

M4.1-R4: APPLICATION OF .NET TECHNOLOGY

NOTE:

1. There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.
2. **PART ONE** is to be answered in the **OMR ANSWER SHEET** only, supplied with the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book.
3. Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates, who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE**.

TOTAL TIME: 3 HOURS

TOTAL MARKS: 100
(PART ONE – 40; PART TWO – 60)

PART ONE **(Answer all the questions)**

1. **Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)**
 - 1.1 The purpose of the Common Language Infrastructure (CLI) is to provide a language-neutral platform for the following:
 - A) Application development environment only
 - B) Both application development and execution environment only
 - C) Abstraction, Object of a class, Inheritance, Polymorphism
 - D) Application development and execution environment, including functions for exception handling, garbage collection, security, and interoperability.
 - 1.2 BOXING in .Net allows user to convert
 - A) An integer type to double
 - B) A reference type to a value type
 - C) A value type to a reference type
 - D) A double type to integer
 - 1.3 What is accessibility modifier “Protected Internal”?
 - A) It is available to classes that are within the same assembly and derived from the specified base class.
 - B) It is available within the class definition
 - C) It is the most permissive access level
 - D) It is the least permissive access level
 - 1.4 In C#, Is there any error in the following statement?
EmployeeMgmt constructor: `Public int employeeMgmt { emp_id = 100; }`
 - A) Return type
 - B) No errors
 - C) Formal parameters
 - D) Name

- 1.5 In C#, Features of read only variable?
- A) It is allocated at compile time
 - B) Declaration and initialization is separated
 - C) It is allocated at runtime
 - D) All of above
- 1.6 How many web.config files can be there an ASP.NET Application?
- A) only one
 - B) only two
 - C) upto 10
 - D) more than one
- 1.7 In C#, which object represent a drawing surface and provides methods for rendering to that drawing surface?
- A) Graphic object
 - B) Pen object
 - C) Brush object
 - D) Color object
- 1.8 Which of the following is not a method of accessing the web?
- A) ISDN
 - B) DSL
 - C) Modem
 - D) CPU
- 1.9 To deny a particular user form accessing the secured resources, the web.config file must contain the following code:
- i) <authorization >
 - ii) <deny users="username" />
 - iii) </authorization>
- (A) Only i) is correct
 - (B) Both i) and iii) are correct
 - (C) Both ii) and iii) are correct
 - (D) All i), ii) and iii) are correct
- 1.10 What will be the output of the following C# code?
- ```
using System;
public class BaseClass
{
public BaseClass()
{
Console.WriteLine("a base class");
}
}
public class ChildClass : BaseClass
{
public ChildClass()
{
Console.WriteLine("a child class");
}
static void Main()
{
```

```
 ChildClass CC = new ChildClass();
 }
}
```

- A) "a base class" only
- B) "a child class" only
- C) "a base class" and "a child class" both
- D) None of the above

**2. Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "OMR" answer sheet supplied with the question paper, following instructions therein. (1x10)**

- 2.1 In C#, if a class has a single abstract member in abstract methods, the class has to be marked abstract.
- 2.2 Arrays are passed by value and not passed by reference in C#.
- 2.3 Operator "||" is a Logical Operator in C#.
- 2.4 "eq" is a binary operator for filter expressions in ADO.NET environment.
- 2.5 In ASP.NET, the state of a page is maintained in the page itself automatically.
- 2.6 In ADO.NET, when the user closes the program, there is no need to worry about closing database connections because database connections remain closed until needed.
- 2.7 Garbage Collection (GC) in .NET is invoked by the .Net runtime at regular intervals using System.GC.Collect ( ) method and removes the dirty objects from the memory.
- 2.8 In ASP.Net fragment caching refers to the caching of individual user controls within a web form.
- 2.9 In C#, the conditional, iteration, jump, and exception handling statements to control a program's flow of execution.
- 2.10 Nature of constants in C#, you can assign a value to a constant after it is declared and can be changed during the execution of the program at run time

3. Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)

| X    |                                                      | Y  |                   |
|------|------------------------------------------------------|----|-------------------|
| 3.1  | Default access modifier for a method                 | A. | .NET runtime      |
| 3.2  | Operator for bitwise “not a” in C#                   | B. | Private           |
| 3.3  | Managed code runs inside the environment of CLR      | C. | ~ a               |
| 3.4  | “System.Web.UI” is a base class                      | D. | &a                |
| 3.5  | Multiple Pages are possible in a single ASP.Net page | E. | Boxing            |
| 3.6  | XML Schema definition Tool                           | F. | System.object     |
| 3.7  | Web server                                           | G. | “ csc.exe”        |
| 3.8  | The root class in .NET                               | H. | IIS               |
| 3.9  | The role of the DataReader class in ADO.NET          | I. | FrameSet          |
| 3.10 | References the address of the pointer in C#          | J. | ASP.NET           |
|      |                                                      | K. | read-only dataset |
|      |                                                      | L. | !a                |
|      |                                                      | M. | “ xsd.exe”        |

4. Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the “OMR” answer sheet supplied with the question paper, following instructions therein. (1x10)

|    |                   |    |               |    |                |
|----|-------------------|----|---------------|----|----------------|
| A. | Changeable        | B. | colon         | C. | .NET Framework |
| D. | Cookies.Discard() | E. | SqlClient     | F. | IIS            |
| G. | DataAdapter       | H. | SqlConnection | I. | SqlDataAdapter |
| J. | 32 bits           | K. | 16 bits       | L. | website        |
| M. | &&                |    |               |    |                |

- 4.1 In ADO.NET, the \_\_\_\_\_ will open and close database connections as needed.
- 4.2 In C#, string objects are not \_\_\_\_\_.
- 4.3 Use \_\_\_\_\_ to kill the cookies in a page.
- 4.4 We can't have unlimited number of cookies per \_\_\_\_\_.
- 4.5 In C#, \_\_\_\_\_ is used to handle multiple actions in the forms.
- 4.5 In classic ASP all Web site related information was stored in the metadata of \_\_\_\_\_.
- 4.6 The Common Language Runtime (CLR) is the execution engine for \_\_\_\_\_ applications.
- 4.7 In C# and .NET, the default size of Integer data type is \_\_\_\_\_.
- 4.9 Use a \_\_\_\_\_ object to connect to a Microsoft SQL Server Database.
- 4.10 Microsoft SQL database connections use the \_\_\_\_\_ object to perform commands and return data.

**PART TWO**  
(Answer any **FOUR** Questions)

- 5.**
- a) How to produce an assembly?
  - b) What is IL and C#?
  - c) How to access a database through ADO.NET?
- (4+4+7)**
- 6.**
- a) What are the advantages of the code-behind feature of ASP.NET?
  - b) What is the objective of Server Object in ASP.NET?
  - c) Write a C# program for arithmetic operation in which accept two argument as parameter from the user and returns four output value as add, subtract, multiplication and division.
- (4+4+7)**
- 7.**
- a) Describe the purpose of "Response.Write()", "Response.Output.Write()", and "Page.Validate()" methods used in ASP.NET?
  - b) What is cross-page posting in ASP.NET?
  - c) What are advantages and disadvantages of Microsoft-provided data provider classes in ADO.NET?
- (6+5+4)**
- 8.**
- a) Write a program in VB.NET on "how to check a number is prime or not?"
  - b) What is the objective of .NET architecture?
  - c) How cross-platform is achieved in .NET Architecture and Technology?
- (5+5+5)**
- 9.**
- a) Explain ADO.NET Architecture.
  - b) Answer **any two** of the following:
    - i) Explain Advantages of ADO.Net over ADO
    - ii) Explain Connected and Disconnected Data Access Architecture
    - iii) Explain ADO.NET ConnectionString
- (7+[4+4])**