USN | | | | | | | | | | |

Fifth Semester B.E. Degree Examination, Aug./Sept.2020
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. List and discuss the issues which arises when namespace is not used. With example explain
       how it can be solved using namespace.   **(08 Marks)**
    b. What is implicit variable? Explain with example how implicit variables are declared.
                                                                                     (05 Marks)
    c. Write a C# program to find sum, difference, product and quotient of two input numbers
       using expression bodied method. In Main( ) method read 2 numbers from the users and print
       results on the screen after calling sum( ), differences( ) product( ) and quoticut( ) method.
                                                                                     (07 Marks)

OR

2   a. List and explain different binary operators available in C#.   **(07 Marks)**
    b. Explain with example checked and unchecked statement.   **(04 Marks)**
    c. Develop a C# program with method named DayName(int day), which accepts day number
       as parameter and returns day name {Monday, Tuesday, Wednesday, Thursday, Friday,
       Saturday and Sunday} as return value. Method throws an exception if day value is less than
       1 and greater than 7. Program should also contain "Main( )" method which displays day
       name on the screen.   **(09 Marks)**

Module-2

3   a. Define encapsulation. Explain the purpose of encapsulation with an example.   **(05 Marks)**
    b. What is a constructor? Explain the necessity of constructor. Write a program to demonstrate
       the constructor overloading.   **(10 Marks)**
    c. Explain the differences between a structure and class with example.   **(05 Marks)**

OR

4   a. Illustrate with the program how to control the accessibility of members by using the public
       and private keywords.   **(06 Marks)**
    b. Explain with an example how to create a multidimensional array. Distinguish how jagged
       arrays are better than multidimensional arrays with example.   **(08 Marks)**
    c. Illustrate with neat diagram what is boxing and unboxing.   **(06 Marks)**

Module-3

5 a. Differentiate between optional parameters and params array. **(04 Marks)**

  b. Explain how to control method hiding and overriding by using the new, virtual and override keywords with example. **(10 Marks)**

  c. Demonstrate with an example program the concept of dynamic polymorphism. **(06 Marks)**

OR

6 a. Define interface list out the interface restriction. **(05 Marks)**

  b. Write a program with a class named 'Box' with data members length, breadth and height and a constructor to initialize data members, volume( ) method to calculate volume (length * breadth * height). Create another class called "BoxWeight" derived from "Box" class. "BoxWeight" class contains a data member weight and two method : constructor and DisplayWeight( ) to initialize and to display weight respectively. Last class named "Demo" should contain Main( ) method which creates object and display data on the screen. **(10 Marks)**

  c. List the steps followed by garbage collector to de-allocate unreachable objects. **(05 Marks)**

Module-4

7 a. Define properties. Explain how to create and use properties to provide controlled access to data in an object with example. **(06 Marks)**

  b. What are the problems with the object type? How can you solve these problems using generic class with example? **(08 Marks)**

  c. Explain how to create automatic properties. **(06 Marks)**

OR

8 a. Define an indexer. List and explain set of operators provided by a C# that can be used to access and manipulate bits in a int. **(10 Marks)**

  b. What is generic method? Implement a generic method which is independent of the type of data on which it operates to swap two data. In Main( ) method display the value of data before swapping and after swapping. Demonstrate program for 'char' and int type values. **(10 Marks)**

Module-5

9 a. Define a simple iterator. Explain how to define a simple enumerator that can be used to iterate over the elements in a collection. **(08 Marks)**

  b. Explain how to handle an event by using a delegate. **(07 Marks)**

  c. List the rules that operators implemented automatically fall into a well-defined framework in C#. **(05 Marks)**

OR

10 a. Define Language Integrated Query(LINQ) queries to examine contents of enumerable collection with example. **(10 Marks)**

  b. Write a C# program that adds and subtracts two instance of hours by overloading + and – binary operator framework in C#. **(10 Marks)**

* * * * *