

**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 SCIENCE IN INFORMATION TECHNOLOGY**

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

**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) Compare the properties of complex and simple software systems.

[4 marks]

(b) Why is complexity a necessary property of software systems?

[2 marks]

(c) State the events that have contributed to the evolution of the object model. [3 marks]

(d) State the benefits of the object model. [3 marks]

(e) Briefly describe the nature of an object. [6 marks]

(f) How does a class differ from an object? [4 marks]

(g) Show the meaning of the following terms: [6 marks]

1. Classical categorization.
2. Conceptual clustering.
3. Prototype theory.

(h) What is the meaning of key abstractions? [2 marks]

**QUESTION TWO (20 MARKS)**

(a) “The complexity of software is an essential property, not an accidental one”. Justify this statement, explaining why software is inherently complex. [10 marks]

(b) Describe the attributes of a complex system. [10 marks]

**QUESTION THREE (20 MARKS)**

(a) Discuss any five elements of the object model in detail. [10 marks]

(b) There exists various relationships among classes. Explain.

[10 marks]

**QUESTION FOUR (20 MARKS)**

(a) Explain the five general approaches to scheduling. [10 marks]

(b) What are transition diagrams? Discuss different forms of state transition. [10 marks]

**QUESTION FIVE (20 MARKS)**

In relation to software projects development, explain:

(a) Essentials of management and planning. [8 marks]

(b) Staffing. [8 marks]

(c) Reuse. [4 marks]