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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Sixth Semester, B.E. - Information Science and Engineering

Semester End Examination; May / June - 2018

C# and .NET

Time: 3 hrs *Max. Marks: 100*

***Note**: Answer **FIVE** full questions, selecting **ONE** full question from each unit.*

UNIT - I

1 a. Explain the role and responsibilities of common language runtime with a diagram describing the modules of common language runtime. 8

b. Differentiate between single file and multi-file assembly. 4

c. Explain the following common type system : 8

i) Class ii) Structure

iii) Delegate iv) Members

2 a. Write a C# program to display the following information using System.Environment class: 10

i) Fully qualified path to the system special folder ii) Names of the logical drives

iii) Amount of physical memory used by the process iv) Operating system version

v) Fully qualified path where Operating system is installed vi) .NET framework version

b. How do you build C# application using csc.exe? Write a source code in C# to compute sum, subtraction, multiplication and division of two numbers passed as a command line argument. 10

UNIT - II

3 a. Mention the different forms of the main method in C# and explain why its type signature contains public and static keywords. 10

b. Explain Boxing and Unboxing with example. 10

4 a. Write a C# program to calculate row sum and column sum of an rectangular array. 10

b. How do you enforce encapsulation using traditional mutator and accessor methods? Explain the class properties with example. 10

UNIT - III

5 a. Write a program to describe sealed class and sealed method. 7

b. Explain the process of finalizing objects in .NET environment. Give the members of System.GC and explain their usage with examples. 10

c. Explain Bugs, Errors and Exceptions with examples. 3

6 a. Mention the roles of .NET memory management and explain in detail how CLR performs a garbage collection? 10

b. How to build cloneable, comparable objects? Explain with examples. 10

Contd…2

UNIT - IV

7	a.	Explain overloading operators in C# with an example to overload a binary operator '+' to add two instance variable of a class.	10
	b.	Analyze the simplest possible delegate in C#, with example.	4
	c.	With an example, discuss the checked and unchecked keywords of C#.	6
8	a.	Illustrate the use of callback interfaces with a C# program.	10
	b.	Write a program in C# to illustrate how delegate object is used to call methods dynamically?	10

UNIT - V

9	a.	Illustrate the use of creating custom conversion routine with a C # program.	10
	b.	Write the structure of a multi-file assembly.	3
	c.	Explain the benefits provided by the assembly format.	7
10	a.	Define **.**NET assembly. How to build shared assembly? Explain in detail with a program.	10
	b.	What is multi-file assembly? Explain how to build and consume a multi-file assembly?	10

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