

CHUKA

UNIVERSITY



UNIVERSITY EXAMINATIONS

THARAKA UNIVERSITY COLLEGE

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

COSC 100: INFORMATION TECHNOLOGY AND NATIONAL DEVELOPMENT

STREAMS: BSC (COMP. SCI)

TIME: 2 HOURS

DAY/DATE: FRIDAY 12/4/2019

11.30 A.M. – 1.30 P.M.

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

**Question One (30 marks)**

- (a) Explain the following terms: (2 marks)
- (i) Bit
  - (ii) Computer network
- (b) 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)
- (c) Discuss the “90/10” rule in computer security. (4 marks)
- (d) Explain two types of computer viruses. (4 marks)
- (e) Differentiate between the terms ICT and IT (4 Marks)
- (f) Highlight any two social engineering tactics used by hackers. (4 marks)
- (g) Given that organizations are digitizing their service delivery processes, explain two measures you would advise clients on online services requests and delivery. (4 marks)
- (h) Discuss two applications of ICT in poverty reduction in Kenya. (4 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)**

- (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) Differentiate between the following: (6 marks)
- (i) Star network topology and bus network topology
  - (ii) Operating System software and Application software
- (c) Discuss the following terms with regard to ICT. (6 marks)
- (i) Dial – up access
  - (ii) Digital village
  - (iii) ICT policy

**Question Four (20 marks)**

- (a) Explain what is computer security (2 marks)
- (b) Discuss four Legal and Ethical Issues in computing technology. (4 marks)
- (c) Discuss the following terms as outlined in Chuka University Automation policy. (6 marks)
- (i) Programmer
  - (ii) Information system
  - (iii) Feasibility study
- (d) Every computer system has special software the “operating system software”. Explain four reasons why this software is critical for every computer system. (8 marks)

**Question Five (20 marks)**

- (a) Extract and discuss four ICT issues as presented in Kenya vision 2030. (4 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) 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)
-