(*Knowledge for Development*)

KIBABII UNIVERSITY

(KIBU)

UNIVERSITY EXAMINATIONS
2018/2019 ACADEMIC YEAR

END OF SEMESTER EXAMINATIONS
YEAR ONE SEMESTER ONE EXAMINATIONS
FOR THE DEGREE IN
(INFORMATION TECHNOLOGY)

COURSE CODE : BIT 213

COURSE TITLE : PLATFORM TECHNOLOGIES II

DATE: 01/02/2019 TIME: 9.00A.M. – 11.00A.M.

INSTRUCTIONS TO CANDIDATES

ANSWER **QUESTIONS ONE AND ANY OTHER TWO.**

QUESTION ONE [30 MARKS]

a) Highlight FOUR factors that may influence the performance of any computer system [4 marks]
b) Distinguish between computer organization and computer architecture [4 marks]
c) Convert 1011) in base-2 to equivalent decimal number [2 marks]
d) With aid of diagram describe the instruction cycle process [6 marks]
e) Define RAID and give examples of RAID levels (3 marks)
f) Differentiate between the two bus timing types (6 marks)
g) Discuss **write through** operations and applied in cache memories (5 marks)

QUESTION TWO [20 MARKS]

a) Define system clock [2 marks]
b) Define the following terms
   i. Clock rate
   ii. Clock cycle
   iii. Cycle time
c) Discuss the three types of computer buses [6 marks]
d) Explain any three elements considered when designing a system bus [6 marks]
e) A computer instruction has two parts, state and explain the two parts [6 marks]

QUESTION THREE [20 MARKS]

a) Describe four types of instruction operations [8 marks]
b) Using a suitable example differentiate between CISC and RISC architectures [6 marks]
c) Explain two disk performance parameters [4 marks]

QUESTION FOUR [20 MARKS]

a) Discuss how the following types of data are represented in a computers [10 marks]
   i. Unsigned integer
   ii. Signed integer
   iii. Real numbers
   iv. Alphanumeric characters
   v. Characters for special languages e.g. Japanese
b) In an 8 bit computer, an addition of two binary numbers results in a carry bit, how will a computer handle the carry bit [4 marks]
c) Convert the values 40 and 20 in binary and the operation 40 -20, [6 marks]

QUESTION FIVE [20 MARKS]

a) State and explain any four memory addressing modes [8 marks]
b) Explain any three memory access methods [6 marks]
c) Discuss the three i/o operation techniques [6 marks]