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Department of Library  
 BGS Institute of Technology  
 9.5.5. and Dept. BANULAKS-7

06CS/IS761

## Seventh Semester B.E. Degree Examination, June 2012

### C# Programming and .NET

Time: 3 hrs.

Max. Marks:100

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

#### PART – A

- 1 a. What are the building blocks of .NET platform? Give the relationship between .NET runtime layer and the base class library. (08 Marks)
- b. What is the role of .NET type meta data? Give an example. (04 Marks)
- c. Explain CLR. Illustrate the workflow that take place between the source code, given .NET compiler and the .NET execution engine. (08 Marks)
- 2 a. Write a C# program to display the following information using system environment class  
 i) current directory of application    ii) operating system version    iii) logical drivers  
 iv) host name    v) .NET version. (08 Marks)
- b. Explain the building of a C# application using command line compiler CSE.exe. (04 Marks)
- c. Explain the C# preprocessor directives giving any three examples. (08 Marks)
- 3 a. Why system.object is called master node? List and explain any three instance methods and static methods of system.object. (08 Marks)
- b. With an example, explain what happens when reference type is passed by value and passed by reference. (04 Marks)
- c. What are the three pillars of object oriented programming in C#? Differentiate between "is – a" and "has –a" relationship, with appropriate programs. (08 Marks)
- 4 a. Explain boxing and unboxing, with an example. (06 Marks)
- b. Explain four method parameter modifiers, with an example. (08 Marks)
- c. Explain the two different roles of 'this' keyword, with an example. (06 Marks)

#### PART – B

- 5 a. What are bugs, errors and exception? List and explain the core members of the system exception type. How would you build custom exception? (08 Marks)
- b. Explain the following C# keywords : i) Furally    ii) Using. (04 Marks)
- c. What is meant by object life time? Explain the garbage collection optimization process in C#. (08 Marks)
- 6 a. What is an interface? Explain the three methods to obtain interface references. (08 Marks)
- b. With an example, explain any four interfaces of system. collection. (06 Marks)
- c. How to build cloneable and comparable objects in C#? (06 Marks)
- 7 a. With an example, discuss the advanced keywords of C# : checked, unchecked, unsafe, stack alloc, volatile and size of (10 Marks)
- b. What is delegate? Differentiate between synchronous and asynchronous delegate, with examples. (10 Marks)
- 8 a. With a neat diagram, explain the physical view and logical view of .NET assemblies. (06 Marks)
- b. Explain the C# support for cross language inheritance, with examples. (06 Marks)
- c. Explain the steps involved in building multifile assembly, with an example. (08 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.