



# BABCOCK UNIVERSITY

Ilishan Remo, Ogun State, Nigeria.

2014/2015 2nd Semester Mid-Semester Examination

COSC102 – Introduction to Programming in C++

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Class:

CIS/CS/CT  
IRM

## INSTRUCTIONS

- This exam has three parts. Answer all questions in Sections A and B.
- Answer two questions in Section C
- All answers must be written in the Answer Booklet provided
- Time Allowed: 90mins

## SECTION A (SHORT ANSWER- 10 Marks)

1. What is a token? \_\_\_\_\_
2. How many commenting styles are there in C++? \_\_\_\_\_
  - a) What are they? \_\_\_\_\_ and \_\_\_\_\_
3. An expression is the smallest unit of a program that does something while a statement has value(True/False) \_\_\_\_\_
4. What is a variable? \_\_\_\_\_
5. \_\_\_\_\_ is the syntax for declaring a variable while \_\_\_\_\_ is the syntax for initializing a variable.
6. \_\_\_\_\_ is used for data whose values are high precision decimal
7. There are 3 types of constants: literal constant, defined constant and declared constant. What is the syntax for:
  - a) Defined constant identifier <value>;
  - b) Declared constant const identifier <value>;
8. \_\_\_\_\_ to \_\_\_\_\_ is the signed range of values for an integer data type.
9. \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_ are basic types of program errors.
10. The escape sequence \n represents the \_\_\_\_\_ character, which causes the cursor to position to the beginning of the next line on the screen.
11. static, int, char, float. Which is the odd one in the list? \_\_\_\_\_
12. 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: \_\_\_\_\_.
13. An array is \_\_\_\_\_

## SECTION B (DEBUG THE FOLLOWING C++ PROGRAM – 10 Marks)

```
1. #include<istream>
2. using name space std;
3. main()
4. {
5.     int for;
6.     cout<<"This program is a counting program"
7.     float x == 0.0001;
8.     while(x>0.01)
9.     {
10.        x=0.0001;
11.        print("%.4f", &x)
12.    }
13. }
14. Return 0;
15. }
```

## SECTION C (ESSAY – 10 Marks for each Question)

For CIS/CS/CT: Answer Question 2 and any other

For IRM: Answer Question 1 and any other

1. A bank gives out loans its customers on simple interest for 2 years at the rate of 26%. Write **two** simple C++ programs that calculate the simple interest on a customer's loan based on the amount the customer indicates. (declare constant rate in one and define constant rate in the other)
2. Write a C++ program that does the following:
  - a. Asks a user how many courses he offered last semester.
  - b. Using for loop and array:
    - i. accepts the unit of the courses from the user.
    - ii. accepts scores obtained in the courses from the user.
  - c. Calculates the total grade point and total units for all the entered data in (b)
  - d. Calculates the grade point average
3. A tax agency calculates the taxes based on their income using the following rates:
  - a. 10% for income less than N10,000
  - b. 20% for income less than N100,000
  - c. 30% for income less than 500,000
  - d. 45% for all income greater than N1,000,000

Write a C++ program for this agency's tax calculator.

4. A program is needed to print decimal numbers (to 2 decimal places) between 1 and 50. You are required to write two C++ versions of the same program; one using **for loop** and the other using **do while loop**.

Best Luck!