CBCS SCHEME

17CS564

USN ☐☐☐☐☐☐☐☐☐☐

Fifth Semester B.E. Degree Examination, July/August 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. Every programmer has to abide to the rules of a particular programming language. With this, explain the identifier naming rules and recommendations in C# language. **(06 Marks)**
   b. Justify the need for namespaces within a programming environment. Explain with an example. **(06 Marks)**
   c. Build a C# program to check whether the given number is 'strong number or not'. (Note: strong number is a special number whose sum of factorial of each digit is equal to the original number) **(08 Marks)**

OR

2 a. Discuss the optional and named parameters passing in C#. **(06 Marks)**
   b. Define a method by name "DIVIDE" that would divide two integers. Incorporate customized exception handling mechanism to handle "DivideByZero Exception" situation. Develop a C# program that employs this method to divide a user-defined values. **(08 Marks)**
   c. Explain checked and unchecked statements in C#. **(06 Marks)**

Module-2

3 a. We can share the data across the function calls. Justify this statement by using static data and static methods available in C#. **(06 Marks)**
   b. Develop a C# program which accepts two values from user, passed as reference parameters to a method "CALCULATE" and the method inturn returns four output values as add, sub, mul and division operations on arguments. **(10 Marks)**
   c. Explain Boxing and Unboxing with an example. **(04 Marks)**

OR

4 a. Explain enumeration in C# with an example. **(04 Marks)**
   b. Differentiate value types and reference types. **(06 Marks)**
   c. Apply the knowledge of arrays used in C# and explain the various ways of copying an individual item from array1 to array2. **(10 Marks)**

Module-3

5 a. Build a C# program to calculate the sum of variable number of integer values using "params". **(08 Marks)**
   b. Explain the usage of 'new' keyword with respect to member/method hiding feature available in C#. **(04 Marks)**
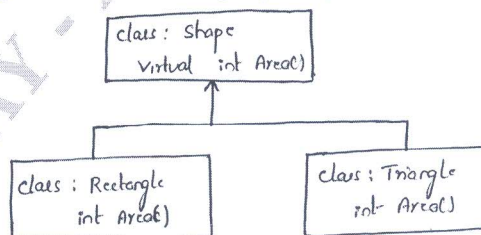   c. Develop a C# program to show the polymorphic behaviour for the following Fig.Q5(c).

Fig.Q5(c)

(08 Marks)

OR

6 a. Define an interface. List the restrictions of declaring an interface in C#. **(08 Marks)**

b. The C# language releaves the programmer from manual resource management. How do you achieve this in C#? Justify your answer with an example. **(08 Marks)**

c. Apply the knowledge of inheritance and explain the usage of 'sealed' keyword in C#. **(04 Marks)**

Module-4

7 a. How would you enforce encapsulation using read and write properties in C#? Explain in detail. **(10 Marks)**

b. Define an Indexer. List and explain set of operators provided by C# which can be used to access and manipulate the individual bits in an integer value. **(10 Marks)**

OR

8 a. Build a C# program to implement stack <T> collection class. **(10 Marks)**

b. Develop a C# program to construct a binary tree using generics. **(10 Marks)**

Module-5

9 a. What is the advantage of implementing IEnumerable interface over enumerating an elements in a collection? Explain with an example. **(10 Marks)**

b. What are events in C#? Explain with an example. **(10 Marks)**

OR

10 a. Explain Language-Integrated Query (LINQ) to select, order and aggregate data of enumerable collections. **(10 Marks)**

b. Write a C# program to do the following in complex numbers C1 and C2 using operator overloading.

C1 + C2,   C1 – C2, C1 = = C2 **(10 Marks)**

* * * * *