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10MCA53

**Fifth Semester MCA Degree Examination, Dec.2013/Jan.2014**

**Topics in Enterprise Architecture - II**

Time: 3 hrs.

Max. Marks:100

*Note: Answer any FIVE full questions.*

- 1 a. Explain the limitations and complexities found within the technologies prior to .NET. Briefly explain how .NET attempts to simplify the same. (10 Marks)  
b. What are the building blocks of the .NET platform? Explain the common type system in detail. (10 Marks)
- 2 a. Give the System.Collections interface hierarchy and explain System.Collection classes. (06 Marks)  
b. Explain the various output options available with C# compiler. (06 Marks)  
c. Differentiate between single file and multi file assembly. (08 Marks)
- 3 a. What is the difference between System.String and System.Text.String Builder objects? Explain with a suitable code example. (10 Marks)  
b. Differentiate between value types and reference types. What is a method parameter modifier? Explain with example atleast two such modifiers. (10 Marks)
- 4 a. Explain System.Object class methods. Give the overridden definition for ToString( ) and Equals( ). (10 Marks)  
b. What is encapsulation? Explain the techniques used to manipulate private data fields indirectly, with an example. (10 Marks)
- 5 a. Differentiate between bugs, errors and exceptions. Explain .NET Exception handling with valid example code. (10 Marks)  
b. What is meant by object lifetime? Describe the role of .NET garbage collection, finalization process and Adhoc destruction methods, with an example. (10 Marks)
- 6 a. What is the alternate approach to support multiple inheritance in C#.NET? List its major features with code example. (10 Marks)  
b. Write an explanatory note on Icloneable interface with an example. (10 Marks)
- 7 a. Write a program to overload + and – operators for adding and subtracting two square matrices. (10 Marks)  
b. What is meant by .NET delegate type? Explain the concept with code example. (10 Marks)
- 8 Write short notes on the following:  
a. is-a and has-a relationship  
b. Static fields and method  
c. Private and shared assemblies  
d. Checked keyword (20 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.