



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS**  
**SEPTEMBER/OCTOBER 2015 EXAMINATION**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**COURSE CODE:** CIT 351

**COURSE TITLE:** C# Programming

**TIME ALLOWED:** 2 Hours

**INSTRUCTION:** Answer any four (4) questions.

```
using System;

public class Fib{
    Decimal current;
    Decimal last;
    public Fib(){
        current = 1;
        last = 0;
    }

    private Fib(Decimal last, Decimal secondToLast){
        current = last+secondToLast;
        this.last = last;
    }

    public Fib GetNext(){
        return new Fib(current, last);
    }

    public Decimal Value{
        get{return current;}
    }
}
```

1. Study the source code provided below and answer the questions that follow:

- 1a. Identify and name the object within the source code. (2 marks)  
1b. Write down the command line for compiling this object. (8 $\frac{1}{2}$  marks)  
1c. Name any 2 operators in this source code. (2+2 = 4 marks)

1d. C# compiler automatically set the following path on installation:

**C:\WINDOWS\Microsoft.NET\Framework\v1.0.2914**

State the actual version the .NET Framework installed. (3 marks)

**[Total = 17 $\frac{1}{2}$  marks]**

- 2a. Describe how memory leaks are handled in C# programming? (5 $\frac{1}{2}$  marks)  
2b. Give a brief description of any 2 template types accessible in Visual C# projects. (12 marks)

**[Total = 17 $\frac{1}{2}$  marks]**

3a. What is the main significance of VisualStudio.NET with respect to having an Integrated Development Environment? (2 $\frac{1}{2}$  marks)

3b. List 3 regular programming tasks carried out in VisualStudio.NET. (15 marks)

**[Total = 17 $\frac{1}{2}$  marks]**

4a. Write a simple code to compile a file named **Solution.cs** on the hard drive of a computer. (2 marks)

4b. Write a simple code to compile a file named **Solution.cs** on the hard drive of a computer. (7 $\frac{1}{2}$  marks)

- 4c. i. State 2 applications of boxing (2 X 2 = 4 marks)  
ii. State 2 applications of unboxing (2 X 2 = 4 marks)

**[Total = 17 $\frac{1}{2}$  marks]**

5a. What is the main role of an Integrated Development Environment? (4 marks)

5b. Give the guiding principle for accomplishing the following:

- i. Grouping statements into one unit (4 marks)  
ii. Designating an end statement (4 marks)  
iii. Enhancing a source code legibility (5 $\frac{1}{2}$  marks)

**[Total = 17 $\frac{1}{2}$  marks]**

6a. Write down the appropriate comment for the following:

- i. XML documentation ) 3 marks each; 3x2=6  
ii. Multiple line

6b. State 2 common forms of the **command line utility**. (11 $\frac{1}{2}$  marks)

**[Total = 17 $\frac{1}{2}$  marks]**