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**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS
YEAR FOUR SEMESTER ONE EXAMINATIONS**

**FOR THE DEGREE OF
BACHELOR OF COMPUTER SCIENCE**

COURSE CODE : CSC 466E

COURSE TITLE : CLOUD COMPUTING

DATE: 07/08/2023 TIME: 8:00 A.M – 10:00 A.M.

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSORY) [30 MARKS]

- a) With the aid of examples related to Kibabii University define the following terms as used in cloud computing
- i. Distributed databases (2 marks)
 - ii. Utility computing (2 marks)
 - iii. Service oriented computing (2 marks)
 - iv. Web 2.0 (2 marks)
- b) Using a diagram describe the Eucalyptus hierarchical design to that reflects its underlying resource topologies (6 marks)
- c) Describe four desired features of a cloud that may motivated Kibabii University to migrate to cloud (8 marks)
- d) List any three major venders of public cloud and for each vender give one product or service that they offer. (6 marks)
- e) Explain any two fundamental advantages that cloud technology bring to scientific applications? (4marks)
- f) Explain what the acronym XaaS stand for (2 Marks)
- g) Explain what the term vender lock-in means in cloud computing environment (2 marks)

QUESTION TWO [20 MARKS]

- a) The ministry of education Kenya is interested in a system that will allow creation and disseminate educational digital content to teachers and students all over the country. Required:
- i. Which cloud service delivery model would recommend the ministry to implement (2marks)
 - ii. Outline the main characteristics of this service delivery model (8 marks)
- b) Define SaaS as used in cloud computing? (2marks)

- c) Outline any four basic benefits of an SaaS-based solution for cloud computing? (8marks)

QUESTION THREE [20 MARKS]

- a) The Ministry of Education Kenya engaged a consultant on migration to cloud and one of the recommendation from the consultant was that the ministry should not migrating it's entire IT infrastructure to the cloud at once.
- i. Describe any four major concerns that the ministry had, which made it (the ministry) to engage a cloud migration consultant before deciding to migrate. (8 marks)
- ii. Do you agree with the recommendation from the consultant, justify your answer (2 marks)
- b) i) Explain what AWS is ? (2 marks)
ii) Describe three types of services does it offered by AWS? (6 marks)
- c) State the most important advantage that cloud technologies offer to social networking applications (2 marks)

QUESTION FOUR [20 MARKS]

- a) The ministry of education Kenya is interested in a system that will allow creation and disseminate educational digital content to teachers and students all over the country.
- i. Which cloud deployment model would you recommend the ministry to use (2 marks)
- ii. Describe any four reasons to support your answer in question (4a,i) (8 marks)
- b) Describe three advantages of using private cloud (6 marks)
- c) Explain the role of the internet in cloud computing (2 marks)

QUESTION FIVE [20 Marks]

- a) Kibabii University and Open University of Kenya want to partner and create a common cloud for the two universities.
- i. What is such a cloud called (2 marks)
 - ii. Describe any four advantages of such a cloud (8 marks)
- b) Describe any five cloud computing enabling technologies (10 marks)