



# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

**Fifth Semester, Master of Computer Applications (MCA)**

**Semester End Examination; Jan. / Feb. - 2021**

**Programming using C# and .NET**

*Time: 3 hrs*

*Max. Marks: 100*

*Note: Answer FIVE full questions, selecting ONE full question from each unit.*

## UNIT - I

- |      |  |    |
|------|--|----|
| 1 a. | Explain benefits of .NET framework in detail.                                  | 10 |
|      | b. Define the components of .NET framework with help of architectural diagram. | 10 |
| 2 a. | Write a C# program to explain boxing and un-boxing.                            | 6  |
|      | b. List differences between value type and reference type.                     | 6  |
|      | c. Define namespace. Explain any six namespaces.                               | 8  |

## UNIT - II

- |      |  |   |
|------|--|---|
| 3 a. | Define Constructor. Explain constructor overloading with programming example.      | 7 |
|      | b. Describe the static class, static method and data with an example.              | 6 |
|      | c. Define indexer. Demonstrate the use of indexers in C# with programming example. | 7 |
| 4 a. | Explain Nested classes in C# with a code snippet.                                  | 6 |
|      | b. Briefly explain “ref” and “out” keywords with examples.                         | 6 |
|      | c. Illustrate the concept of params array with programming example.                | 8 |

## UNIT - III

- |      |  |    |
|------|--|----|
| 5 a. | Explain sealed classes and sealed method in brief.   | 5  |
|      | b. Illustrate abstract class and abstract method with an example.  | 5  |
|      | c. Describe the implementation of encapsulation by using methods and properties in a class with programming example. | 10 |
| 6 a. | Define delegate. Explain the use of delegate in C# with a programming example.                                       | 10 |
|      | b. Describe the “try”, “catch”, “finally” and “throw” keywords with a programming example.                           | 10 |

## UNIT - IV

- |      |  |    |
|------|--|----|
| 7 a. | Identify the steps involved in creating MDI form.  | 10 |
|      | b. Discuss the properties and events of ListBox control. Write a C# program to illustrate ListBox control. | 10 |
| 8 a. | Write a program to illustrate Labels, Text Boxes and Buttons controls and also write a form design.        | 10 |
|      | b. Discuss the Anchoring and Docking layout properties.  | 10 |

## UNIT - V

- |       |   |    |
|-------|---|----|
| 9 a.  | Design any web application with ASP.NET by using any four validation control. | 10 |
|       | b. Discuss the architecture of multitier application .                        | 10 |
| 10 a. | Explain the components of ADO.NET entity framework.                           | 6  |
|       | b. Discuss the components of datasets.  | 6  |
|       | c. Discuss DataAdapter for creating dataset with an example program.          | 8  |