ROLL NO. _____

Code: DC117 **Subject: C# AND .NET**

DipIETE – CS (New 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: (2×10)

a. The global assembly cache:
(A) Can store two dll files with the same name
(B) Can store two dll files with the same name, but different version
(C) Can store two dll files with the same name and same version
(D) Can not store dll files with the same name

b. Which of the following statements is correct with regard to .NET framework managed web pages?
(A) They interact directly with the runtime
(B) They do not execute in the native code language
(C) They are interpreted and scripted
(D) All of these

c. What are the core components of the .Net framework data provider model?
(A) DataAdapter and DataReader
(B) Connection and Command
(C) DataAdapter, Connection, and Command
(D) DataAdapter, DataReader, Connection, and Command

d. _____ helped overcome the DLL conflict (faced by the versions prior to .NET).
(A) CLR **(B)** JIT
(C) CTS **(D)** GAC

e. Which of the following does not constitute the benefits of CLR?
(A) Ability to use components developed in different language
(B) Garbage collection
(C) IDL (Interface Definition Language) use is promoted by restricting self describing objects
(D) Ability to compile once, and run on any CPU

f. Which of the following is/are true about constructors and member functions?
(A) A constructor can return values, but a member function cannot
(B) A member function can declare and define values, but a constructor cannot
(C) A member function can return values, but a constructor cannot
(D) All of these

g. Which of the following are not C# value types?
(A) long **(B)** bool
(C) struct **(D)** class

h. What happens when the below code is executed?

```
abstract class Shape
{
public abstract void draw();
}

class Rectangle: Shape
{
public override void draw();
//Some more member functions.....
}

class CCheck
{
public static void Main()
{
Shape objShape;
}
}
```

(A) The code will compile and run.
(B) Compile error for draw method will be encountered first
(C) Defining the body of the draw() method in class Rectangle would let the class compile.
(D) None of these

i. In C#, exception handling should be used _____.
(A) to handle the occurrence of unusual or unanticipated program events
(B) to redirect the programs normal flow of control
(C) in cases of potential logic or user input errors
(D) in case of overflow of an array boundary

j. Which of the following is capable of returning multiple rows and multiple columns from the database?
(A) ExecuteReader **(B)** ExecuteXmlReader
(C) DataAdapter **(D)** All of these

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

Q.2 a. What are the main components of .NET Framework? **(6)**

b. What is Common Type System (CTS)? **(6)**

c. State the differences between the Dispose() and Finalize(). **(4)**

Q.3 a. What is Common Language Specification (CLS)? **(4)**

b. What is the role of the JIT compiler in .NET Framework? **(6)**

c. Describe the roles of CLR in .NET Framework. **(6)**

Q.4 a. Give an example of using sealed class in C#? **(6)**

b. What is recursion? Calculate the factorial of number using recursion. **(6)**

c. Write a program in C# for adding two matrices. **(4)**

Q.5 a. What are the Access Modifiers in C# ? **(6)**

b. Explain Overloading in C# ? Describe different types of overloading. **(10)**

Q.6 Write short notes on **(4×4)**
a. Object life-time
b. Garbage collection
c. Finalization Process
d. Garbage collection optimization

Q.7 a. What is Polymorphism in C#? Explain different types of Polymorphism. **(6)**

b. What is Abstract Class in C#? Explain with example **(4)**

c. What is enum data type? Give an example. **(6)**

Q.8 a. What are the different types of assemblies? Explain them in detail. **(8)**

b. What is Exception handling? What are various Exception classes in C#? **(8)**

Q.9 a. What is an Interface? What is its use? Explain explicit implementation of interface. **(8)**

b. What is namespaces class? Explain with an example. **(8)**