



MACHAKOS UNIVERSITY

University Examinations for 2022/2023

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (COMPUTER SCIENCE)

BACHELOR OF SCIENCE (CIVIL ENGINEERING)

SCO 100: FUNDAMENTALS OF COMPUTING

DATE:

TIME:

INSTRUCTIONS:

Answer Question ONE and other TWO Questions

QUESTION ONE (COMPULSORY) (30 MARKS)

- a) Define the following terms (4 marks)
 - i. Computer
 - ii. Computer System
 - iii. Data
 - iv. Information
- b) Discuss FOUR careers that one can pursue in Computing (8 marks)
- c) Difference between utility and application software (2 marks)
- d) Draw and discuss the parts and functioning of a CPU (8 marks)
- e) Convert
 - i. 24.36 from base 8 to base 10 and (2 marks)
 - ii. 4D.21 from base 16 to base 10 (2 marks)
- f) Give TWO access types of storage devices and relevant storage media examples (4 marks)

QUESTION TWO (20 MARKS)

- a) With help of a well labeled diagram discuss the memory hierarchy and give relevant examples of the two types of computer memory. (4 marks)
- b) Convert 147_{10} into its equivalent Base 2, 8 and 16 (6 marks)
- c) Define Software (2 marks)
- d) In the contemporary society, computers have become a 'necessity', helping human to perform most of the tasks efficiently. Using relevant examples, discuss FIVE areas of computer application in the society (8 marks)

QUESTION THREE (20 MARKS)

- a) Briefly explain FOUR classifications of computers in size and type as well as areas of application. (8 marks)
- b) Discuss in details FOUR services of the internet (8 marks)
- c) Explain the function of any TWO internal components of a computer. (4 marks)

QUESTION FOUR (20 MARKS)

- a) Discuss THREE benefits of a computer to the human beings. (6 marks)
- b) In computer science you are required to have a laptop to use in your studies. Outline FOUR factors you will consider when buying that laptop. (8 marks)
- c) A researcher is finding it difficult to input data from a field study questionnaire. Explain to the researcher the input device to use and its technical working. (6 marks)

QUESTION FIVE (20 MARKS)

- a) Convert 0.865 from Base 10 to base 2, 8 and 16 (6 marks)
- b) Explain any THREE Security services in computer security. (6 marks)
- c) Discuss FOUR types of ROM as used in computers (8 marks)