



# **MAASAI MARA UNIVERSITY**

**REGULAR UNIVERSITY  
EXAMINATIONS  
2018/2019 ACADEMIC YEAR**

**SCHOOL OF SCIENCE AND INFORMATION  
SCIENCES  
UNIVERSITY EXAMINATIONS FOR THE  
DEGREE OF BACHELOR OF SCIENCE  
(STATISTICS)  
FOURTH YEAR REGULAR  
EXAMINATION**

**COURSE CODE: COM 400  
COURSE TITLE: COMPUTER  
PROGRAMMING II**

**DATE: 23/04/2019**  
**A.M**

**TIME: 8:30 - 10.30**

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**INSTRUCTIONS**

1. Answer Question ONE and any other TWO Questions From Section II
2. Question 1 is compulsory.
3. Time 2HRS.
4. **Mobile phone are not allowed in exam room.**

**Section I, Compulsory  
marks)**

**(30**

- A)** Write a single C++ statement to accomplish each of the following:
- a) Declare the variables *c*, *thisIsAVariable*, *q76354* and *number* to be of type int (in one statement).  
**[2 marks]**
  - b) Prompt the user to enter an integer. End your prompting message with a colon (:) followed by a space.  
**[2 marks]**
  - c) Read an integer from the user at the keyboard and store it in integer variable age.  
**[2 marks]**
  - d) Print the message "This is a C++ program" on one line.  
**[2 marks]**
  - e) Print the message "This is a C++ program". Separate each word from the next by a tab.  
**[2 marks]**
- B)** Write code segment of a c++ program to declare the variables x, y, z and result to be of type int (in separate statements) and initialize each to 0.

**[4 marks]**

- C) Write a complete C++ program that calculates and displays the sum of three integers. Add comments to the code where appropriate. Your program must prompt a user to enter three integers of the user's choice.

**[6 marks]**

- D) Write code segment (part program) to determine whether the value of the variable `count` is less than 10. If it is, print "Count is less than 10."

**[2 marks]**

- E) Write a C++ statement to declare variable `var` to be of type `long` and initialize it to 10.

**[2 marks]**

- F) Identify and correct the errors in each of the following: **[6 marks]**

- a. `a) while ( c <= 5 ) ( product *= c; ++c; )`
- b. `cout >> value;`
- c. `if ( i == 1 ) cout << "A" << endl; cout << "B" << endl; else; cout << "c" << endl;`

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## SECTION II –CHOOSE ANY TWO QUESTIONS

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### Question Two

(20 Marks)

- G) Read the program below and use it to answer the following questions.
- i. Write down the output of the program exactly how it appears when the program is run?  
**[8 marks]**
  - ii. Write down the comments you would add to explain what the lines, 5, 9, 10 and 11 determine.

**[12 marks]**

1. #include <iostream>
2. using namespace std;
3. int main()
4. {
5. unsigned int y = 0;
6. unsigned int x = 1;
7. unsigned int total = 0;
8. while ( x <= 10 ) // loop 10 times
9. { 14 y = x \* x;
10. cout << y << endl;
11. total += y;
12. ++x; // increment counter x 1
13. } // end while
14. cout << "Total is " << total << endl; // display result
15. } // end main

**Question Three**

**(20 Marks)**

(a) Write a complete C++ program that reads the base and height of a right triangle from a user, then calculates and prints its area.

Tip: area of a triangle is given by  $\frac{1}{2} * base * height$ .

**[12 marks]**

(b) Declare a class called *Hello* with one function called *sayhello* whose access specifier is public. Use *sayhello* in the main program to print the following output 'Hello World'

**[8 marks]**

**Question Four**

**(20 Marks)**

(a) Write a complete C++ program to add any two integers. Declare functions *add()* to add integers and *displaysum()* to give output of the sum in *main()* function.

(i) Function declarations.

**[ 6 marks]**

(ii) Correct main program.

**[8 marks]**

(iii) Function definitions.

**[6 marks ]**

**//END**