

**BABCOCK UNIVERSITY, ILISAN-REMO, OGUN
STATE, NIGERIA**

COMPUTER SCIENCE DEPARTMENT

COURSE: Introduction to Programming in C
(COSC101); First Semester 2016/17

MID SEMESTER EXAM (30 mins)

- 1) Mention three data types you know from primitive data types you have learnt
- 2) Critically trace the following code extract and debug:

```
void main(){
    int mark1 = 30.5;
    int mark2 = 25.8;
    float averageMark;

    averageMark = mark1 + mark2;
    printf("\n %d", averageMark);
} // end of main function
```

- 3) What is the result of each of the following integer division: $7 \% 4 = 3$
- 4) Define algorithm and state two ways it can be expressed or represented
- 5) How many times does the following loop run?
for (j = 2; j <= n; j++)
- 5) Dividing a value by zero is categorized under what type of error?
- 6) What minimum number of times does the **do...while(condition)** construct characteristically execute?
- 8) State four properties of an algorithm?
- 9) Write a C program to calculate the perimeter of a rectangle. First, state the input, processing and output requirements in your problem analysis.
- 10) In a pool of applicants for an international scholarship, there exist girls and boys who are secondary school graduates. As a result of excess application the board decides to base eligibility on the following criteria:
 - i. A student must not be less than 16 years old
 - ii. If the student is a boy, the scholarship will cover school tuition in any Africa country
 - iii. If the student is a girl, the scholarship will cover school tuition in any American countries.

Having studied the problem above, do the followings

- a) Identify the input data
- b) Identify the output data
- c) Processing requirement
- d) Draw the flowchart representing the solution to the problem

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