

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

## Fourth Semester MCA Degree Examination, June/July 2023 Programming using C#

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. With neat diagram, explain the work flow that takes place between .NET Source code, .NET Compiler and the execution engine. (10 Marks)  
b. Discuss between managed code and unmanaged code. (06 Marks)  
c. Explain the role of Common Type System. (04 Marks)

### OR

- 2 a. What are namespaces? List and explain the purpose of any three namespaces. (10 Marks)  
b. Write short notes on:  
(i) JIT compiler  
(ii) Windows Communication Foundation (10 Marks)

### Module-2

- 3 a. Explain how to create an array of objects of the class with the help of a C# program. (10 Marks)  
b. Explain the concept of static methods and static data members with suitable examples. (10 Marks)

### OR

- 4 a. Write a C# program to explain accessor and mutator properties used in encapsulation. (10 Marks)  
b. Explain the following with example:  
(i) Abstract class and abstract methods  
(ii) Compile time and runtime polymorphism (10 Marks)

### Module-3

- 5 a. What are delegates? Explain the concept of multicast delegate with an example. (10 Marks)  
b. Write a C# program to calculate square of numbers using delegates. (10 Marks)

### OR

- 6 a. Write a C# program using try, catch, finally to explain any predefined exceptions. (10 Marks)  
b. Explain the properties and methods of Data Reader and Data Adapter Class. (10 Marks)

### Module-4

- 7 a. Explain various keyboard events in C# windows applications. (10 Marks)  
b. Discuss the architecture of WPF with a neat diagram. (10 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.

OR

- 8 a. Explain the following:  
(i) XAML definition and elements (10 Marks)  
(ii) WPF Core Types (10 Marks)  
b. What is GUI? List and explain basic controls of GUI. (10 Marks)

**Module-5**

- 9 a. Explain the architecture of a three tier web based application with a neat diagram. (10 Marks)  
b. Write steps in session tracking with http session state using cookies. (10 Marks)

OR

- 10 a. Explain the controls from AJAX control toolkit. (10 Marks)  
b. Explain different validation controls with suitable example supported by ASP.NET. (10 Marks)

\*\*\*\*\*