USN ☐☐☐☐☐☐☐☐☐☐   15CS564

Fifth Semester B.E. Degree Examination, Dec.2019/Jan.2020
·Net Framework for Application Development

Time: 3 hrs.   Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

1   a. Define exception. With syntax and code snippets, explain try, catch, throw and finally used in exception handling.   **(09 Marks)**
    b. Explain with code snippets optimal parameters and named arguments.   **(07 Marks)**

OR

2   a. Differentiate between break and continue statements with code snippets.   **(02 Marks)**
    b. With example, explain checked and unchecked statements and expressions.   **(06 Marks)**
    c. Write a C# program to perform the following: Read marks obtained for 3 subjects, calculate average and display grade according to the following cases. Use switch statement.
        $70 \leq avg \leq 80 \rightarrow$ "outstanding"
        $60 < avg \leq 69 \rightarrow$ "First class"
        $50 < avg \leq 59 \rightarrow$ "Second class"
        $40 < avg \leq 49 \rightarrow$ "Average class"
        Otherwise $\rightarrow$ "Fail class"   **(08 Marks)**

Module-2

3   a. Demonstrate Boxing and unboxing with code snippets.   **(06 Marks)**
    b. Discuss two different operators to cast data safely in C#. Give examples.   **(06 Marks)**
    c. Differentiate between class and structure.   **(04 Marks)**

OR

4   a. What is a gagged array? Write a C# program to create a gagged array, populate this array with values and to display contents of the same.   **(06 Marks)**
    b. Demonstrate ref and out parameters with suitable examples for each.   **(10 Marks)**

Module-3

5   a. Write a C# program to design a method to calculate sum and average of 'n' numbers using params array.   **(08 Marks)**
    b. What is garbage collection? Why it is needed? Explain the steps taken by garbage collector to destroy objects.   **(08 Marks)**

OR

6   a. Explain inheritance with examples. How it is used in class? What are the advantages of using inheritance?   **(06 Marks)**
    b. Define and explain abstract class and scaled class.   **(04 Marks)**
    c. What is an interface? How it is defined in C#? Demonstrate with examples how to implement interfaces in class.   **(06 Marks)**

Module-4

7 a. Explain two types of properties in C# with syntax and example for each. (06 Marks)
b. Define indexer with syntax. (02 Marks)
c. Write a C# program to create, manipulate and iterate through the contents of List Collection class. Show Add, Remove, RemoveAt and Insert methods. Give necessary comments for each method. (08 Marks)

OR

8 a. Write a C# program to demonstrate a generic solution for swapping of 2 integers and swapping of 2 strings. (08 Marks)
b. Differentiate between Dictionary < Tkey, Tvalues > collection class and sorted list < Tkey, Tvalues > collection class. (08 Marks)

Module-5

9 a. What is LINQ? With suitable example, explain ordering, grouping and aggregating data. (10 Marks)
b. Explain overloading of increment and decrement operations in C#. (06 Marks)

OR

10 a. Demonstrate defining an enumerator by using an iterator. (08 Marks)
b. Explain the concept of declaring an event, subscribing to an event, unsubscribing from an event and raising an event in C#. (08 Marks)

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