
- Q8.** a. What are delegates? Explain with an example how to declare delegate and use of modifier on them. (8)
 b. What is interface? Write a simple interface that defines a single method. (8)
- Q9.** a. What is thread pooling? How is it implemented in the .NET framework? (8)
 b. What is Multi-threading? What is suspend and resume in threading? How a thread is created? (8)