



**MURANG'A UNIVERSITY COLLEGE**

**(A CONSTITUENT COLLEGE OF JOMO KENYATTA UNIVERSITY OF  
AGRICULTURE AND TECHNOLOGY)**

**UNIVERSITY EXAMINATIONS 2014/2015**

**YEAR TWO SEMESTER ONE EXAMINATION FOR THE DIPLOMA IN  
ELECTRICAL ENGINEERING**

**SEE1213: COMPUTER PROGRAMMING IN C/C++**

**COURSE: DIPLOMA**

**TIME: 2 HOURS**

**DAY/TIME: Tuesday 2:00pm-4:00pm**

**DATE: 18<sup>th</sup> August 2015**

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**Instructions: *answer question one and any other two questions***

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**QUESTION ONE**

- a) Define the following terms as used in programming concepts. (5mks)
- i. Programming language
  - ii. variable
  - iii. Pseudo code
  - iv. Algorithm
  - v. compiler
- b) Write the syntax of a for loop. (2mks)
- c) Explain four types of programming errors (8 mks)
- d) Differentiate between a linker and loader. (2mks)
- e) Explain five characteristics /features of programming language (4mks)
- f) Write a pseudo code and draw a flow chart that calculate area of a triangle and output result (4 mks)
- g) Differentiate between the following conversion characters %s and %c (1mks)
- h) Distinguish between abstraction and encapsulation as used on object oriented programming language (4mks)

## QUESTION TWO

- a) Explain two main types of loop control structures. (2mrks)
- b) With the aid of a flow chart differentiate between a while and an if statement. (6 mrks)
- c) i) Write the syntax of for loop. (1 mrks)  
ii) Using a do.....while loop write a program that will output number 10-1. (5 mrks)
- d) Describe three types of selection control structure. (6 mks)

## QUESTION THREE

- a) State four characteristic of a good algorithm. (2 mrks)
- b) With the aid of a diagram explain any three types of inheritance relationship. (6marks)
- c) C-Programs go through six phases to be executed. Describe the six phases of execution. (12 mrks)

## QUESTION FOUR

- a) i) State the difference between operand and operators. (2mrks)  
ii) Explain four types of operators used in programming. (8mks)
- b) Write a c-program that will output the following on the screen (6mrks)

### OUTPUT

Parrots	Rams	Kings
3	5	2
2	5	1
2	6	4

- c) Write a simple c++ program that will output the following. (4mks)

### OUTPUT

Class EE/P/15CM Welcom to Programming Class