



MACHAKOS UNIVERSITY

University Examinations for 2022/2023 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR SECOND SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (CLOUD COMPUTING AND INFORMATION SECURITY)

SCC 110: INTRODUCTION TO CLOUD COMPUTING

DATE: 11/4/2023

TIME: 2:00 – 4:00 PM

Instructions

This Paper consists of FIVE questions

Answer question ONE and any other TWO questions in this paper

QUESTION ONE (30 MARKS).

- a) State FOUR characteristics of Cloud Computing (4 marks)
- b) Differentiate between different types of virtualization? (4 marks)
- c) With the help of a diagram, discuss cloud computing service models (8 marks)
- d) Explain FOUR cloud service deployment models (4 marks)
- e) List out different layers which define cloud architecture (4 marks)
- f) Explain the security laws which are implemented to secure data in a cloud (6 marks)

QUESTION TWO (20 MARKS)

- a)
 - i) Explain the term cloud service (2 marks)
 - ii) List down the three basic clouds in cloud computing (3 marks)
- b) Discuss the role of cloud computing in an enterprise (6 marks)
- c) Compute virtualization includes CPU virtualization, Memory virtualization, and I/O virtualization. Briefly describe them (6 marks)
- d) State the building blocks in the cloud architecture (3 marks)

QUESTION THREE (20 MARKS)

- a) Explain THREE benefits of VLAN as used with cloud networks (6 marks)
- b) State the popular use cases for cloud computing (4 marks)
- c) Explain two basic types of Data Centers (4 marks)
- d) Describe the Cloud Computing Architecture (6 marks)

QUESTION FOUR (20 MARKS).

- a) State FOUR advantages of serverless computing (4 marks)
- b) Explain THREE advantages of SSDs over traditional HDDs (6 marks)
- c) Discuss THREE security benefits of cloud computing (6 marks)
- d) State FOUR cloud storage levels (4 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss THREE cloud computing key enabling technologies (6 marks)
- b) Differentiate between traditional data centers and the cloud (4 marks)
- c) Describe THREE phases associated with cloud architecture (6 marks)
- d) Distinguish between Virtualized Storage and Non-virtualized Storage (4 marks)