

CHUKA



UNIVERSITY

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN  
APPLIED COMPUTER SCIENCE**

**ACSC 101: INTRODUCTION TO INFORMATION TECHNOLOGY**

**STREAMS: BSC**

**TIME: 2 HOURS**

**DAY/DATE: MONDAY 16/12/2024**

**11.30 A.M – 1.30 P.M.**

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**INSTRUCTIONS TO CANDIDATES**

- *Answer Question 1 and Any Other Two. See other instructions on the cover of the answer booklet.*

**QUESTION ONE (30 Marks)**

- From the definition of Information Technology (IT), describe at least any **THREE** of the tasks done. [6 marks]
- Computer networks are one of the major drivers of IT advancement. List any **TWO** advantages and any **TWO** challenges of computer networks. [4 marks]
- Describe the Control Unit in a CPU and its functions. [3 marks]
- Discuss any **TWO** important firmware in a computer. [4 marks]
- Discuss the impacts of social networks in the Kenyan society. [4 marks]
- Information Technology enables automation. Discuss any **THREE** automations in the Kenyan context that is of benefit to the citizens. [6 marks]
- Outline any **THREE** precautions to be observed when using computers. [3 Marks]

**QUESTION TWO (20 MARKS)**

- Strides Ltd is a company that specializes in software Development, network installations and digital marketing. Discuss any **THREE** categories of IT professionals it must have employed. [6 Marks]
- Describe system software. [2 marks]
- Describe how encoding schemes are used to represent data giving examples of any **THREE** popular encoding schemes. [6 marks]
- Discuss the term “Computer System” mentioning all the components of a computer system. [6 marks]

**QUESTION THREE (20 MARKS)**

- a) Giving examples, describe how IT is applied in each of the following sectors.[8 marks]
  - (i) Health.
  - (ii) Industry and Control.
  - (iii)Government.
  - (iv)Science and Discovery.
- b) Discuss any **THREE** ethical issues posed by IT. [6 marks]
- c) Explain what an IT policy is highlighting any **THREE** components it should contain. [6 Marks]

**QUESTION FOUR (20 MARKS)**

- a) Giving examples, discuss any **THREE** information systems. [6 marks]
- b) ICT is one of the foundations of the Kenya Vision 2030. Discuss the role of ICT in achieving the vision highlighting major ICT projects already undertaken. [6 marks]
- c) Differentiate between wired and wires transmission mediums in networks. [4 Marks]
- d) Discuss the instruction-execution cycle. [4 marks]

**QUESTION FIVE (20 MARKS)**

- a) Distinguish between *tables*, *queries* and *relationships* as used in databases. [6 marks]
  - b) Outline any **FOUR** elements of a strong password.. [4 marks]
  - c) The rise of artificial intelligence has caused a bubble and resulted in the evolution of major innovations in IT. Describe each of the following in relation to IT. [10 marks]
    - (i) Machine learning.
    - (ii) Generative AI.
    - (iii)Big Data.
    - (iv)Edge Computing.
    - (v) High Performance Computing (HPC).
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