BABCOCK UNIVERSITY ILISHAN REMO, OGUN STATE
2014/2015 2ND SEMESTER FINAL EXAMINATION
COSC102 – INTRODUCTION TO PROGRAMMING IN C++

INSTRUCTIONS

I. ANSWER ALL QUESTIONS IN SECTION A & B
II. DO NOT WRITE OR SCRIBBLE ON YOUR QUESTION PAPER
III. WRITE ONLY YOUR NAME, MATRIC NO AND COURSE OF STUDY ON YOUR QUESTION PAPER

LECTURERS: AKANDE O., OMOTUNDE A., SETON O., OGU E.
TIME: 2HRS

NAME:_____ **MATRIC**_____ **COURSE OF STUDY**_____

SECTION A (20 MARKS)

1. List the 3 types of programming errors in computing_____
2. An example of preprocessor library inclusion is_____
3. What are keywords in programming?
   _____
   _____
4. What is the syntax for variable declaration in C++_____
5. Give an example of a literal constant_____
6. The functions cin and cout are included in the _____ library while functions scanf and printf are included in the _____ library
7. Every C++ program begins execution at the_____function
8. A(n)_____begins the body of every function and a(n)_____ends the body
9. The escape sequence \n represents the _____character, which causes the cursor to change position to the beginning of the next line on the screen
10. The _____ structure is used to make decisions in programming
11. An expression is a basic building block of a program, it is the smallest unit that does something (True/False)_____
12. _____ to _____ is the signed range of values for an integer data type
13. _____, _____ and _____ are basic types of programming errors
14. The following are 3 types of constants: literal constant, defined constant and declared constant. What is the syntax for:
    i. Literal constant_____
    ii. Defined constant_____

TYPE B: SECTION B (10 MARKS)

Debug the following code:

```
//calendar for March, 2015
#include<iostream>
using namespace std;
main(){
      floati;
      cout<<" \t \tMARCH 2015 \n";
      cout<<"S\t M\t T\t W\t T\t F\t S\n";
      cout<<" \t  \t  \t  \t  \t  \t 1\n";
      for(inti=2: i<9:i++){
            cout<<i<<"\t";
      }
      cout<<"\n";
      for(i=9; i<16; i++){
            cout<<j<<"\t";
      }
      cout<<"\n";
      for(i=16; i<23; k--){
            cout<<k<<"\t";
      }
      cout<<"\n";
      for(i=23; i<30; l++){
            cout<<l<<"\t";
      }
      cout<<" \t   \t   \t   \t   \t  30\t 31\n";
}
}
```

SECTION C: ANSWER QUESTION 1 AND ONE OTHER QUESTION (20 MARKS)

1. In a semester, a student registers for four course. Two 3 units, one 2 units and one 1 unit. You are required to develop a program that asks for student's score for the four courses and computes the GPA for that semester.

N.B. Use the **constant keyword** for representing the grade point.

Score	Grade	Point
80 – 100	A	5
70 – 79	B	4
50 – 59	C	3
45 – 49	D	2
40 – 44	E	1
< 39	F	0

Grade point = credit hour * point for each course

Grade point Average = Total Grade Point / Total number of Credit Hour (10 MARKS)

2. Some Automated Teller Machines have just been acquired in Ebinpejo Microfinance bank where you have just been appointed as the Head of Software Development. You have been charged with the responsibility of writing a C++ program that will power these machines. The following are expected of the machines:
    a. Verify customers with PIN code 1965 only
    b. After verification, display a menu that users can choose from. These menu include:
        i. Checking of balance
        ii. Withdrawal
        iii. Quick teller for purchase of recharge cards of any network and amount (10 MARKS)

3. Write a program that asks the user to enter two numbers, obtains the two numbers from the user and prints the sum, product, difference, and quotient of the two numbers. (10 MARKS)

4. Using only iterative statements, write a C++ program to give the following result as output (10 MARKS)

x	x^2	x^3	x^4
0	0	0	0
1	1	1	1
2	4	8	16
3	9	27	81
4	16	64	256
5	25	125	625
6	36	216	1296
7	49	363	2401
8	64	512	4096
9	81	729	6561
10	100	1000	10000