

# **KAMARAJ COLLEGE (Autonomous)**

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

**(6 Pages)**

**Reg. No: .....**

**Question Code No : 25001406**

**Sub Code : 24PMCA31**

**PG Degree - End Semester Examinations, November 2025**

**Third Semester**

**M.C.A**

**Dot NET Technologies**

**(For those who joined in July 2024 onwards)**

**Time: 3 Hours**

**Maximum : 75 Marks**

**PART – A (10 × 1 = 10 Marks)**

**Answer ALL Questions**

**Choose the correct answer :**

1. \_\_\_\_\_ variables that are defined within a block or constructor and scope of these variables exists only within the block and outside the constructor.  
(a) Instance variables      (b) Class variables  
(c) Local variables      (d) Static variables

2. How many types of scope variables are available in C#?  
(a) Four (b) Five  
(c) Two (d) Three
3. \_\_\_\_\_ is used to pass a copy of the original value of the function rather than a reference.  
(a) Pass-by reference (b) Pass-by value  
(c) Pass-by pointer (d) Pass-by null
4. The \_\_\_\_\_ operator is used to access the struct member and it is immutable.  
(a) (+) (b) (&)  
(c) (.) (d) (++)
5. What tool can be used for debugging ASP.NET applications in Visual Studio?  
(a) ASP.NET Debugger (b) Web Debugger  
(c) Server Debugger (d) Integrated Debugger
6. What is the primary purpose of ASP.NET Web API?  
(a) To create dynamic web pages  
(b) To build RESTful services  
(c) To manage databases  
(d) To handle client side scripting

7. What is the default return format of Web API when a request is made?
- (a) XML
  - (b) HTML
  - (c) JSON
  - (d) Plain text
8. Which component of .NET is responsible for garbage collection?
- (a) Framework class library
  - (b) Common language runtime
  - (c) Global assembly cache
  - (d) Intermediate language compiler
9. In code first development the data base is created from.
- (a) Existing database schema
  - (b) Entity class and configuration in code
  - (c) XML mapping file
  - (d) Stored procedures
10. What is the main advantage of using LINQ in .NET?
- (a) Improves runtime performance
  - (b) Type safe querying
  - (c) Eliminates the need for SQL
  - (d) Replaces all SQL databases

**PART - B (5 X 5 = 25 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 250 words.**

11. (a) Distinguish the characteristics of console application and windows desktop application in C#.NET.

**(OR)**

- (b) List the types of looping statements and their characteristics in C#.NET.

12. (a) Construct a C#.NET program to enter a string and count the number of capital letters, small letters, digits, spaces and special characters.

**(OR)**

- (b) Organize the steps involved in the Debugging process using Visual Studio.

13. (a) Examine the characteristics of Structures and categorize the different ways to initialize a structure

**(OR)**

- (b) Compare and contrast the features of shallow copying and deep copying in C#.NET.

14. (a) Examine the types of actions performed by HTTP verbs to implement RESTful services using ASP.NET

**(OR)**

(b) Make use of the .NET Core and develop the steps to build and package a standard .NET library.

15. (a) Analyze the LINQ provider component in .NET framework and bring out its key functionalities in various data sources.

**(OR)**

(b) List the control modes which control the structure of the XML generated while using FOR XML clause.

**PART - C (5 X 8 = 40 Marks)**

**Answer ALL Questions choosing either (a) or (b).**

**Answer should not exceed 600 words.**

16. (a) Build a console application using C#.NET using foreach loop to check whether a given character is present in the given string.

**(OR)**

(b) Inspect the key components of the .NET framework and bring out the applications of each component.

17. (a) Explain the object oriented techniques used in .NET framework technologies.

**(OR)**

- (b) Develop a C# console application that uses a user defined function to implement a bubble sort
18. (a) Elaborate on the Object Oriented tools available in Visual Studio .NET Core.

**(OR)**

- (b) List the steps involved in creating and deploying an ASP.NET Web API on Microsoft Azure.
19. (a) Construct an ASP.NET Web service to perform CRUD operations on an employee details table.

**(OR)**

- (b) Distinguish the using of a FileStream and a StreamReader for reading text from a file.
20. (a) Interpret the features of LINQ to XML interface in .NET framework.

**(OR)**

- (b) Elaborate characteristic features of Windows Store.