



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

(A Constituent College of JKUAT)

(A Centre of Excellence)

Faculty of Engineering & Technology

DEPARTMENT OF BUILDING & CIVIL ENGINEERING

**UNIVERSITY EXAMINATION FOR:
BACHELOR OF SCIENCE IN CIVIL ENGINEERING
BACHELOR OF ENGINEERING IN BUILDING & CIVIL ENGINEERING
(BSc. CE & BEng. BCE)**

**SMA 2174: INTRODUCTION TO COMPUTER SCIENCE
EIT 4101: FUNDAMENTALS OF COMPUTING**

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2012

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consist of **FIVE** questions

Answer question **ONE (COMPULSORY)** and any other **TWO** questions

Maximum marks for each part of a question are as shown

This paper consists of **TWO** printed pages

Question One (Compulsory)

- a) Explain **FOUR** data processing methods. **(6 marks)**
- b) Differentiate between computer RAM and ROM devices. **(4 marks)**
- c) Using a labeled diagram, explain the basic elements of a computer system. **(8 marks)**
- d) Explain how VLSI has revolutionized the ICT industry. **(2 marks)**
- e) Explain any **SIX** steps in computer care. **(6 marks)**
- f) Explain the difference between peer to peer and client-server with reference to computer networks. **(4 marks)**

Question Two

- a) Explain the following terms as used in a communication system. **(8 marks)**
(i) Bandwidth
(ii) Modulation
(iii) Multiplexing
(iv) Protocol
- b) Outline **FOUR** sources of computer viruses. **(4 marks)**
- c) Outline the counter measures for the computer viruses in (2 b) above. **(4 marks)**
- d) Explain the main factors that affect processing power of a micro-computer. **(4 marks)**

Question Three

- a) Give **FOUR** reasons why computer networking is important to an organization. **(4 marks)**
- b) Convert the following numbers to decimal. **(6 marks)**
(i) 110111.01_2
(ii) $57D.AE_{HEX}$
- c) Distinguish between the following in word processing. **(6 marks)**
(i) Copy and move
(ii) Editing and formatting
(iii) Spell-checker and thesaurus
- d) Outline **FOUR** application areas of spreadsheets. **(4 marks)**

Question Four

- a) Explain **FOUR** ways of classifying printers. **(4 marks)**
- b) Explain **FOUR** functions of a file management system. **(4 marks)**
- c) Explain any **TWO** roles of an input/output port in a computer system. **(4 marks)**
- d) With the aid of a diagram, describe how the operating system enables user to access hardware resources in a computer. **(4 marks)**
- e) Explain **FOUR** applications of computers in a business environment. **(4 marks)**

Question Five

- a) Differentiate between the terms 'sort' and 'filtering' as used in spreadsheets. **(4 marks)**
- b) With the aid of diagrams, describe **THREE** LAN topologies. **(9 marks)**
- c) Explain the difference between proprietary and non-proprietary software, giving examples. **(4 marks)**
- d) Explain **THREE** factors to be considered when selecting application software. **(3 marks)**