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12SCN151

First Semester M.Tech. Degree Examination, February 2013
C# and .NET

Time: 3 hrs. Max. Marks:100

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

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.

1 a. What are the building blocks of .NET framework? Explain with neat diagram. **(08 Marks)**
b. Explain the working of CLR, with a neat diagram. **(08 Marks)**
c. Explain the core features of .NET. **(04 Marks)**

2 a. What is preprocessor directive? List and explain any three directives. **(08 Marks)**
b. What is corDBG.exe? List and explain the flags of CORDBG.exe. **(08 Marks)**
c. Explain boxing and unboxing, with a neat example. **(04 Marks)**

3 a. Explain the anatomy of simple C# program. **(04 Marks)**
b. With an illustrative example, explain what happens when reference type is passed by value and passed by reference. **(08 Marks)**
c. Explain System.Object? List and explain the instance method and static methods of System.Object. **(08 Marks)**

4 a. Explain the technique to preserve the integrity of state data. **(06 Marks)**
b. What are the three pillars of OOPs in C#? Differentiate between "is –a" and "has – a" relationship. **(06 Marks)**
c. Define a person class with three data members : age, name and sex
i) Crate appropriate constructor
ii) Derive a class called employee form person that adds a data member code to store employee code
iii) Derive another class called specialist from employee
iv) Add a method to each of the derived class to display information about what it is. Write a driver program to generate an array to three ordinary employees and another array of three specialist and display information about them. Also display the information of the specialist by calling the method inherited form employee class. **(08 Marks)**

5 a. List and explain with code, the core members of system. Exception type. **(10 Marks)**
b. Explain handling multiple exceptions with a program. **(05 Marks)**
c. Explain object generations. **(05 Marks)**

6 a. What is an interface? Why are they used in C# programming? With an example, explain any four interface of system. Collection. **(10 Marks)**
b. What are the main advantages of C# events? **(05 Marks)**
c. Explain how to achieve shallow copy and deep copy in C#? **(05 Marks)**

7 a. What is a delegate? Explain synchronous and asynchronous delegate, with an example. **(10 Marks)**
b. With example, discuss :
i) Checked ii) Unchecked iii) Unsafe iv) Stack alloc v) Size of. **(10 Marks)**

8 Write short notes on :
a. Cross language inheritance
b. Logical and physical view of assembles
c. Strong names
d. Shared assemblies. **(20 Marks)**

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