



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN ELECTRICAL AND ELECTRONICS

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

ECU 109: FUNDAMENTALS OF COMPUTING

DATE: 1/3/2021

TIME: 2.00-4.00 PM

INSTRUCTIONS

Answer question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

- a) Differentiate between the following terms. Give an example in each case. (6 marks)
 - i. Data and information
 - ii. Hardware and software
 - iii. Softcopy and hardcopy output
- b) Describe the importance of the following hardware components in a computer system
 - i. CPU
 - ii. ALU
 - iii. Memory
 - iv. Register
 - v. Control unit (5 marks)
- c) State any THREE Requirements for Web Developing Using Html (3 marks)
- d) Explain the role of any three system software found in a computer system (6 marks)
- e) Explain FOUR parts of a dialogue box for composing a mail to send over the internet. (4 marks)

- f) Perform the following calculations in the respective number systems
- i. Convert 127_{10} to its binary equivalent (2 marks)
 - ii. Convert 178_8 to its decimal equivalent (2 marks)
 - iii. Convert $CE5_{16}$ to its decimal equivalent (2 marks)

QUESTION TWO (20 MARKS)

- a) Show the tags that would be used to create the following page as it appears. The title of the page is “Countries I have visited” . (7 marks)

The countries and cities that I have visited are

Oman

- Muscat
- Salalah
- Nizwa

South Korea

- Seoul
- Suwon
- Incheon

- b) How would one create a similar page as (a) above but with a numbered list instead of a bulleted list? (5 marks)
- c) Discuss the use of any FOUR input devices you may use to capture data into a computer system (2 marks)
- d) Discuss the various ways in which computers are classified giving examples in each category (6 marks)

QUESTION THREE (20 MARKS)

- a) Critically discuss any TWO positive innovations resulting as of automating the following sectors
- i. Business (2 marks)
 - ii. Health sector (2 marks)
 - iii. Security (2 marks)

- iv. Agriculture (2 marks)
- b) Distinguish between Internet and Intranet. (2 marks)
- c) Describe TWO types of booting. (2 marks)
- d) Describe THREE types of computer networks (6 marks)
- e) Explain any FOUR requirements for internet connectivity (2 marks)

QUESTION FOUR (20 MARKS)

- a) Differentiate between a web browser and a search engine. Give TWO examples of each. (4 marks)
- b) The following is a worksheet showing names and the students' scores in three CATs.

	A	B	C	D	E
1	Names	CAT 1	CAT 2	CAT 3	TOTAL
2	Kimeu	78	23	49	
3	Atieno	68	67	56	
4	Wafula	72	56	42	
5	Jackson	62	72	83	
6	Average				

- i. Write the formula used in cell: (4 marks)
 - I. B6
 - II. E2
- ii. Write the formula that is used in column B to count all the CAT 1 marks greater than 67. (3 marks)
- iii. Sort the names in ascending order. List the first and the last name. (2 marks)
- iv. Describe how you would create a graph to represent the names and marks in CAT 2. (4 marks)
- c) Define what an interface cable is and explain THREE types of interface cables. (3 marks)

QUESTION FIVE (20 MARKS)

- a) The managers of Nakumatt chain of supermarkets are planning to install a computer network to connect all their branches all over the country and have a single server located in Nairobi.
- i. Explain THREE merits and THREE demerits Nakumatt will face after implementing their plan (6 marks)
 - ii. List the tools and equipment needed to accomplish this task. Give the function(s) of the tools. (4 marks)
 - iii. Apart from the office applications, OSs (Operating Systems) and POS (point of sale), what other softwares and software utilities would you recommend to Nakumatt to make them achieve more sales and ensure security of their data? (3 marks)
- b) State THREE differences between an impact and a non-impact printer. (3 marks)
- c) When Microsoft Word is started a blank document appears on the screen. Name and explain the FOUR features on this screen. (4 marks)