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17CS564

## 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 subtract two complex numbers. (10 Marks)

**OR**

- 10 a. Implement the following by using Query operators:  
(i) Selecting data.  
(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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