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**16/17MCA52**

### Fifth Semester MCA Degree Examination, Feb./Mar. 2022
## Programming using C# and .Net

Time: 3 hrs.                                                                                     Max. Marks: 80

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

#### Module-1

1 a. What is .NET Framework? Explain the architecture of .NET Framework 4.0.       **(04 Marks)**
   b. Explain the components of .NET Framework 4.0 and also benefits of framework.  **(06 Marks)**
   c. Explain the .NET Execution Engine and define the following :
      i)   WWF
      ii)  WCF
      iii) WPF                                                                      **(06 Marks)**

#### OR

2 a. Discuss system Data types, variables and constants.                           **(04 Marks)**
   b. Explain the differences between value types and reference types with example.  **(06 Marks)**
   c. Write a C# program to demonstrate the conversion of boxing to unboxing.        **(06 Marks)**

#### Module-2

3 a. Explain the concept of partial classes and methods with example code.          **(04 Marks)**
   b. Discuss C# properties and indexers with examples and also differences for each.  **(06 Marks)**
   c. Describe Access modifiers in C#. Explain the concept of 'etructs' in C#.        **(06 Marks)**

#### OR

4 a. Illustrate how to achieve Encapsulation using assessors and mutators.          **(04 Marks)**
   b. Write a C# program to add two complex numbers using operator overloading.      **(06 Marks)**
   c. Show the implementation of interface concept using inheritance.                **(06 Marks)**

#### Module-3

5 a. Classify Single cast and Multi cast delegates with example.                    **(04 Marks)**
   b. Discuss the following :
      i)   Events
      ii)  Event Sources
      iii) Event handlers
      iv)  Even Delegates.                                                          **(04 Marks)**
   c. Explain the concept of Exception Handling in C# and also show how to handle Multiple Exception.  **(08 Marks)**

#### OR

6 a. Explain the Architecture of ADO .NET and components.                           **(06 Marks)**
   b. Explain the ADO .NET Entity Framework Architecture.                           **(04 Marks)**
   c. Explain Data providers and Data Adapters.                                     **(06 Marks)**

### Module-4

7  a.  Explain various Moore events in C# windows Applications.          (04 Marks)
   b.  Discuss the properties of checked ListBox and ToolTips.          (06 Marks)
   c.  Explain the steps involved in creating MDI form.          (06 Marks)

**OR**

8  a.  Write a Architecture of WPF and explain its components in detail.          (08 Marks)
   b.  Describe WindowsBase and MILCORE.          (04 Marks)
   c.  Explain XAML Elements namespaces and XAML property syntax.          (04 Marks)

### Module-5

9  a.  Explain the Architecture of three – tier web based application.          (06 Marks)
   b.  Discuss sessions in ASP.NET.          (04 Marks)
   c.  Explain validation controls with suitable examples supported by ASP.NET.          (06 Marks)

**OR**

10  a.  Explain the need for AJAX Technologies in detail.          (06 Marks)
    b.  Discuss the AJAX Server Controls, ScriptManager control, update panel and update progress control in detail.          (10 Marks)

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