(*Knowledge for Development*)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR

END OF SEMESTER EXAMINATIONS
YEAR TWO SEMESTER ONE EXAMINATIONS

FOR THE DEGREE IN
(INFORMATION TECHNOLOGY)

COURSE CODE : **BIT 213**

COURSE TITLE : **PLATFORM TECHNOLOGIES II**

DATE: **27 JAN 2022** **TIME: 9:00 AM - 11:00 AM**

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (30 MARKS)

a) Differentiate the following terms (6mark

i. Computer organization and computer architecture

ii. DMA and interrupt driven

iii. RISC and CISC

b) All information to be used in a computer must be represented in a format suitable for the machine This is as electrical signals. A bit is the basic unit of signal, and it has two states: it is either "on" (1.5V) or "off" (0.5V). This is a binary system and these two states are symbolized by the binary digits 1 and 0 respectively. Explain how the following data is represented in a computer. [6 Marks]

i. Signed positive integer and Signed negative integer

ii. Real Numbers

c) Explain five structural components of a computer system (5mark

d) Explain five characteristics that distinguish memory in computer system (5mark

e) Explain the characteristics of the Instruction Set Architecture (ISA) that facilitate pipelined execution (5marks

f) State three types of registers (3 mark

QUESTION TWO (20 MARKS)

a) Distinguish between (6 marks)

i. Sequential access and direct access

ii. SRAM and DRAM

b) Explain four types of instructions in a computer system (8marks)

c) Discuss the concept of Memory interleaving and give its advantages [6 MARKS]

QUESTION THREE (20 MARKS

a) With the help a diagram, explain the fetch execute cycle (6marks)

b) Explain the memory hierarchy in a computer system (6marks)

c) What is meant by Addressing Mode? Explain any four different Addressing Modes with an example. (8 marks)

QUESTION FOUR (20 MARKS)

a) a) Explain five functions of the I/O module (5marks)

b) Explain what is an instruction and the different parts of an instruction. What the significance of each part of an instruction with an example? (5 marks)

c) Computer external devices are classified into three categories. Using a suitable example describe

these categories [10 MARKS]

QUESTION FIVE (20 MARKS)

a) Explain four types of registers in computer system (6marks)
b) Using a diagram explain the computer memory hierarchy [5 Marks]
c) Describe the principal of locality with regard to system memory (5 Marks)
d) State various techniques possible for I/O operations (4 Marks)