KISII UNIVERSITY

UNIVERSITY EXAMINATIONS

SPECIAL EXAMINATION

FIRST YEAR EXAMINATION FOR THE AWARD OF
DEGREE IN BACHELOR OF SCIENCE MATHEMATICS AND COMPUTING /BIOMETRY
SECOND SEMESTER 2021/2022
(JULY, 2022)

COMP 101: INTRODUCTION TO COMPUTER PACKAGES

STREAM: Y1 S2 **TIME: 2 HOURS**

DAY: FRIDAY, 8.00 AM – 10.00 AM **DATE: 29/07/2022**

INSTRUCTIONS:

1. Do not write anything on this question paper.
2. Answer Question ONE (Compulsory) and any other TWO Questions.

QUESTION ONE

(a) Using three suitable examples, explain what you understand by the term platform technologies. (4marks)
(b) Explain the term Data representation as used in Computer architecture (2marks)
(c) With relevant examples explain the difference between the terms computer architecture and Computer Organization. (4marks)
(d) Differentiate between RISC and CISC Architectures as used in Computer architecture and organization (4marks)
(e) Describe the various components of a computer system (6marks)
(f) Outline Four advantages of Virtual memory over other types of memories (4marks)
(g) Briefly explain the following types of registers

(i) Memory address register (MAR) (2marks)
(ii) Memory Data register (MDR) (2marks)
(iii) Instruction register (IR) (2marks)

QUESTION TWO

(a) Using a diagram describe the functional units of the Central Processing Unit (CPU) (10marks)
(b) Describe the instruction execution cyle in computer Organization and architecture

(10mark)

QUESTION THREE

(a) Describe the Von Neumann architecture as used in computer architecture. (10marks)

(b) Explain Five design features that affect the performance of the computers (10marks)

QUESTION FOUR

(a) (i) Define Cache memory (2marks)

(ii) Explain the FOUR mapping techniques associated with the cache memory (8marks)

(b) Interrupt driven I/O is a technique used to perform I/O operations, with the help of a diagram, discuss the I/O basic operations. (10marks)

QUESTION FIVE

(a) 'Gates are the fundamental building blocks from which a computer is built.' Explain what a gate is and in what way it is fundamental to the functioning of a computer (10marks)

(b) Using examples in each case describe the difference between Volatile and NonVolatile memory. (6marks)

(c) Describe the terms Digitization and Zipping as used in Computer Architecture and Organization. (4marks)