

S.No. : 309

BCA 4403

No. of Printed Pages : 05

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 41117

Roll
No.

1 2 2 0 2 5 8 0 8 2

BCA Examination 2023-24

(Even Semester)

BASICS OF .NET FRAMEWORK & C#

Time : Three Hours]

[Maximum Marks : 60

Note :- Attempt all questions.

SECTION - A

1. Attempt all parts of the following : $8 \times 1 = 8$
- (a) What is the primary role of CLR in the .NET framework?
 - (b) Define CTS and CLS in .NET.
 - (c) What is MSIL and how does it relate to metadata?
 - (d) Explain the concept of managed and unmanaged code in .NET.

[P. T. O.

- (e) Briefly discuss the purpose of Just-In-Time Compilation (JIT) in .NET.
- (f) What is Garbage collection and why is it important in .NET?
- (g) Name two base classes provided by MS.NET.
- (h) Define the term "type conversion" in C#.

SECTION – B

2. Attempt any two parts of the following : $2 \times 6 = 12$

- (a) Discuss the difference between value types and reference types in C#. Provide examples for each.
- (b) Explain the concept of inheritance in object-oriented programming using C# as an example. Provide a code snippet illustrating inheritance.
- (c) Describe the purpose of Global Assembly Cache (GAC) in .NET and its significance in assembly management.
- (d) Discuss the role of ADO.NET in .NET development. Differentiate between dataset and data reader in ADO.NET.

SECTION – C

Note :- Attempt all questions. Attempt any two parts from each questions. $8 \times 5 = 40$

3. (a) Discuss the evolution of .NET technology, highlighting its origin and major milestones.
- (b) Explain the architecture of the .NET framework, emphasizing the roles of Common Language Runtime (CLR), Framework Class Library (FCL) and Common Type System (CTS).
- (c) Compare and contrast managed and unmanaged code in the context of .NET, discussing their characteristics and advantages.
4. (a) Analyse the significance of Microsoft Intermediate Language (MSIL) and metadata in the execution of .NET applications, illustrating their roles with examples.
- (b) Evaluate the importance of Just-In-Time Compilation (JIT) in the .NET framework, discussing its benefits and impact on application performance.

[P. T. O.]