

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

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

# **UNIVERSITY EXAMINATIONS 2016/2017**

SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

**DIT 0301 : O.O.P**

**DATE: APRIL 2017 TIME: 1.30 HOURS**

**INSTRUCTIONS:**

**ANSWER QUESTION ONE [COMPULSORY] AND ANY OTHER TWO QUESTIONS**

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**QUESTION ONE [30 MARKS]**

1. State and explain five concepts of object oriented programming [10 marks]
2. Define the following terminologies [5 marks]
3. Methods
4. Statements
5. Comments
6. Identifiers
7. Modifiers
8. Using a well labeled diagram discuss the JAVA program development process [5 marks]
9. Write a JAVA program that displays the following messages

Unit – Object oriented programming

Venue - 605

Time - 11.00 - 1.00 pm [5 marks]

1. State the roles for naming an identifier [5 marks]

**QUESTION TWO [20 MARKS]**

1. Differentiate between an expression and an operator [4 marks]
2. Using examples state and explain any three types of operators [6 marks]
3. Write a program that reads in the radius and length of its cylinder and computers the area and volume using the following formulas

Area=Radius and radius and Pie

Volume= area and length [10 marks]

**QUESTION THREE [20 MARKS]**

1. Define literals [2 marks]
2. State and explain three types of literals [6 marks]
3. Write a JAVA program that converts pounds into kilograms. The program prompts the user to enter a number in pounds converts it to kilograms and displays the results. One pound is 0.454 kilograms [12 marks]

**QUESTION FOUR [20 MARKS]**

1. Define inheritance [2 marks]
2. State and explain the four types of inheritance [8 marks]
3. Using the keyword “extend” write a java program that elaborates inheritance [10 marks]

**QUESTION FIVE [20 MARKS]**

Write a program that reads an integer between 0 and 1000 and adds all the

digits in the integer. For example if an integer is 932 the sum of all its digits is

M. Hint: use % operator to extract digits and use the operator to remove the

extracted digit for instance 932% 10= 2 and 932/10=93 [20 marks]