

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF DEGREE  
OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

COSC 103: INTRODUCTION TO COMPUTER APPLICATIONS

STREAMS: BSC (COMP. SCI) Y2S2

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 17/4/2019

11.30 A.M. – 1.30 P.M.

**INSTRUCTIONS: ANSWER QUESTION ONE AND ANY OTHER TWO  
QUESTIONS.**

**Question One (30 marks)**

- (a) Explain two types of computer viruses. (2 marks)
- (b) Explain the following terms: (4 marks)
- (i) Bit
  - (ii) Processor
  - (iii) Computer network
  - (iv) Word processor application
- (c) Differentiate between the following: (4 marks)
- (i) Star network topology and bus network topology
  - (ii) Operating System software and spreadsheet software
- (d) Explain what footer in word document is. Briefly detail the procedure of inserting footer in a word document. (4 marks)
- (e) Suppose you are given a storage space of a totaling to 8 GB. How much space will remain unutilized after storing 10 files of approximately 512 MB each? (4 marks)
- (f) Given that organizations are digitizing their service delivery processes, explain two measures you would advise clients on online services requests and delivery. (4 marks)
- (g) Use the excel sheet shown below to answer the following questions:

## COSC 103

	A	B	C	D	E	F	G	H
1	Student name	Course				Total score	Average Score	Grade
2		COSC 100	COSC 101	COSC 102	COSC 103			
3	Joy Kiambu	45	67	80	43			
4	Steve Naivasha	67	68	95	55			
5	Jacque Boid	78	23	67	66			
6	Mildred Justus	65	70	77	77			
7	Holiday Nyawendo	56	42	55	88			
8								
9	Subject average							
10	Subject Grade							
11	Highest score							
12	Lowest score							
13								

- (i) Write the formula to compute total score for Jacque Boid. (2 marks)
- (ii) Write the function to compute average score for COSC 102. (2 marks)
- (iii) Write the function to compute the lowest score in COSC 103. (2 marks)

(h) Briefly, outline the procedure of saving an open word document in the folder “Assignments” that is a sub-folder in the “COMP 101 tasks” folder in Local Disk D: (3 marks)

(i) Perform the following operation (show your working)

Convert  $111001.111_2$  to Octal (3 marks)

### Question Two (20 marks)

- (a) Discuss the following types of computer networks. (6 marks)
  - (i) LAN
  - (ii) WAN
  - (iii) Internet
- (b) Discuss six indicators of a virus infected computer. (6 marks)
- (c) Explain the relevance of communications protocol in computer networks. State the main communications protocol and discuss its use. (4 marks)
- (d) The Jubilee government rolled a service delivery platform dubbed “huduma center”. Discuss how network capability has influenced this service. (4 marks)

### Question Three (20 marks)

## COSC 103

- (a) Computing knowledge is relevant in almost every area of life today. With a view point of a learning institution, justify this statement. (8 marks)
- (b) Communication media is categorized as either wired or wireless. Explain the difference between the two and give two examples of each. (6 marks)
- (c) Discuss three steps (in order) you would take to if you suspect your desktop computer is infected by a computer virus. (6 marks)

### Question Four (20 marks)

- (a) Every computer system has special software the “operating system software”. Explain four reasons why this software is critical for every computer system. (8 marks)
- (b) Perform the following number conversions.
- (i)  $457.25_{10}$  to binary (3 marks)
  - (ii)  $110011101.011_2$  to Hexadecimal (3 marks)
- (c) Explain the role of the following keyboard shortcuts in Microsoft Windows. (6 marks)
- (i) ALT + F4
  - (ii) ALT + TAB
  - (iii) CTRL + Z
  - (iv) CTRL + Y
  - (v) CTRL + S
  - (vi) CTRL + V

### Question Five (20 marks)

- (a) Computer users interact with applications software to perform desired tasks. When acquiring these applications software, explain four considerations they may take into account. (8 marks)
- (b) Passwords are critical in the current online community.
- (i) Explain the role of the password (2 marks)
  - (ii) Discuss three measures of securing a password (6 marks)
- (c) Discuss the concept of file management in a computer system. (4 marks)
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