COURSE: Introduction to Programming in C++ (COSC102)	**SESSION:** 2017/2018
SEMESTER: 2ND	**TIME:** 90 MINUTES
LECTURERS: Adekola D., Omotunde A. (PhD), Akande O.	
DATE: April 11, 2018 **Time:** 2 – 4 pm **Venue:** WRA, B007	**GROUP:** CIS/CS/CT

SECTION A (Attempt all)

1) One notable addition that advanced C++ from C language is: A. Data Abstraction B. Object Orientation C. Standard libraries D. structured concept	11. What does it mean for C++ to be strongly typed?
2. Consider the following code sequence, state the value of y in the output: int x = 5, y = 6; cout <<y++ ; A. 7 B. 6 C. 11 D. 5	12. Write a conditional statement to test if a particular integer input value falls within the range 40 - 49.
3. i=3; if(i==2); cout<<Goodluck; what is the output?	13. What is the scope of a local variable :......................
4. Write out the C++ statement to reference score of the third students in an array.	14. What is a Token?
5. Evaluate the following: y = 2 * 5 * 5 + 3 * 5 + 7; A. 72 B. 272 C. 1040 D. 50	15. C++ was written by ....
6. The syntax: **#define** **<identifier>** **<value>** is the for what type of constant A. Declared Constant B. Defined Constant C. Defined Constant D. None of these	16. Default header file for C++ is _____. A. stdio B. conio C. iostream D. stdlib
7. A modifier is used to alter the meaning of the base data type so that it more precisely fits the needs of various situations. The syntax is as follows: _____.	17. Given the algebraic equation $y = ax3 + 7$, which of the following, if any, is correct C++ statement for this equation? A. y = a * x * x * x + 7; B. y = a * (x * x * x) + 7; C. y = a * x * (x * x + 7); D. y = (a * x) * x * x + 7;
8. A _____ is a named memory location which can be given to a value, or an expression.	18. An identifier refers to a variable name A. True B. False
9. Find the odd one: A. Static B. Int C. Char D. float	19._____ is a formal description of data a value is.
10. Human readable form of code is known as_____. A. Source Code B. Machine Code C. Native Code D. None of these	20. _____ is used to open a function body and _____ is used to close it.

SECTION B (Attempt any 2 questions) (10 marks each)

1. a. Using switch-case write a C++ program to develop an application that simulates an ATM machine interface. The simulation should include the followings ATM operations:

   i. Withdrawal ii. Enquiry iii Transfer iv. Airtime Recharge

   b. Write a program having two functions such that one of the functions is the **main** where the other is the addition. Your **main** is to receive input values of three integers from the user and send to function addition. Function addition is to find the summation of the integers.

2. A magic word square is a square where a word can be formed from reading each row and each column. For example, the following is a 4 by 4 magic word square:

'P'	'R'	'E'	'Y'
'L'	'A'	'V'	'A'
'O'	'V'	'E'	'R'
'T'	'E'	'N'	'D'

(a) Declare and initialize a two dimensional character array named **magicS** to hold the each character illustrated above.

(b) Write a nested for...loop to display the elements in the array.

3.

   a. You are to develop a generic program that all subject teachers in Senior Secondary School of Babcock High School can use. The problem is that the teachers do not know the number of students offering their subjects in advance. Therefore, you are to use while..loop with sentinel value to take in the scores of the students.

   b. Develop an application that computes both the force applied to an object and area of a square. **Hint:** Force=m X g (where m=mass of an object, g=acceleration due to gravity), Area of square=length X length. **Hint:** g is a constant and use define macro function for computing square

4. Nigerian Government has contacted you to develop a real time voting system for the coming 2019 presidential election. The presidential candidates are:

   (i) Ademola Tayo (ii) Makinde Kayode (iii) Olajire Adegoke (iv) Olufemi Bamiro

   With the use of **switch case**, develop a C++ application that
   a. Allow a voter to vote for candidate of choice
   b. Produce vote count for each candidate
   c. Will continue to run until there is no more voter.

SECTION C: Alternative to Practical (Attempt all)

1. Consider the following code extract and correct the errors

```
int sum(int x; int y);
{
    int result;
    return = x+y;
}
```

2. Write out the output of the following code: ::cout<<"*\n**\n***\n****\n\\");
3. What will be the output: i. if simcard==0 ii. If reg==0 iii. If creditcard==1

```
if(simcard==1){
        if (reg==1)
        {
                if(creditcard==1)
                {
                        cout<<"You can call, send sms and browse, ENJOY "<<endl;
                } else
                cout<<"Buy a credit call card"<<endl;
        }else
        cout<<"Register your sim card"<<endl;
}else
cout<<"Buy a sim card"<<endl;
```