

DipIETE – CS (Current Scheme)

Time: 3 Hours

DECEMBER 2018

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. Common language specification (CLS)
- (A) is an execution engine for all .net application
(B) is similar to JVM as in Java
(C) defines standard rules for defining .Net compliant languages
(D) is a compiler
- b. Features of automatic memory management in .Net
- (A) Allocating memory (B) Releasing memory
(C) Implementing finalizers (D) All of these
- c. Choose “.NET class” name from which data type “UInt” is derived ?
- (A) System.Int16 (B) System.UInt32
(C) System.UInt64 (D) System.UInt16
- d. Which of the following statements is correct?
- (A) Information is never lost during narrowing conversions.
(B) The CInteger() function can be used to convert a Single to an Integer.
(C) Widening conversions take place automatically.
(D) Assigning an Integer to an Object type is known as Unboxing.
- e. Which of the following statements is correct about constructors?
- (A) If we provide a one-argument constructor then the compiler still provides a zero-argument constructor.
(B) Static constructors can use optional arguments.
(C) Overloaded constructors cannot use optional arguments.
(D) If we do not provide a constructor, then the compiler provides a zero-argument constructor.

- f. In order for an instance of a derived class to completely take over a class member from a base class, the base class has to declare that member as
(A) New (B) Base
(C) Virtual (D) overrides
- g. In C#.NET if we do not catch the exception thrown at runtime then which of the following will catch it?
(A) Compiler (B) CLR
(C) Linker (D) Loader
- h. 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) 12 bytes (B) 24 bytes
(C) 0 byte (D) 8 bytes
- i. Which among the given classes is present in System. Collection. Generic. namespaces?
(A) Stack (B) Tree
(C) Sorted Array (D) All of these
- j. Suppose a Generic class called SortObjects is to be made capable of sorting objects of any type (Integer, Single, Byte etc.). Which of the following programming constructs should be used to implement the comparison function?
(A) Namespace (B) Interface
(C) Encapsulation (D) Delegate

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

- Q.2 a.** With examples, explain how memory management is done for reference and value type by CLR. (16)
- Q.3 a.** Write a C# program for sorting an array of integers in the descending order. (16)
- Q.4 a.** Differentiate Rectangular arrays and variable size arrays by giving example. (16)
- Q.5 a.** Explain the exception handling mechanism of C# (16)
- Q.6 a.** Discuss in details about Building finalizable and disposable types. (16)
- Q.7 a.** Write a program to demonstrate the uses of interfaces in C#. (16)
- Q.8 a.** Explain: (2*8=16)
(i) Array of strings concept (ii) Differentiate structure and classes
- Q.9 a.** Explain the delegate type in C#. Describe the simplest possible delegate example? (16)