BCA–C603

B. C. A. (Sixth Semester) EXAMINATION, 2023-24

.NET FRAMEWORK AND TECHNOLOGIES

Time : 2½ Hours

Maximum Marks : 60

Note : Attempt all questions.

Section—A

1. Multiple choice questions :   1 each

    (a) What is the role of common Language Runtime (CLR) in C# ?   (CO1, BL1)

        (i)   Code compilation

        (ii) Memory management and garbage

        (iii) Exception Handling

        (iv) All of the above

    (b) Which of the following is an example of C# value type ?   (CO1, BL2)

        (i)   String

        (ii) Array

        (iii) Structure

        (iv) Interface

(c) What is the purpose of the Common Type System (CTS) in .Net ?   (CO1, BL1)

   (i)   To define a common set of data types

   (ii) To manage memory in the runtime environment

   (iii) To provide a common interface for file I/O operations

   (iv) To handle exceptions in a consistent manner

(d) What does JIT Compilation stand for in C# ?

                                                (CO1, BL2)

   (i)   Just-Implemented Technology

   (ii) Just-In-Time-Compilation

   (iii) Java-Integrated-Tools

   (iv) Justified-Incremental-Transfer

(e) Which of the following is an example of an exception handling keyword in C# ? (CO2, BL2)

   (i)   try

   (ii) catch

   (iii) throw

   (iv) All of the above

(f) What is the purpose of delegates in C# ?

(CO2, BL2)

   (i)   To represent a method with a specific signature

   (ii) To handle exceptions in a program

   (iii) To define custom data types

   (iv) To mange namespaces in .Net

(g) Which name space is used for input-output operations in C# ?   (CO2, BL2)

   (i)   System.Threading

   (ii) System.Net

   (iii) System.IO

   (iv) System.Collections

(h) What is the role of ADO.Net in C# ? (CO3, BL1)

   (i)   Networking and Sockets

   (ii) Web Services

   (iii) Data Connectivity

   (iv) User Interface design

(i) What is the purpose of Asp.Net in C# ?

(CO4, BL1)

   (i)   Data Binding

   (ii) Web Development

   (iii) Event Handling

   (iv) Exception Handling

(j)   What does CLR stand for in C# ?   (CO1, BL1)

    (i)   Common Language Runtime

    (ii)   Centralized Language Repository

    (iii) Compiled Language Runtime

    (iv)   Controlled Language Recognition

(k)   What is the primary use of namespaces in C# ?

                                                  (CO2, BL2)

    (i)   Memory Management
    (ii)   Code Organization and Encapsulation
    (iii) Exception Handling
    (iv)   User Interface Design

(l)   Which of the following is an advanced feature in C# for creating distributed applications ?

                                                  (CO5, BLl)

    (i)   Web Services
    (ii)   Structures
    (iii) Delegates
    (iv)   Events

2.   Attempt any *four* of the following. (Short answer type questions)   3 each

(a)   Explain the role of Common Language Runtime (CLR) in C#.   (CO1, BL2)

(b)   Differentiate between value types and reference types in C# ?   (CO1, BL3)

(c)   What are the key components of object-oriented programming in C# ?   (CO2, BL1)

(d) Discuss the features and structure of .Net Assemblies. (CO3, BL3)

(e) How does exception handling work in C# ?

(CO2, BL3)

Section–B

3. Attempt any two of the following : 6 each

(a) Describe the fundamental concepts of C# language, including its origin and the types of applications its supports. (CO1, BL3)

(b) Explain the principles of object-oriented programming in C# with a focus on encapsulation, inheritance and polymorphism.

(CO1, BL2)

(c) Discuss the advanced class construction features in C#, including custom indexers, operator overloading, and events. (CO2, BL3)

4. Attempt any *two* of the following 6 each

(a) Explore the C# libraries, covering namespaces such as system, input-output operations, multithreading and networking. (CO3, BL2)

(b) Provide an in-depth overview of ASP.Net in C#, discussing its architecture, web forms, standard controls and data connectivity. (CO4, BL2)

(c) Discuss the advanced features of C# by exploring Web Services, Window Services and the development of distributed application.

(CO5, BL3)

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5. Attempt any *two* of the following :   6 each

    (a) What is Multi threading ? Explain it by giving its example.   (CO3, BL2)

    (b) What is Integrated Development Environment (IDE) ? Explain its all components.   (CO3, BL3)

    (c) Explain all types of validation controls used in ASP.Net, with examples.   (CO4, BL2)