**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 SCIENCE IN INFORMATION TECHNOLOGY AND BACHELOR OF BUSINESS INFORMATION TECHNOLOGY THIRD YEAR SECOND SEMESTER

**BIT 2214 : OBJECT ORIENTED ANALYSIS AND DESIGN**

**DATE: AUGUST 2015 TIME: 2 HOURS**

**INSTRUCTIONS:**

* **ANSWER QUESTION ONE [COMPULSORY] AND ANY OTHER TWO QUESTIONS**
* **WRITE ALL ANSWERS IN THE BOOKLET PROVIDED**

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**QUESTION ONE [30 MARKS]**

1. Define the following terms as applied in OOAD
2. Object-oriented analysis [2 marks]
3. Objecst-oriented design [2 marks]
4. Object – oriented modeling [2 marks]
5. State five primary tasks in object oriented analysis [5 marks]
6. Outline four implementation constraints which a developer applies to the conceptual model produced in OOA [8 marks]
7. Define object model [2 marks]
8. Using proper symbols, outline the four uml relationships [8 marks]
9. Elaborate a design in uml [1 mark]

**QUESTION TWO**

1. Explain four features of an object model [8 marks]
2. Explain the following relationships among objects giving an example to each.
3. Hierarchical relationship [3 marks]
4. Containment relationship [3 marks]
5. Explain the following software development process
6. Software development macro process [3 marks]
7. Software development micro process [3 marks]

**QUESTION THREE**

1. Discuss how you can measure the quality of a class [10 marks]
2. Outline the purpose OO Analysis D Design. [3 marks]
3. Define a structural thing in iml and then discuss three structural things using a diagram each [7 marks]

**QUESTION FOUR**

Explain the following object oriented terms

1. Object [2 marks]
2. Class [2 marks]
3. Abstruction [2 marks]
4. Encapsulation [2 marks]
5. Inheritance [2 marks]
6. Polymorphism [2 marks]
7. Package [2 marks]

**QUESTION FIVE**

1. Explain five attributes of a complex system [10 marks]
2. Outline the following categories of analysis and design methods
3. Top-down structural design [2 marks]
4. Date-driven design [2 marks]
5. Object –oriented design [2 marks]
6. List four high-order programming language that can be used after object-oriented analysis and design. [4 marks]