



TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR BACHELOR OF SCIENCE IN CIVIL
ENGINEERING

SMA 2174: INTRODUCTION TO COMPUTER SCIENCE

END OF SEMESTER EXAMINATION

SERIES: APRIL 2013

TIME: 2 HOURS

Instructions to Candidates:

You should have the following for this examination

- *Answer Booklet*

This paper consists of **FIVE** questions. Attempt question **ONE** 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) Outline **FOUR** functions of the operating system. **(4 marks)**
- b) Differentiate between real time and batch processing as used in computer systems. **(3 marks)**
- c) Briefly describe the second and third generation computers. **(6 marks)**
- d) Describe **FOUR** benefits of computer networks to the organization. **(4 marks)**
- e) Outline **SIX** ergonomic tips to ensure that you work safely and comfortably while using a computer. **(3 marks)**
- f) Outline **THREE** main components of the central processing unit. **(3 marks)**
- g) Explain **THREE** types of programming errors. **(3 marks)**
- h) Explain the difference between a physical file and a logical file. **(4 marks)**

Question Two

- a) With the aid of an example, differentiate between a MAC address and an IP address. (4 marks)
- b) Explain **SIX** roles that IT plays in business. (6 marks)
- c) Explain **FIVE** health related issues that are caused by use of computers. (5 marks)
- d) Explain **FIVE** computer classification according to size and complexity (5 marks)

Question Three

- a) Explain **FIVE** characteristics of a computer program. (5 marks)
- b) Explain **THREE** types of language translator programs. (3 marks)
- c) Define the following terms: (3 marks)
 - (i) Pseudo code
 - (ii) Flowchart
- d) Explain **FIVE** advantages of flow charts. (5 marks)
- e) Explain **FOUR** characteristics of information. (4 marks)

Question Four

- a) Explain the difference between the following giving examples. (4 marks)
 - (i) Systems software and application software. (4 marks)
 - (ii) Proprietary and open source software. (4 marks)
- b) Explain the difference between an assembly language and a high level language, stating **TWO** advantages of each. (6 marks)
- c) Explain the difference between internal and external DOS commands, giving an example of each. (6 marks)

Question Five

- a) Explain **FIVE** advantages of a Database Management System (DBMS) (5 marks)
- b) Explain **FIVE** key features of a word processor (5 marks)
- c) Name and define any **SIX** elements found in the Ms-Word window. (6 marks)
- d) Perform the following calculations:
 - (i) $72_8 + 53_8$ (2 marks)
 - (ii) $14E_{HEX} + 5CF_{HEX}$ (2 marks)