

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

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2015/2016**

**YEAR 2 SEMESTER I EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY/BACHELOR OF SCIENCE INFORMATION TECHNOLOGY**

**ICS 2104: OBJECT ORIENTED PROGRAMMING I**

**DATE: August 2016 TIME: 2 HOURS**

**INSTRUCTIONS: Answer question ONE and any other TWO questions**

**QUESTION ONE**

1. Using appropriate examples, explain the following OOP concepts;
2. Class (3marks)
3. Inheritance (3marks)
4. Object (3marks)
5. Encapsulation (3marks)
6. Polymorphism (3marks)
7. Using the inbuilt MAX\_VALUE method write a Java program that will print on the console screen the maximum values of the following java primitive data types;
8. Double (3marks)
9. Float (3marks)
10. Short (3marks)
11. Long (3marks)
12. Byte (3marks)

**QUESTION TWO**

1. Differentiate between print () and println () method as used in Java (5marks)
2. Write a Java snippet code will create an instant object myInput from system.in () method. (5marks)
3. Write a Java program that prompts a user to enter two integers from the keyboard, called num1 and num2 and then return their difference in a variable num3 (10marks)

**QUESTION THREE**

1. Differentiate between logical AND (&&) and Bitwise AND (&) (5marks)
2. Differentiate between logical OR (||) and Bitwise OR (|) (5marks)
3. Using ternary operators write a Java program that prompts a user to enter two integers’ numbers from the keyboard, and return the highest number. (5marks)
4. Write a Java program with a class name person with a parameterized constructor. The constructor should accept two varaibles (5marks)

**QUESTION FOUR**

1. Using enhanced for loop write a Java program that will display on the screen console the record of the patient temperatures; 37.00c, 36.80c, 40.50c, 38.90c, and 41.80c in Celsius (0C) (10marks)
2. Write a Java program that has a method identification that returns the national id number. The program should prompt the user to enter his/her id number, capture it and pass the id number to the method identification and display it on the console screen. (10marks)

**QUESTION FIVE**

1. Differentiate between single-line and multiple-line comments (5marks)
2. Greenfoot is free environment for Java programming for creating 2D animation, simulations and Games. Discuss the following Greenfoot input methods with respect to the functionalities and type of parameter they accept
3. isAtEdge() method (3marks)
4. isTouching () method (3marks)
5. turn() method (3marks)
6. removeTouching () method (3marks)
7. getRandomNumber () method (3marks)