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13MCA53

**Fifth Semester MCA Degree Examination, June/July 2017**  
**Programming using C# and .NET**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1
  - a. What is .Net framework? Explain the benefits of .NET framework. (04 Marks)
  - b. With a neat diagram, illustrate the architecture of .Net framework 4.0. (04 Marks)
  - c. Explain the components of .NET framework 4.0. (12 Marks)
- 2
  - a. Explain the various pre-processor directives in C# used in compilation process. (06 Marks)
  - b. Write a C# program to demonstrate is and as operator. (06 Marks)
  - c. What is boxing and unboxing? Write a C# console application to demonstrate boxing and unboxing. (08 Marks)
- 3
  - a. What is namespace? Explain the steps involved in creating a namespace and illustrate few common namespaces provided by the .NET framework class library. (10 Marks)
  - b. List the difference between properties and Indexers. (06 Marks)
  - c. Name and explain the access modifiers for structs in C#. (04 Marks)
- 4
  - a. Explain the types of Inheritance in C#. (04 Marks)
  - b. Write a C# program to demonstrate Indexer overload. (10 Marks)
  - c. Explain the characteristics of abstract classes and abstract methods. (06 Marks)
- 5
  - a. Explain the four steps involved in creating and using delegate in the program. (10 Marks)
  - b. Write a C# console application to demonstrate concept of multiple event handlers for a single event. (10 Marks)
- 6
  - a. Explain various mouse events in C# windows applications. (06 Marks)
  - b. Discuss the properties, events of checked ListBox control and write a C# program to illustrate checked ListBox. (08 Marks)
  - c. Explain the steps involved in creating MDI form. (06 Marks)
- 7
  - a. List and explain the common ADO.NET objects. (10 Marks)
  - b. What are Data Adapters? List different Data Adapters in a .NET framework. Write a C# code to create a dataset from data Adapter. (10 Marks)
- 8
  - a. Explain the architecture of a three tier web based application. (10 Marks)
  - b. Explain Session Tracking in detail. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.