



# MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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## University Examinations 2018/2019

FIRST YEAR SPECIAL/SUPPLEMENTARY EXAMINATIONS FOR BACHELOR OF SCIENCE IN COMPUTER SCIENCE, BACHELOR OF SCIENCE IN COMPUTER TECHNOLOGY, BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY, BACHELOR OF BUSINESS INFORMATION TECHNOLOGY, BACHELOR OF SCIENCE MATHEMATICS AND COMPUTER SCIENCE, BACHELOR OF SCIENCE ACTUARIAL SCIENCE, BACHELOR OF SCIENCE STATISTICS, BACHELOR OF COMMERCE, BACHELOR OF EDUCATION SCIENCE AND BACHELOR OF TECHNOLOGY

### CIT 3100: FUNDAMENTALS OF COMPUTER TECHNOLOGY

DATE: SEPTEMBER 2019

TIME: 2 HOURS

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**INSTRUCTIONS: Answer Question ONE and any other TWO questions.**

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#### QUESTION ONE (30 MARKS)

- a) (i) Computers are now widely used by governments. Explain three ways in which computers can be used in Government's offices. (4 marks)
- (ii) The keys in the keyboard can be categorized into five parts or groups. Identify them. (5 marks)
- b) Computer hardware development can be classified into five generations namely FIRST, SECOND, THIRD, FOURTH and FIFTH generations. Name the generation which had the following qualities: (4 marks)
- (i) Use of magnetic drum as a primary storage medium
- (ii) Refinements of integrated circuits culminating into what is dubbed as Very Large Scale integration (VLSI)
- (iii) Magnetic core used as primary internal storage medium
- (iv) Use magnetic bubble memory or Josephson junction
- c) Differentiate between the following: (4 marks)
- (i) Super computers and microcomputers

- (ii) Data and information
- d) Figure 1 shows a client/server network model.
  - (i) Name the parts labeled p, q and r. (3 marks)
  - (ii) Outline the function of each part. (6 marks)
- e) (i) Software can be classified into two major categories. State and explain these categories. (2 marks)
  - (iii) Give an example of the software in each of the above categories you have identified. (2 marks)

**QUESTION TWO (20 MARKS)**

- a) Suesdeemer Solutions is a computing Corporation that specializes in networking. Highlight advantages and disadvantages of wireless networking. (6 marks)
- b) (i) Define the term network topology. (2 marks)
  - (iii) Identify two examples of topology and explain two advantages and disadvantages in each case. (6 marks)
- c) Highlight four factors to consider when comparing computer monitors. (4 marks)
- d) Name the main components of the Central Processing Unit (CPU). (2 marks)

**QUESTION THREE (20 MARKS)**

- a) Information Communication Technology (ICT) is becoming popular today. Outline four challenges posed by emerging trends and issues in ICT. (4 marks)
- b) Highlight four factors to consider when carrying acquiring computer software. (6 marks)
- c) Explain each of the following terms used in computers: (6 marks)

- (i) Port
  - (ii) Memory
  - (iii) Peripheral devices
- d) List and explain four major structural components of a computer. (4 marks)

**QUESTION FOUR (20 MARKS)**

- a) A technician at WindBridge University realized that some of the computers had problems due to malware.
- (i) Define the term malware (2 marks)
  - (ii) State two symptoms of computer virus infections. (2 marks)
  - (iii) State two control measures that can be taken against computer virus infections. (2 marks)
- b) Discuss the term portability as used in computer hardware and software. (4 marks)
- c) (i) Explain the term Information and Communication Technology (ICT) (2 marks)
- (ii) Describe three challenges of ICT in our society? (6 marks)
- (iii) Give the reason why computers that we are using today are considered to be in fourth generation? (2 marks)

**QUESTION FIVE (20 MARKS)**

- a) Kamau discovered that his computer could not boot even though the power connectivity was on.
- (i) Define the term booting. (2 marks)
  - (ii) Identify and explain the types of booting. (6 marks)
- b) Identify explain the two main categories of printers. (4 marks)
- c) Using a well labeled diagram explain the functional organization of a computer system. (8 marks)