

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

## JOMO KENYATTA UNIVERSITY

**OF**

**AGRICULTURE AND TECHNOLOGY**

# University Examinations 2014/2015

**SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY**

**ICS 2201 : OBJECT ORIENTED PROGRAMMING II**

**DATE: APRIL 2015 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER QUESTION ONE (COMPULSORY) AND**

**ANY OTHER TWO QUESTIONS.**

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**QUESTION ONE (30 MARKS)**

(a) Discuss the following terms in relation to object oriented programming: [10 marks]

1. Java literals.
2. Encapsulation.
3. Inheritance.
4. Polymorphism.
5. Operators.

(b) The fundamental programming unit of the java programming language is the class. Name the three kinds of members that a class can have. [6 marks]

(c) Write a java program which when run will give an output of two string objectives i.e. “unit=object oriented”. [4 marks]

(d) There are eight primitive data types supported by Java. Primitive data types are predefined by the language and named by a key word. Discuss three of these data types. [6 marks]

(e) Give the output of the following program: [4 marks]

Class Fresh Juice

enum FreshJuice size{SIZE: MEDIUM, LARGE)

FreshJuice size size;

}

Public class FreshJuice Test{

Public static void main (string args [ ]){

FreshJuice juice = new FreshJuice

juicesize = Freshjuice FreshJuiceSize MEDIUM

System out println (“size” + juice size)

}

**QUESTION TWO (20 MARKS)**

(a) Define the term comment and write “Java” as a comment. [2 marks]

(b) Explain what happens in a while loop if the expression is false the time it is executed. [2 marks]

(c) Give the output of the following program: [6 marks]

Public class Mammalint implements Animal{

public void eat (){

system out println (“Mammal eats”)

}

Public void travel

System out println (“Mammal travels”)

}

Public int no of legs

return ()

}

Public static void main (string args []{

MammalInt m = new Mammal int()

m-eat()

m-travel ()

}

(d) Write a C++ program which will display the sum and average of two numbers. [5 marks]

(e) Discuss the benefits of Java. [5 marks]

**QUESTION THREE (20 MARKS)**

(a) Write the general format a switch statement. [7 marks]

(b) Explain the difference between “Logical OR” and “exclusive OR”.

[6 marks]

(c) Write a java program that will print the current day and time using the utility class date. [7 marks]

**QUESTION FOUR (20 MARKS)**

(a) Using a sample for control structure, write a program to display numbers 1 to 50. [6 marks]

(b) Interpret the following inheritance code by interpreting its meaning in four different ways: [6 marks]

Public class Mammal extends Animal{

}

Public class Reptile extends Animal{

}

Public class Dog extends Mammal{

}

(c) Define a loop in programming and give the syntax of the following loops:

1. If elseif
2. Do while.

**QUESTION FIVE (20 MARKS)**

(a) Define the following terms as used in java programming: [8 marks]

1. Encapsulation.
2. Abstraction.
3. Enum.
4. Arrays.

(b) Write the general syntax of abstract method. [6 marks]

(c) State the true conditions of the following polymorphic class:

[6 marks]

Public interface Vegetation { }

Public class Animal { }

Public class Deer extends Animal implements vegetarian { }