

# CBCS SCHEME

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## 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

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- 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)

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