

--	--	--	--	--	--	--	--	--	--

**Seventh Semester B.E. Degree Examination, Aug./Sept.2020**  
**C# Programming and .NET**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting at least TWO full 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 an assembly? Explain each component of an assembly. Differentiate between single file and multifile assembly. (08 Marks)
- c. Write a note on .NET namespaces. (04 Marks)
- 2 a. Explain the C# preprocessor directives giving any three examples. (08 Marks)
- b. What is CSC.rsp file? Where is it located? (04 Marks)
- c. Write a C# program to illustrate the use of an array for sorting a list of numbers. (08 Marks)
- 3 a. Why System.Object is called master node? List and explain any three instance methods and static methods of System.Object. (10 Marks)
- b. Explain the following types with an example, with reference to C#  
i) foreach/in    ii) ref    iii) params    iv) verbatim    v) enum (10 Marks)
- 4 a. What is Encapsulation? Discuss the enforcing encapsulation methods, with suitable examples. (10 Marks)
- b. Explain the following concepts with reference to inheritance,  
i) Sealed classes  
ii) Programming for containment/delegation  
iii) Nested type definitions. (10 Marks)

**PART – B**

- 5 a. What are bugs, errors and exception? List and explain the core members of System.Exception type with a program example. (08 Marks)
- b. Describe the role of .NET garbage collection, finalization process and Ad-Hoc destruction method with examples. (08 Marks)
- c. Write C# application to illustrate the concept of Handling multiple exceptions. (04 Marks)
- 6 a. What is an interface? Explain the three methods to obtain interface references with example. (10 Marks)
- b. With a program example, explain the following classes of System.Collections:  
i) ArrayList    ii) Queue    iii) Stack. (10 Marks)
- 7 a. List and explain the members of System.MulticastDelegate/System.Delegate. (06 Marks)
- b. Write a note on understanding asynchronous delegates. (04 Marks)
- c. Discuss the advanced keywords of C#,  
i) unchecked    ii) unsafe    iii) stackalloc    iv) sizeof    v) volatile. (10 Marks)
- 8 a. Design a C# application for linked list with following operation:  
i) Add car  
ii) Remove car  
iii) Count the number of cars  
iv) Cars present. (10 Marks)
- b. Describe in detail, cross Language Inheritance and Understanding shared Assemblies. (10 Marks)

\* \* \* \* \*