

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

RESIT/SPECIAL EXAMINATION

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

COSC 103: INTRODUCTION TO COMPUTER APPLICATIONS

STREAMS: BSC COSC

TIME: 2 HOURS

DAY/DATE: MONDAY 01/02/2021

2.30 P.M – 4.30 P.M.

INSTRUCTIONS:

- **Answer question 1 and any other two.**

SECTION A: Answer all questions in this section

QUESTION ONE (30 Marks)

- Given an Excel sheet with data in the cells B1, B2, B3, B4 and B5.
 - In cell B6, write a function to find the total of the five cells. [2 marks]
 - In another cell B7, write a formula to find the average of the five cells. [2 marks]
- Electronic mails (emails) are a good way to communicate via the Internet. Explain any two security measures you should take when responding to emails. [2 marks]
- Outline any **three** symptoms of a computer infected by virus. [3 marks]
- Explain what you understand by the following terms: [6 marks]
 - Computer software
 - Data and information
 - Bit and byte
- Work out the following conversions. [4 marks]
 - 110100101_2 to decimal equivalent
 - 45_{10} to octal equivalent
- Explain any TWO differences between a word processor application and a spreadsheet application. Give at least TWO examples of each. [4 marks]
- What is a local area network (LAN)? Explain the importance of a LAN in a university. [3 marks]
- Define utility software and give 4 examples. [4 marks]

SECTION B (Answer any TWO questions from this section)

Question Two (20 marks)

- a) Outline any 2 reasons for networking. [2marks]
- b) Define the following terms. [4marks]
 - i. Computer networks?
 - ii. Network topology?
- c) Define the term computer virus explaining any three types of common viruses. [6 marks]
- d) Explain any four functions of operating systems. [8 marks]

Question Three (20 marks)

- a) Describe the basic functional components of a computer system. Use a well labeled diagram to illustrate your answer. [8 marks]
- b) Differentiate between the following. [4 marks]
 - i) Analogue and digital computer
 - ii) Systems software and application software
- c) Distinguish between ROM and RAM. [4 marks]
- d) Discuss any two application areas of computers today. [4 marks]

Question Four (20 marks)

- a) Explain THREE merits and THREE drawbacks of the Internet in a learning institution. Use relevant illustrations to explain your answer. [6 marks]
- b) “Computers have made the world a global village.” Discuss. [8 marks]
- c) Discuss THREE ways by which you can protect data and programs. [6 marks]

Question Five (20 marks)

- a) Describe the instruction execution cycle using a diagram. [6 marks]
 - b) Explain any three factors you’d consider in purchasing computers. [6 marks]
 - c) Outline the characteristics of the main memory. [4 marks]
 - d) Compare between the first and second generation of computers. [4 Marks]
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