



PIONEER INTERNATIONAL UNIVERSITY

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UNIVERSITY EXAMINATIONS

ACADEMIC YEAR: 2015/2016

SEMESTER:

CODE: BSIT 4220

UNIT: BUSINESS COMPUTING WITH NET FRAMEWORK

DATE: 10-08-2016

TIME: 2¹/₂ HOURS

INSTRUCTIONS: Answer question one and any other two

QUESTION ONE (30 MARKS)

- a. Define the following terms as used in the .NET Framework (6 Marks)
- i Identifiers
 - ii Variables
 - iii Constant
- b. From a general point of view, discuss the essence of programming. Give a relevant example (6 Marks)
- c. Using relevant examples, briefly explain three applications that .NET Framework can help you develop (6 Marks)
- d. Explain how you would declare and initialize variables in .NET Framework. Give examples (8 Marks)
- e. Discuss the following terms in relation to object oriented programming (4 marks)
- i Inheritance
allows a class to inherit properties and methods from another class, promoting code reuse.
 - ii Polymorphism
enables objects of different classes to be treated as instances of a parent class, allowing for flexibility in how methods are executed depending on the object's class.

QUESTION TWO (20 MARKS)

a. Discuss any four data types supported by .NET Framework (8 Marks)

- **int**: Stores whole numbers (e.g., 25, 1000).
- **double**: Stores decimal numbers with high precision (e.g., 36.6, 5000.75).
- **bool**: Stores logical values (**true** or **false**).
- **string**: Stores sequences of characters or text (e.g., "Hello World", "John Doe").

b. Given the following problem, discuss how you would gather user requirements and design a solution based on the requirements gathered (8 Marks)

A client requires a system for shortlisting candidates for different positions based on a number of criteria.

c. Explain how exceptions are handled in vb.net (4 Marks)

QUESTION THREE (20 MARKS)

a. Decision making is an important concept in any programming language. Using relevant examples, discuss how the .NET Framework implements the IF and CASE statements (10 Marks)

Dim score As Integer = 85

Select Case score

Case 90 To 100

Console.WriteLine("Grade A")

Case 80 To 89

Console.WriteLine("Grade B")

Case 70 To 79

Console.WriteLine("Grade C")

Case Else

```
Console.WriteLine("Grade D")
```

End Select

- b. Giving code snippets, discuss five comparison operators supported by vb.net programming language (10 Marks)

1. Equal To (=)

The = operator checks if two values or expressions are equal. It returns True if the values are equal, otherwise False.

```
Dim a As Integer = 5
```

```
Dim b As Integer = 5
```

```
If a = b Then
```

```
    Console.WriteLine("a is equal to b")
```

```
Else
```

```
    Console.WriteLine("a is not equal to b")
```

```
End If
```

2. Not Equal To (<>)

The <> operator checks if two values or expressions are **not** equal. It returns True if the values are not equal, otherwise False.

```
Dim x As Integer = 10
```

```
Dim y As Integer = 20
```

```
If x <> y Then
```

```
    Console.WriteLine("x is not equal to y")
```

```
Else
```

```
    Console.WriteLine("x is equal to y")
```

End If

3. Greater Than (>)

The > operator checks if the left-hand operand is greater than the right-hand operand. It returns True if the left-hand operand is greater.

Dim number1 As Integer = 15

Dim number2 As Integer = 10

If number1 > number2 Then

Console.WriteLine("number1 is greater than number2")

Else

Console.WriteLine("number1 is not greater than number2")

End If

Less Than (<)

The < operator checks if the left-hand operand is less than the right-hand operand. It returns True if the left-hand operand is smaller.

Dim height1 As Double = 5.4

Dim height2 As Double = 6.0

If height1 < height2 Then

Console.WriteLine("height1 is less than height2")

Else

Console.WriteLine("height1 is not less than height2")

End If

5. Greater Than or Equal To (>=)

The >= operator checks if the left-hand operand is greater than or equal to the right-hand operand. It returns True if the left-hand operand is either greater or equal to the right-hand operand.

Dim salary1 As Decimal = 5000

Dim salary2 As Decimal = 5000

If salary1 >= salary2 Then

Console.WriteLine("salary1 is greater than or equal to salary2")

Else

Console.WriteLine("salary1 is less than salary2")

End If

QUESTION FOUR (20 MARKS)

- a. Briefly discuss four best practices related to code documentation (8 Marks)

- b. Write a program in .NET Framework that divides two integers and gives the result as a whole number. Include comments showing what each line of code does (8 Marks)

- c. IDEs have become popular in software development. Discuss the nature of IDEs (4 Marks)
 1. **Unified Development Environment**
 2. **Enhanced Productivity through Features**
 3. **Support for Multiple Languages and Platforms**
 4. **Built-in Debugging and Testing Tools**
 5. **Version Control Integration**