NATIONAL OPEN UNIVERSITY OF NIGERIA
SCHOOL OF SCIENCE & TECHNOLOGY

Course Code: CIT 351 **Time:** 3hrs
Course Title: C# Programming **Course Credit**
Unit: 2
Instruction: Answer any **four (4)** questions.

QUESTIONS

1. Go through the FibObj.cs source code below carefully, before answering the questions that follow:

```csharp
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;}
  }
}
```

1a. What does the source code describe and how is it used?
    (5 marks)

1b. Outline the steps involved in building a code library using the source code above.
       (20 marks)

2a. Describe how memory leaks are handled in C# programming?
                                                        (7 marks)
2b. State the guiding principle for accomplishing the following:
  i.   Grouping statements into one unit   (6 marks)
  ii. Designating an end statement   (6 marks)
  iii. Enhancing a source code legibility   (6 marks)

3a. What is the main significance of VisualStudio.NET with respect to having an
   Integrated Development Environment?
      (5 marks)

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

3c. State the key role of the Solution Explorer in C# programming.
      (5 marks)

4a. Assuming an existing application is saved as Technology.cs, outline the steps
   required to generate and run this application.
      (16 marks)

4b. Specify the categories of Static Properties commonly employed in C# programming.
                                                      (9 marks)

5. Study the source code in the window below carefully and answer the questions that
   follow:

```
using System.Windows.Forms;
using System.Drawing;

class MyForm:Form{
  public static void Main(){
     Application.Run(new MyForm());
  }

  protected override void OnPaint(PaintEventArgs e){
     e.Graphics.DrawString("Hello World!", new Font("Arial", 35),
        Brushes.Blue, 10, 100);
  }
}
```

5a. Identify and state the sort of application for which this window is displayed.

          (4 marks)

5b. Give a simple description of this application.

(6 marks)

5c. What is the main purpose of defining the 'MyForm' class?
      (6 marks)

5d. Write down the specific methods which the MyForm class defines.
(9 marks)

6. Give a brief description of any five (5) template types accessible in Visual C# projects.
(25 marks)