TECHNICAL UNIVERISTY OF MOMBASA

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE & INFORMATION TECHNOLOGY

UNIVERSITY EXAMINATION FOR:
BACHELOR OF COMMERCE & BACHELOR OF BUSINESS
ADMINISTRATION

HBC 2109/2106: FUNDAMENTALS OF COMPUTER SYSTEMS

END OF SEMESTER EXAMINATION
SERIES: AUGUST 2013
TIME: 2 HOURS

<u>**Instructions to Candidates:**</u>
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) Define the following terms as used in computers.
    (i) Computers
    (ii) Data
    (iii) Information
    (iv) Hardware   **(8 marks)**

b) Describe any **TWO** major features of the 4th generation computers.   **(4 marks)**

c) Explain and give examples of the classification of computers.   **(6 marks)**

d) Distinguish between memory and storage as used in computers.   **(4 marks)**

e) Briefly list at least **FOUR** developing trends in hardware giving at least an example of each.
                                                          (8 marks)

Question Two

a) Name and explain the **FOUR** types of ROM as used in computers. **(8 marks)**

b) In computer systems, memory is an important part of the component in a computer, differentiate between the following terms: **(4 marks)**
    (i)   Volatile and non volatile
    (ii)   Primary memory and secondary memory

c) Convert the following numbers:
    (I)   Convert to decimal form binary **(4 marks)**
        (i) 00110100_2
        (ii) 00001010_2

    (II)   Convert from octal to decimal **(4 marks)**
        (i) 7321_8
        (ii) 526_8

Question Three

a) Explain the following terminologies as used in computers. **(8 marks)**
    (i)   Programming language
    (ii)   Assembler
    (iii)   Application package
    (iv)   debugger

b) By use of a labeled diagram, illustrate the components that make up a computer system.
    (6 marks)

c) Define input devices and output devices giving **THREE** example of each. **(6 marks)**

Question Four

a) Name and explain any **THREE** functions of the operating system. **(6 marks)**

b) Name and explain any **SIX** characteristics of a computer. **(6 marks)**

c) Describe at least **FOUR** major features of the 2nd generation computers. **(8 marks)**

Question Five

a) Define the term computer and clearly outline its components. **(6 marks)**

b) Differentiate between digital computers and analog computers giving an application of each.
    (4 marks)

c) Describe the **THREE** types of computers software **(6 marks)**

d) With clear and labeled diagrams, explain the following topologies. **(4 marks)**
    (i)   Bus Networks Topology
    (ii)   Star Topology