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10CS/IS761

Seventh Semester B.E. Degree Examination, June/July 2016

C# Programming and .NET

Time: 3 hrs. Max. Marks: 100

Note: ***Answer FIVE full questions, selecting at least TWO questions from each part.***

PART – A

1 a. Explain the basic workflow that takes between source code, a given .NET compiler and mscorel.dll. **(10 Marks)**

b. Explain the following terms:
i) CLS
ii) CIL
iii) ASSEMBLY
iv) MANIFEST **(10 Marks)**

2 a. What is csc.exe? List the different output options available in C# compiler. **(07 Marks)**

b. Write a note on .NET namespaces in C#. **(05 Marks)**

c. Explain how to build visual studio .NET test application that reference external assembly. **(08 Marks)**

3 a. Write a C# program to find the roots of a quadratic equation $ax^2 + bx + c = 0$, read coefficients a, b, c from user. **(10 Marks)**

b. Explain any five members of System.Object. **(05 Marks)**

c. What is the role of System.Text.String Builder and how is it different from System.String? **(05 Marks)**

4 a. What is encapsulation? Explain the two ways of enforcing encapsulation with example each. **(10 Marks)**

b. Write a C# program that shows the C#'s polymorphic support for the following Fig.Q4(b).

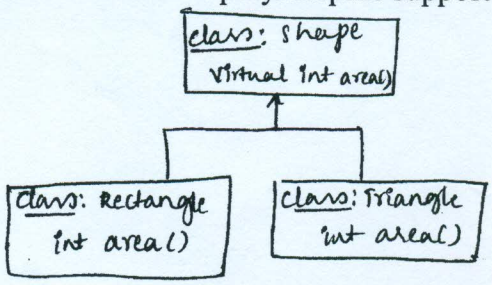

Fig.Q4(b)

By using the necessary data members to compute area of each shape. **(10 Marks)**

PART – B

5 a. Write a C# program that will read a name from the keyboard and display it on the screen. The program should throw an exception when the length of name is more than 15 characters. Design your own exception. **(10 Marks)**

b. What is object lifetime? Explain the sequence of events involved in finalization process. **(10 Marks)**

6 a. Declare a class box that has 2 data members length (inches) and width (inches. The class implements 2 interfaces IEnglishDimention and IMetricDimension that returns length, width in metric dimensions (m = inch*2.54). Each of these interfaces have 2 methods length( ) and width( ). Write a C# program to create the class and to instantiate an object of that type and use all the functions. **(10 Marks)**

b. Explain the following interfaces:
i) Icomparable
ii) Iconvertible
iii) Icloneable
iv) Interface hierarchies **(10 Marks)**

7 a. What are delegates? Explain the concept of multicast delegate with example. **(10 Marks)**

b. Write a C# program to do the following on complex numbers C1 and C2 using operator overloading
C1 + C2, C1 – C2 and C1 != C2. **(10 Marks)**

8 a. What is a .NET assembly? How to build shared assembly? Explain in detail with a program. **(10 Marks)**

b. What is multifile assembly? Explain how to build and consuming a multifile assembly. **(10 Marks)**

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