THE TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF ELECTRICAL & ELECTRONIC ENGINEERING

UNIVERSITY EXAMINATION FOR:
BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING
(BSC.EE Y2 SI)

SMA 2174: INTRODUCTION TO COMPUTERS

SPECIAL/SUPPLEMENTARY EXAMINATION
SERIES: FEBRUARY 2013
TIME: 2 HOURS

<u>**Instructions to Candidates:**</u>
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 **THREE** 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 classifications 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 translators. **(3 marks)**

c) Define the following terms. **(3 marks)**
   (i)   Pseudocode
   (ii)   Algorithm
   (iii) Flowchart

d) Explain **FIVE** advantages of flowcharts. **(5 marks)**

e) Explain **FOUR** characteristics of information. **(4 marks)**

Question Four

a) Explain the difference between the following giving examples. **(8 marks)**
   (i)   Systems software and application software
   (ii)   Proprietary and open source software
b) Explain the difference between an assembly language and high level language, stating two advantages of each. **(6 marks)**

c) Explain the differences between internal and external DO's 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 MS-Word window. **(6 marks)**

d) Perform the following calculations. **(4 marks)**
   (i) $72_8 + 53_8$
   (ii) $14E_{16} + 5CF_{16}$