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10CS/IS761

Seventh Semester B.E. Degree Examination, Jan./Feb. 2021

C# Programming and .NET

Time: 3 hrs.

Max. Marks:100

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

PART – A

- 1 a. What are the core features provided by .NET. (06 Marks)
b. Explain the .NET namespace “system”. (04 Marks)
c. Explain the building blocks of .NET platform, illustrate the workflow that take place between a source code .NET compiler and the .NET execution engine. (10 Marks)
- 2 a. Describe the output options of the C# compiler. (05 Marks)
b. Write source code in C# to compute the square root of a number passed as a command line argument as a (05 Marks)
c. What are C# preprocessor symbol? Explain code region and conditional code compilation. (10 Marks)
- 3 a. Explain any 5 members of system.Array. Illustrate the implementation of sort() and Reverse () methods. (10 Marks)
b. What is an object and how is it created? (04 Marks)
c. Explain ‘out’ and ‘params’ method parameter modifiers. (06 Marks)
- 4 a. What are the two forms of inheritance? Explain with simple examples. (10 Marks)
b. State the characteristics of abstract classes and abstract methods. (05 Marks)
c. What is “Default Public Interface” of a Type? Give the distinction between method visibility and type visibility. (05 Marks)

PART – B

- 5 a. What is an exception? Explain the four keywords of exception Handling with an example. (10 Marks)
b. Write a note on Garbage collection optimization using generations. (05 Marks)
c. Explain any five members of system.GC Type. (05 Marks)
- 6 a. What is an interface? How to implement an interface using C#. (04 Marks)
b. Write a C# program which contains the following :
 - The class computation implements two interfaces, Addition and Multiplication
 - It declares two data members and defines the code for the methods Add () and Mul ().
 - A main Class Test to the computation object to cast interface types to reference their members. (10 Marks)
- c. Write a short note on IComparable and ICollection interface. (06 Marks)
- 7 a. What is a delegate? Explain the members of System.MulticastDelegates. (08 Marks)
b. Explain the concept of Events. (04 Marks)
c. Explain the advanced keyword checked, unchecked, unsafe, and volatile. (08 Marks)
- 8 a. Explain Singlefile and Multifile Assemblies. (07 Marks)
b. What are the two views of an Assembly? Explain them with a neat diagram. (06 Marks)
c. Explain private Assemblies and shared Assemblies. (07 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.