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KIRIRI WOMENS' UNIVERSITY OF SCIENCE AND TECHNOLOGY
UNIVERSITY EXAMINATION, 2016/2017 ACADEMIC YEAR
FIRST YEAR, FIRST SEMESTER EXAMINATION
FOR THE DEGREE OF BACHELOR OF SCIENCE
(COMPUTER SCIENCE)

Date: 15th August, 2016.
Time: 8.30am – 10.30am

KCS 100   - FUNDAMENTALS OF COMPUTING

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTION ONE (COMPULSORY) AND ANY OTHER TWO QUESTIONS

QUESTION ONE (30 MARKS)

a)   i)   State THREE types of software that may be used to convert source code to object code
(3 Marks)

    ii)   What is the difference between an Assembler and a Compiler?
(2 Marks)

    iii)   What is the difference between a Compiler and an Interpreter?
(2 Marks)

    iv)   Why do programmers prefer High Level Languages to Low Level Languages?
(3Marks)

b)   i)   Describe with the aid of a labelled diagram the 'Basic Computer Bus Architecture'.
(10 Marks)

    ii)   Describe the 'FETCH -EXECUTE' cycle
(4 Marks)

c)   Describe with the aid of labelled diagrams the following computer network arrangement;

    i)   Bus topology.
(3Marks)

    ii)   Ring topology.
(3 Marks)

QUESTION TWO (20 MARKS)

a)   i)   What is a linker program?
(2 Marks)

    ii)   State the   six steps used by a loader program to bring an executable file residing on the hard disk into the RAM (memory) and start it running.
(9 Marks)

b) i) List TWO advantages and TWO disadvantages of an Interpreter.

(6 Marks)

ii) Briefly describe the characteristics of the FOURTH generation computer languages

(3 Marks)

QUESTION THREE (20 MARKS)

a) Briefly explain with the help of a labelled diagram what is meant by the term computer based system.

(5 Marks)

b) Explain the function of the following components found in a computer;

i) CPU (Central Processing Unit)

ii) Memory (RAM, ROM)

iii) IO devices.

(15 Marks)

QUESTION FOUR (20 MARKS)

a) Explain the use of the following terms in computer networks;

i) Modem

ii) Network topology

(10 Marks)

b) Using a Tree structure describe the components of the Memory Unit of a computer

(10 Marks)

QUESTION FIVE (20 MARKS)

a) i) What is an Operating System?

ii) Distinguish a Single User from a multiuser Operating System

iii) List FOUR commonly used operating systems.

(12 Marks)

b) Distinguish between a System Software from an Application Software and an example of each.

(4 Marks)

c) Describe the use of the following application packages;

i) Text Processors

ii) Spread Sheets

iii) Data Bases

iv) Web Browsers

(4 Marks)