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Fifth Semester B.E. Degree Examination, Feb./Mar.2022
Dot Net Framework for Application Development

Time: 3 hrs.   Max. Marks: 100

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

Module-1

1 a. Design a console based application to display menu of arithmetic operations, make use of switch control structure to select operation and display the result with proper headings. **(10 Marks)**

   b. Explain different iterative statements to calculate sum of n natural numbers and display result in console. **(10 Marks)**

OR

2 a. Explain the use of optional parameters and named arguments in C# with examples. **(10 Marks)**

   b. Explain the following keywords with an example,
   (i) try   (ii) catch   (iii) throw   (iv) finally **(10 Marks)**

Module-2

3 a. Write a C# program to create a class circle with data member as radius; function members are Area, Perimeter to calculate area and perimeter of a circle respectively. Make use of overloaded constructors to initialize the data member and call appropriate constructors of circle class, display result of area and perimeter of circle objects. **(10 Marks)**

   b. Declare a structure of Time with data members as hours, mins, seconds, initialize with constructor and how it is different from class. **(10 Marks)**

OR

4 a. Explain the following with examples,
   (i) nullable types   (ii) ref   (iii) out **(10 Marks)**

   b. Explain how to create implicitly typed array with an example and populate array elements using for, foreach constructs / iterators. **(10 Marks)**

Module-3

5 a. Write a C# program to create a class called ParamsArray with a function member as SampleValues that can take any number of arguments of any type in combination with Params, object and display values. **(10 Marks)**

   b. Explain the following keywords with example,
   (i)   Virtual
   (ii) Override
   (iii) New for creating method. **(10 Marks)**

OR

6 a. Explain briefly use of Garbage collector in .Net and implement IDisposable interface to create Disposable objects. **(10 Marks)**

   b. What is an interface? Explain how to achieve multiple inheritance in C# with complete example. **(10 Marks)**

Module-4

7   a.   What are properties, explain with syntax and how to create read only properties and write only properties with examples. **(10 Marks)**

    b.   Create a generic method that swaps two values of any type explain with examples. **(10 Marks)**

OR

8   a.   What is an indexer? Explain how to create an indexer with an example. **(10 Marks)**

    b.   Explain Stack<T> collection class members with an example program. **(10 Marks)**

Module-5

9   a.   Explain implementing automated factory scenario by using delegates. **(10 Marks)**

    b.   Implement operator overloading in C# for + and − operators to add and substract two complex numbers. **(10 Marks)**

OR

10 a.   Implement the following by using Query operators :
        (i)   Selecting dat.
        (ii)   Filtering data
        (iii) Ordering data.
        (iv)   Grouping data.
        * Assume customer information : CustomerID, FirstName, LastName, CompanyName
        * Address Information : CompanyName, City, Country **(10 Marks)**

    b.   Implement an enumerator by using iterator with a simple iterator example. **(10 Marks)**

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