



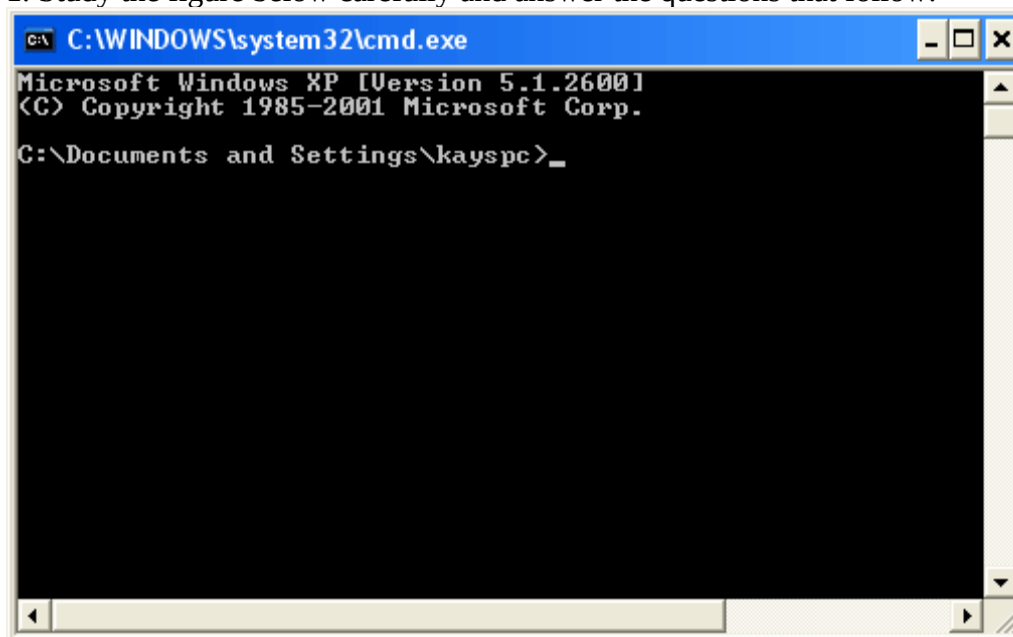
**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS**  
**MARCH/APRIL 2016 EXAMINATION**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**COURSE CODE:** CIT 834  
**COURSE TITLE:** Object-oriented Programming Using C#

**TIME ALLOWED:** 3 Hours  
**INSTRUCTION:** Answer any five (5) questions.

1. Study the figure below carefully and answer the questions that follow:



- 1a. Give two (2) main reasons why this application is considered suitable for learning object-oriented programming using C# and utility programs? (4 marks)
- 1b. State the procedure involved in creating a new Console Application project. (10 marks)

**[Total = 14 marks]**

2a. Write down any five (5) unique features of Static constructors (10 marks)

2b. Give a brief description of method overloading (4 marks)

**[Total = 14 marks]**

3a. Enumerate the steps required to build a novel class to represent a triangle. The class should be created in such a way that it will define the triangle's height, base-length and area. (8 marks)

3b. State the syntax for declaring a unary operator (2 marks)

3c. Write down the output when the following method is executed:

```
static void Main(string[] args)
{
    double squareMe = 5;
    int squareMeToo = 5;
    Console.WriteLine(Calculate.Square(squareMe));
    Console.WriteLine(Calculate.Square(squareMeToo));
}
```

(4 marks)

**[Total = 14 marks]**

4a. Specify any four (4) characteristics of object-oriented programming. (8 marks)

4b. State the criterion for using the static property. (2 marks)

4c. Write down the code to be added to a MassCalculator in order to retrieve a saved call count from a file or storage. (4 marks)

**[Total = 14 marks]**

5a. Based on your knowledge in object-oriented programming using C#, what solution would you offer a programmer, in the event that a web service from Microsoft .NET client sample does not connect through a proxy server? (2 marks)

5b. Outline the basic steps required to build a sample in C#. (10 marks)

5c. Why are **methods** said to be valuable in object-oriented programming using C#?

(2 marks)

**[Total = 14 marks]**

6a. What determines the type of setup Instruction used for C# Development?  
(4 marks)

6b. Write down the code for adding a destructor to a Triangle class. (4 marks)

6c. Give a brief description of the following terms:

- i. Finalizer
- ii. Keyword ) 2 marks each; 2x3 = 6 marks
- iii. Namespace

**[Total = 14 marks]**

7a. State the syntax for defining the **get** and **set** accessors of a property. (6 marks)

7b. Within the context of get and set accessors of a property, write down the specific role of the following:

- i. index-type
- ii. index-name ) 2 marks each; 2 x 3 = 6 marks
- iii. data-type

7c. Name the simplest version of an indexer. (2 marks)

**[Total = 14 marks]**