

**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 2225 : CLOUD COMPUTING**

**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) Explain the chief benefits to multitenancy approach in cloud computing. [4 marks]

(b) Briefly explain the following technologies in cloud computing:

1. Server virtualization. [2 marks]
2. Parallel processing. [2 marks]
3. Vector processing. [2 marks]

(c) Outline some of advanced unified communications features of a standard CaaS deployment. [3 marks]

(d) State and explain some of cloud security challenges. [5 marks]

(e) Discuss why the adoption of monitoring-as-a-service in an organization is important. [2 marks]

(f) Explain the key characteristics of SaaS software. [6 marks]

(g) Describe how service oriented architecture (SOA) can be viewed at high level as a step towards cloud computing. [4 marks]

**QUESTION TWO (20 MARKS)**

(a) Discuss the role of open source software in data centers. [8 marks]

(b) Explain the aspects of security that are uniquely designed to be optimized for delivery as a web-based service. [6 marks]

(c) Highlight the characteristics of a cloud computing environment.

[6 marks]

**QUESTION THREE (20 MARKS)**

(a) Write short notes on the following:

1. Infrastructure-as-a-service (IaaS). [3 marks]
2. Platform-as-a-service (PaaS). [3 marks]
3. Soft-as-a-service (SaaS). [3 marks]

(b) According to Microsoft, SaaS architectures can be classified into four maturity levels. State and explain the maturity levels.

[8 marks]

(c) Outline the disadvantages of proprietary software. [3 marks]

**QUESTION FOUR (20 MARKS)**

(a) State and explain the layered components of infrastructure-as-a-service (IaaS). [6 marks]

(b) Differentiate the following end-user access to cloud computing:

1. YouTube [3 marks]
2. Facebook [3 marks]
3. DimDim [3 marks]

(c) State and explain the common standards currently used in cloud environments. [5 marks]