(Knowledge for Development)

KIBABII UNIVERSITY COLLEGE

A CONSTITUENT COLLEGE OF

MASINDE MULIRO UNIVERSITY OF

SCIENCE AND TECHNOLOGY

UNIVERSITY EXAMINATIONS

2014/2015 ACADEMIC YEAR

FIRST YEAR FIRST SEMESTER

MAIN EXAMINATION

FOR THE DEGREE OF BED ARTS/SC & BCOM

COURSE CODE: CSC 110

COURSE TITLE: FUNDAMENTALS OF COMPUTING

DATE: 27TH APRIL, 2015   **TIME**: 8.00AM–10.00AM

INSTRUCTIONS TO CANDIDATES
Answer Question One in Section A and Any other TWO (2) Questions in Section B

Question one

a) Define a computer (2mks)
b) Define (1) Program (2) Software (3) Hardware (4) ALU (5) CU (6) CPU (7) Data (7mks)
c) List the components of computer hardware (4mks)
d) Explain briefly the use of computers in the following areas—(a) Education, (b) Advertising, and (c) Government. (6mks)
e) Highlight the differences between microcomputer, minicomputer, mainframe computer and supercomputer.(8mks)
f) Give three examples of microcomputer (3mks)

Question two

a) Differentiate between software, data and hardware (3mks)
b) Compare in detail the five generations of computers based on the (a) Hardware (b) Software (c) Computing characteristics (d) Physical appearance and (e) Their applications. Also give at least one example of each generation of computer. (10mks)
c) Define an analog computer and a digital computer (4mks)
d) Describe the characteristics of the computer(3mks)

Question three

a) Write short notes on the following (10mks)

i. Main component of computer
ii. CPU
iii. Memory unity
iv. Registers
v. cache

b) What are the two key factors that characterize the memory? (3mks)
c) Define (1) Capacity of memory, (2) Access time of memory (4mks).
d) List the key features of the internal memory (3mks)

Question four

a) Differentiate between a bit and a byte (2mks)
b) The memory is fundamentally divided into two types name them.(2mks)
c) List the key features of the internal memory. (3mks)
d) List the different memories available in the computer in order of their hierarchy with respect to the CPU.(4mks)
e) Define peripheral devices (2mks)
f) Explain in detail the input and output unit of the computer (4mks)
g) Name three input-output devices (3mks)

Question five

a) Convert 101100101_2 to the corresponding base-ten number.(3mks)
b) Convert 357_{10} to the corresponding binary number.(3mks)
c) Convert 357_{10} to the corresponding base-eight number.(2mks)
d) Convert 545_8 to the corresponding decimal number. (4mks)
e) Convert 357_{10} to the corresponding hexadecimal number. (4mks)
f) Convert 165_{16} to the corresponding decimal number.(4mks)