

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

**JOMO KENYATTA UNIVERSITY**

**OF**

**AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2015/2016**

**YEAR 3 SEMESTER I EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**BIT 2203: ADVANCED PROGRAMMING**

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

**Instructions: Answer Question One (Compulsory) and Any Other Two Questions**

**QUESTION ONE**

1. Explain the function of the following JDBC components
2. The JDBC API (2marks)
3. JDBC driver manager (2marks)
4. JDBC-ODBC Bridge (2marks)
5. Explain the difference between private and protected members of a class (4marks)
6. Using JOptionPane write a program that accepts two input numbers and displays the sum of the two. (6marks)
7. Explain the two types of objects that are useful when dealing with RMI (8marks)
8. Discuss features supported by swing components (4marks)
9. Explain the following terms (2marks)
10. Event handling
11. Garbage collection

**QUESTION TWO**

1. Explain different types of variables found in Java and using examples show how they are declared (6marks)
2. Describe the advantages of exception handling (8marks)
3. Describe three layers that supports interface in Java RMI (6marks)

**QUESTION THREE**

1. Discuss the advantages of RMI (4marks)
2. Using scanner write a program to read in a radius (r) and to calculate and display the
3. Area of the circle π$r^{2}$ (3marks)
4. Circumference of the circle $2πr$ (3marks)

Use pie (π)=3.14

1. Explain the importance of java component model (6marks)
2. Explain the following types of data types (4marks)
3. Primitive data types
4. Non-primitive data types

**QUESTION FOUR**

1. Describe different categories of programming errors in java (6marks)
2. Get three exam grades from the user and compute the average of the grade. Display the average of the three exams and using conditional statement output if the average is greater than or equal to 60
3. Use BufferedReader to get the input from the user, and system out to output the result (4marks)
4. Use JoptionPane to get the input from the user and to output the result (4marks)
5. Java uses exception handling to detect errors. Explain the different keywords found in exception (6marks)

**QUESTION FIVE**

1. Explain features and functions of the following Java foundation classes (6marks)
2. Java runtime environment (JRE)
3. Java development kit (JDK)
4. Java virtual machine (JVM)
5. In java literals are constant values for the basic data types. Describe five literals supported by java. (8marks)
6. Explain the following (6marks)
7. Thread
8. Remote method invocation (RMI)
9. Event handling