Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov/Dec – 2017**

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| **Code :** | **14CS2054** | **Duration :** | **3hrs** |
| **Sub. Name :** | **C# AND .NET PROGRAMMING** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Design and develop a menu driven console application in C# for calculating the area and volume of various shapes. Elaborate on the following terms briefly and demonstrate its use in the program.   1. sealed 2. virtual & override 3. abstract 4. base 5. constructor | CO1 | 10 |
| b. | Elaborate on the various control statements in C# with proper syntax and example. | CO1 | 7 |
|  | c. | Predict the output of the following code snippet.  public static void Main()  {  int[] data = { 1, 2, 3 };  int i = 1;  data[i++] = data[i] + 10;  Console.WriteLine(String.Join(",", data));  } |  | 3 |
| (OR) | | | | |
| 2. | a. | Design and develop a menu driven console application in C# for performing various operations on 2-D coordinates. Demonstrate the following in the program.   1. Binary operator overloading (+, -) 2. Comparison operator overloading (==) 3. Explicit casting | CO1 | 10 |
|  | b. | Elaborate on the concepts of delegates in C# and give examples for the following.   1. Multicast delegates 2. Array of delegates | CO1 | 10 |
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| 3. | a. | Write a program in C# to demonstrate the creation and use of attributes and how the attribute details on class, methods, constructors can be retrieved during run time with the help of a suitable example. | CO1 | 12 |
|  | b. | Demonstrate the use of Linked List collection with an example. | CO1 | 8 |
| (OR) | | | | |
| 4. | a. | Write a program in C# to filter all email addresses from a given input string by using regular expressions. | CO2 | 5 |
|  | b. | Write a C# program for Banking Application by demonstrating the use of custom exception handling for the following situations:   1. If the minimum balance crossed during withdrawal operation throw an exception 2. If the password entry is invalid throw an exception 3. If the amount transfer exceeds the maximum limit throw an exception 4. If an account is created with Initial Balance < 500 throw an exception | CO2 | 15 |
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| 5. | a. | Elucidate the mechanisms that used to handle the synchronization issues in multithreading. | CO2 | 15 |
|  | b. | Demonstrate the methods used to control the threads in C#. | CO2 | 5 |
| (OR) | | | | |
| 6. | a. | Explain with example how unmanaged resources are released in C#. | CO2 | 10 |
|  | b. | Explain in detail about the structure, feature and types of assemblies in .NET. | CO3 | 10 |
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| 7. | a. | Write short note on any five windows form controls. | CO3 | 12 |
|  | b. | Explain about the master pages in ASP.NET. | CO3 | 8 |
| (OR) | | | | |
| 8. | a. | Write short note on the various validation web server controls. | CO3 | 15 |
|  | b. | Describe the methods used to execute the commands for data access. | CO3 | 5 |
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|  | | **Compulsory**: |  |  |
| 9. |  | Develop an ASP.NET web application for Student Information System to perform insertion, deletion and updation operations with ADO.NET. | CO3 | 20 |

ALL THE BEST