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

(An Autonomous Institution affiliated to VTU, Belagavi)

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

Semester End Examination; Dec. - 2019

C# Programming 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 features and building blocks of **.**NET platform. 8

b. What is the role of **.**NET type Metadata? Give an example. 4

c. List and explain the intrinsic CTS data types and **.**NET namespaces in C#. 8

2 a. Explain the role of Common Intermediate Language (CIL). 6

b. How do you build C# application using csc**.**exe? Explain with example. 4

c. Describe the meaning of the following C# compiler options: 10

i) /out ii) /target:exe iii) /target:library

iv) /target:module v) /target:winexe vi) /bugreport

vii) @ viii) /main ix) /noconfig

UNIT - II

3 a. Write a C# programme to find the roots of a quadratic equation $ax^2 + bx + c = 0$, read coefficients *a, b, c* from user. 8

b. Explain the anatomy of a basic C# class. 6

c. Explain various method parameter modifiers with an example for each. 6

4 a. What is encapsulation? Explain the two ways of enforcing encapsulation with example. 10

b. Explain with example *static* keyword, when used with? 6

i) Variable ii) Method iii) Constructor

c. Discuss the differences between value type and reference type. 4

UNIT - III

5 a. What is inheritence? How is it implemented in C#? 6

b. Explain the use of "*virtual*" and "*override*" keywords with a C# program. 8

c. Explain any five core members of System**.**Object class. 6

6 a. Define errors, bugs, and exceptions. Discuss the role of **.**NET exception handling. 6

b. Write a C# application to illustrate handling multiple exceptions. 4

c. Write a C# program that will read a name form the keyboard and display it on screen. The programme should throw an excepton when the length of the name is more than 15 characters. 10

Contd…2

UNIT - IV

7	a.	What is an interface? Explain three methods to obtain interface references.	8
	b.	Explain with an example interface hierarchy.	7
	c.	Demonstrate the concept "arrays of interface types" with a C# program.	5
8	a.	List the class types of System**.**Collection namespace and list the associated built-in- function for two class types of System**.**Collection.	8
	b.	With an example, explain any five interface of System**.**Collection.	5
	c.	Illustrate the concept of generic collections with a C# program.	7

UNIT - V

9	a.	What is a delegate? Diffrentiate between synchronous and asychronous delegate with examples.	10
	b.	Write a programme in C# to simulate a simple calculator using delegates.	6
	c.	What are the main advantages of C# events?	4
10	a.	What is ment by Object life time? Explain the sequence of events involved in finalization process.	10
	b.	Write a C# programme to demonstrate "Generation" objects.	5
	c.	List out at least four members of System**.**GC type and give their meaning.	5

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