

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

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

COSC 101: INTRODUCTION TO COMPUTER SYSTEMS

STREAMS: BSC COMP. SCI

TIME: 2 HOURS

DAY/DATE: MONDAY 16/12/2024

11.30 A.M – 1.30 P.M.

INSTRUCTIONS TO CANDIDATES

- **ANSWER QUESTION 1 AND ANY OTHER TWO QUESTIONS**

QUESTION 1 [30 MARKS]

- (a) Highlight any six disadvantages of computers. [6 Marks]
- (b) Describe three uses of computers for each of the areas below:
- i. Government. [3 Marks]
 - ii. Banking. [3 Marks]
- (c) Outline the stages of the processing cycle in a computer. [4 Marks]
- (d) Convert the number systems as shown:
- i. $D96A_{16}$ to binary number. [2 Marks]
 - ii. 110.010_2 to decimal number. [2 Marks]
- (e) Explain the differences between the analytical engine and the difference engine types of computers in terms of:
- i. Function. [2 Marks]
 - ii. Speed. [2 Marks]
 - iii. Storage. [2 Marks]
- (f) Identify one example of what could be classified as a hybrid computer in the present world. [2 Marks]
- (g) Explain why a UPS is needed in a computing environment. [2 Marks]

QUESTION 2 [20 MARKS]

- (a) Chuka University is setting up a computer lab to be used by students of computer science. Explain five factors that the university should consider when setting up the computer lab user environment. [5 Marks]
- (b) Describe any five rules that the computer science students will be expected to follow when using the computer lab user environment. [5 Marks]
- (c) Asma has experienced cyber bullying incidents targeting her on a popular social media platform.
- Describe various ways Asma could initially take to address the cyber bullying incidents. [4 Marks]
 - Explain which institution in Kenya she should report these incidents to. [2 Marks]
 - Describe the steps she would take to report the cyber bullying cases to the institution identified in ii) above. [4 Marks]

QUESTION 3 [20 MARKS]

- (a) Describe the correct procedure to follow when shutting down a computer. [2 Marks]
- (b) Input devices in a computer falls under various categories according to the way they function. Describe seven categories of input devices and give an example for each. [7 Marks]
- (c) Discuss any eight factors that you should consider when setting up a computing environment to minimize health complications. [8 Marks]
- (d) Give an example of a URL and describe its components. [3 Marks]

QUESTION 4 [20 MARKS]

- (a) Explain what is meant by QR code and highlight its use in computing. [3 Marks]
- (b) John has been asked by his employer to advice on factors to consider when purchasing output devices for the computing system in the organization. Describe five factors that John would advise to consider. [5 Marks]
- (c) Explain how a Quad-core processor differs from a Deca-core processor. [4 Marks]
- (d) The software running on computers in a certain medical center has stopped working due to a malware attack. Describe any four types of malware which may be likely to have attacked the computers. [4 Marks]
- (e) Describe four types of operating systems in terms of nature of the user interfaces provided. [4 Marks]

QUESTION 5 [20 MARKS]

- (a) Giving an example for each, discuss how the following pose a threat to computer systems:
- Human threats. [2 Marks]
 - Natural disasters. [2 Marks]
 - Infrastructure failure. [2 Marks]

(b) Describe eight challenges that users may encounter when setting up computers for their use. [8 Marks]

(c) Explain the purpose of the following in computers:

- i. HDMI cable. [2 Marks]
 - ii. DVI cable. [2 Marks]
 - iii. UPS. [2 Marks]
-