



MACHAKOS UNIVERSITY

University Examinations for 2018/2019

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTING AND INFORMATION TECHNOLOGY

FIRST YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

SCO 100: FUNDAMENTALS OF COMPUTING

SIT 101: FOUNDATIONS OF IT

DATE: 24/9/2019

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

This paper consists of **FIVE** questions.

Answer **question ONE and any other TWO questions** in this paper.

QUESTION ONE (COMPULSORY) (30 MARKS)

Machakos University College is in the process of digitizing its way of teaching/learning. This means that all classes will be equipped with *micro-computers* through which students will be able to access learning materials. A *network* will be set up linking all computers in the institution, additionally all computers will be connected to the *internet*.

- a) Discuss any **three** ways computers can be used to enhance learning at the university. (6 marks)
- b) Since the classes will be equipped with micro-computers discuss the different types of microcomputers stating where each can best be used at the university. (3 marks)
- c) What **four** major factors would you advice the institution to consider when purchasing these computers. (4 marks)
- d) Define application software, state and mention the role of any **two** that you would recommend to the University to install in their systems. (5 marks)

- e) Each of these computers have Windows installed as the operating system, what is an operating system? Discuss **four** of its functions in computers. (5 marks)
- f) With the computers connected to the internet, the University adopts use of emails as the primary way of communication to students, discuss **four** major benefits of this trend as compared to having notices posted on notice boards. (4 marks)
- g) Explain three ways you would tell if these computers are infected with viruses. (3 marks)

QUESTION TWO (20 MARKS)

- a) Describe any two output and two input devices, explaining how they are used in computer systems. (6 marks)
- b)
 - i) State three differences between an impact and a non-impact printer. (4 marks)
 - ii) Give two examples of each of the above types of printers. (4 marks)
- c) Describe the use of the following application programs with an example for each of them. (6 marks)
 - (i) Spreadsheet
 - (ii) Database management system
 - (iii) Word processor

QUESTION THREE (20 MARKS)

- b) Describe first generation computers (3 marks)
- c) Explain the role of a search engine with respect to the Internet? Give any **two** examples of search engines used on the Internet. (4 marks)
- d) Briefly explain the benefits of using the word processors over the manual typewriters. (6 marks)
- e) Differentiate between a Local Area Network (LAN) and a Wide Area Network (WAN) (4 marks)
- e) When Microsoft Word is started a blank document appears on the screen. Name and explain the **three** features on this screen. (3 marks)

QUESTION FOUR (20 MARKS)

- a) Differentiate volatile from non-volatile memory and give an example for each category (4 marks)
- b) Explain **three** features of secondary storage devices (6 marks)
- c) Discuss any four possible career options for a computer science graduate (4 marks)
- d) How can computers be used in hospitals 6 marks)

QUESTION FIVE (20 MARKS)

- a) Give the functions of the following mouse actions:
 - i) Double-click ii) Right-click
 - iii) Click iv) Drag and drop(4 marks)
- b) Describe how one can do the following: (6 marks)
 - i) Compose a mail
 - ii) Attach a file
 - iii) Send a mail to many people
- c) Explain **three** threats to a network and **three** ways that a network administrator can enforce security in a network. (6 marks)
- d) Describe **four** field data types used in Ms Access database (4 marks)