



DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY

University Examination 2013/2014

**SECOND YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE IN
BACHELOR OF SCIENCE IN ELECTRICAL & ELECTRONICS ENGINEERING**

SMA 2174: INTRODUCTION TO COMPUTERS

DATE: 15th August 2013

TIME: 2.00pm – 4.00pm

INSTRUCTIONS:

Attempt **Question 1** (compulsory - 30 marks) and any other **TWO** Questions (20 marks each).

Question One

- a) Using specific examples for each, define the following terms as used in computer Systems
- i. Processing (2mks)
 - ii. Operating system (2mks)
 - iii. Analogue computer (2mks)
 - iv. Qualitative data (2mks)
- b) Distinguish between a complex instruction set computer and a reduced instruction set computer. (3mks)
- c) Assume that you have just secured an attachment in ABC Company. The organization has shipped a fleet of computers for automating their operations. The ICT manager asks you to help classify the computers according to their size and data processing power. Briefly describe the various categories that the computers will fall under and their distinguishing characteristics. (8mks)
- d) The operating system is a special layer of software application referred to as system software. In the early days, computers did not use operating systems. Explain why operating systems were introduced. (2 mks)
- e) Explain how you would copy a file from one location to another using a DOS command. (1mk)

- f) AGS Company has hired you as a technician to help them in networking their computers and other electronic devices. Among the task you are expected to carry out is to install an operating system. Explain which operating system you would install and what functions it will perform for the company. (4mks)
- g) A bus is a set of electrical connections that connects the computer memory and the micro processor. Name and describe the functions of any two such buses. (4mks)

Question Two

- a) Using a well labeled diagram explain the functions of the five basic components of a computer hardware. (10mks)
- b) Briefly discuss the role of an operating system;
- i. As an extended machine (2mks)
 - ii. As a resource manager (2mks)
- c) Modern computers process lot more qualitative than quantitative data. These data mostly involves alphanumeric codes. Briefly discuss any two well known alphanumeric code standards. (4mks)
- d) Explain the ultimate objective of having a memory hierarchy in computer systems. (2mks)

Question Three

- a) Discuss the classification of programming languages under the following headlines.
- i. Abstraction level (2mks)
 - ii. Domain (2mks)
 - iii. Generality (2mks)
 - iv. Implementation methods (2mks)
 - v. Paradigm (2mks)
- b) Briefly explain why a computer is referred to as a programmable devise. (1mk)
- c) Software is a general term used to refer to all the programs in a computer. Using a well labeled diagram and giving an example in each case, discuss the software tree. (9mks)

Question Four

- a) Your departmental secretary wants all her documents to have the words “**Excelling in Skills**” to appear at the bottom of every page she types automatically. Give her a step by step procedure on how to achieve this using MS word. (6mks)

- b) Your unit teacher has asked you to collect the data of you class mates in terms of their names, their age and the hostel they stay in. He has specifically requested you to type this data and capture it in form of a table. Explain the detailed procedure on how you will go about achieving this. **(6mks)**
- c) You have been tasked with the assignment of typesetting a brochure for an upcoming graduation in the university using MS word. The brochure should include pictures and photographs of the previous graduation ceremonies. Explain the detailed procedure on how you would insert the pictures into the document. **(8mks)**

Question Five

- a) Using a controlled timeline chronology and delineating hardware and software characteristics, discuss the five computer generations **(10 mks)**
- b) Computers and computer systems have played a significant role in the productivity, organization and growth of business enterprises: Explain this assertion giving distinct examples in each case. **(6mks)**
- c) Your unit teacher wants to organize your class' CATs data using a graph in order to understand at a glance how the class is fairing on. Explain to him the steps he would follow to achieve this in MS excel. **(4mks)**