

USN

--	--	--	--	--	--	--	--	--	--

**CMRIT LIBRARY**  
BANGALORE - 560 037

13MCA53

**Fifth Semester MCA Degree Examination, June/July 2018**  
**Programming using C# and .NET**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions.**

- 1
  - a. Explain the architecture and components of .NET frame work. (10 Marks)
  - b. What are CTS types? Explain in brief. (06 Marks)
  - c. Explain the benefits of .NET framework. (04 Marks)
  
- 2
  - a. List and explain preprocessor directives that are supported in C#. Write a code snippet to illustrate conditional preprocessor directives. (10 Marks)
  - b. Bring out the differences between value types and reference types. Also explain boxing and unboxing in C#. (06 Marks)
  - c. Write the output of the following set of code and justify your answer:
 

```
class Program {
    public static void Main(stry[ ]args)
    {
        int i, j;
        for (i = 1; i ≤ 3 ; i++)
        {
            j = 1;
            while(i%j = = 2)
                j++;
            console.WriteLine(i + “ ” + j);
        }
    }
}
```

(04 Marks)
  
- 3
  - a. Write a program in C# to demonstrate array of objects, considering Employee class with suitable methods to read and display Employee details. (10 Marks)
  - b. Explain the following :
    - (i) Static constructor and methods (10 Marks)
    - (ii) Namespaces in C#.
  
- 4
  - a. Explain with example the method of implementing encapsulation with the general method and using class properties. (10 Marks)
  - b. Distinguish between the following :
    - (i) Compile time polymorphism and runtime polymorphism. (10 Marks)
    - (ii) Sealed class and abstract class.
  
- 5
  - a. Define a method that would sort an array of integers. Incorporate exception handling mechanism for “Index out of bounds” situation. Develop a main method that employs this method to sort a given set of integers. (10 Marks)
  - b. What are delegates? Define a delegate in C# and demonstrate multicasting of delegates. (06 Marks)
  - c. Write a short note on events in C#. (04 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

- 6 a. Design an event driven GUI and write a windows forms application to display the square of a number entered through a textbox. (06 Marks)
- b. List and explain the control class properties and methods. (10 Marks)
- c. Write a short note on the following controls:  
(i) Check Box  
(ii) Text Box (04 Marks)
- 7 a. Explain the architecture of ADO.Net with a neat diagram. (10 Marks)
- b. Explain the procedure of getting connected to a database and running insert, delete and select queries considering the database student containing the table tbl\_attendance (usn, name, percentage). (10 Marks)
- 8 a. What do you mean by validating input in a web form? Explain different validation controls in ASP.Net web forms. (10 Marks)
- b. Explain session tracking using cookies and Http session state. (10 Marks)

\* \* \* \* \*