

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2015/2016**

**YEAR I SEMESTER I EXAMINATION FOR THE DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY**

**BIT 2104: INTRODUCTIN TO PROGRAMMING AND ALGORITHMS**

**DATE:DECEMBER 2015 TIME: 2 HOURS**

**INSRUCTIONS:** Answer question one (compulsory) and any other two questions.

QUESTION ONE

a. Describe the following programming steps

i. Debbug the program

ii. Repeat the whole units the program is finished. (4 marks)

b Explain the following characteristics of java language that make a suitable programming choice.

i. Dynamic

ii. Object oriented

iii. Secure

iv. Simple

v. Architectural neural. (10 marks)

c. Describe the following building blocks of program.

i. Variable.

ii. State four rules in naming variables. (4 marks)

d. i. With the help of a diagram, describe a java byte code. (5 marks)

 ii. Explain the following object oriented programming terms.

 software engineering

 modules

 information hiding. (5 marks)

QUESTION TWO

a. With the help of an expression statement, discuss the following control structures

i. Blocks

ii. While loops

iii. The basic if statement. (10 marks)

b. Using examples describe the following operators.

 i. Unary positive operator.

 ii. Pre descrement opetor.

 iii. Remainder operator. (10 marks)

QUESTION THREE

a. Describe the following bit operations use an example to describe “reversing” a bit operation.

b. Describe bitwise conjunction

c. perform the following bit additions

 i. Bit 0 0

 Bit+ 1

 Bito and bit 1

 ii. Bit 0 1

 Bit 1 0

 iii. Bit 0

 Bit 1

 Bit 0 and Bit 1 –

QUESTION FOUR

a. Describe an array in programming . (2 marks)

b. Describe two steps in using arrays (4 marks)

c. Explain four advantages of using arrays. (4 marks)

d. Distinguish between a single dimension array and multi dimensional array.(6 marks)

QUESTION FIVE

a. With the aid of a diagram in java, explain the following

i. A class

ii. Method

iii. Field. (9 marks)

b. With the help of a diagram describe a bare bone class with no fields no method.

 (5 marks)

c. Explain the three benefits of programming. ( 6 marks)