

DipIETE – CS (Current Scheme)

Time: 3 Hours

June - 2017

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: (10×2)

a. To allocate memory for an object instantiation, you must use the _____ operator.

- (A) mem (B) alloc
(C) new (D) instant

b. Ability to hide the internal details of an object from its users is called _____

- (A) Inheritance (B) Polymorphism
(C) Encapsulation (D) None of these

c. In .NET, CLR means

- (A) Common language runtime (B) Computer language runtime
(C) Compiler language runtime (D) None of these

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

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

e. A class implements two interfaces each containing three methods. The class contains no instance data. Which of the following correctly indicate the size of the object created from this class?

- (A) 24 bytes (B) 0 byte
(C) 8 bytes (D) 12 bytes

f. Common language specification (CLS)

- (A) is a compiler
(B) is similar to JVM as in Java
(C) is an execution engine for all .NET applications
(D) defines standard rules for defining .NET compliant languages

- g. The job of JIT or jitter is to
(A) compile code into CIL
(B) compile CIL into machine-specific-code
(C) All of these
(D) None of these
- h. Which of the following is / are not Relational operator in C# .NET?
(A) >= (B) <=
(C) != (D) <>=
- i. Which of the following statement is false with regard to abstract methods?
(A) It can take static or virtual modifier
(B) It can be declared only in abstract class
(C) An abstract declaration is permitted to override a virtual method
(D) It cannot have implementation
- j. Which of the following is an entry controlled loop
(A) do ... while loop (B) for loop
(C) while loop (D) Both (B) & (C)

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

- Q.2** a. What is the Microsoft Intermediate Language? (2)
b. Briefly explain the following: (2×3)
(i) CLR (ii) CTS (iii) CLS
c. Differentiate Boxing and Unboxing with an example. (8)
- Q.3** a. Explain arithmetic operators with an example in C#, also describe its precedence and associativity. (8)
b. How does foreach statement differs from for loop? Using foreach statement, write a program in C# to print all values in an integer array. (8)
- Q.4** a. What do you mean by nesting of methods? Write a program using nesting of method. (8)
b. Differentiate between pass by value and pass by reference with examples. (8)
- Q.5** a. What is enumeration expression in C#? Illustrate through example. (8)
b. Describe any four methods that can be used to create immutable strings using 'string' or 'String' objects. (8)

- Q.6** a. Explain the concept of Sealed classes and Sealed Methods used in C#. (8)
- b. What do you understand by access modifiers? Explain each in detail. (8)
- Q.7** a. Why do we need interfaces in C#? How can we implement interface in C#? (8)
- b. Explain the following: (4×2)
- (i) Delegate methods
- (ii) Delegate instantiation
- Q.8** a. Write a C# code to display the following on the screen: (8)
- Display Begin
- ```
1
22
333
4444
55555
666666
7777777
88888888
999999999
```
- b. What do you mean by multicast delegates? Demonstrate with an example. (8)
- Q.9** a. What is event handler? Explain with an example. (8)
- b. What is an exception? With a neat block diagram explain exception handling code. (8)