THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE

CERTIFACATE IN INFORMATION MAINTENANCE & NETWORK TECHNOLOGY (CMNT)

(DIT MOD I)/

FINAL EXAMINATIONS

APRIL/MAY 2010 SERIES

COMPUTER ARCHITECTURE (C.A)

TIME: 2 hours

INSTRUCTIONS TO CANDIDATES

Answer **ALL** Questions from Section **A** and any other **TWO** question from Section **B**.

SECTION A

Question ONE

(a). Explain the following terms:

(i). Duo Core Processor

(ii). Dual Processor

(iii). SIMM

(iv). DIMM

(8 marks)

(b). State any **FOUR** functions of a microprocessor. **(4 Marks)**

(c). Describe the fetch and execute cycle. **(4 Marks)**

(d). State **TWO** input and two output devices. **(2 Marks)**

(e). Differentiate the following:

(i). RAM and ROM
(ii). Slave Drive and Master Drive
(iii). Serial and Parallel Interface

(12 Marks)

SECTION B

Question TWO

(a). Explain **THREE** differences between RISC (Reduced Instruction Set Computer) and CISC (Complex Instruction Set Computers). **(6 marks)**

(b). With the aid of a diagram describe the basic structure of a simple computer. **(10 marks)**

(c). Correct the following members into binary form:

(i). 35
(ii). 16.125

(4 Marks)

Question THREE

(a). Explain the bus interconnection structure of the computer architecture. **(6 Marks)**

(b). Explain **THREE** differences between 8085 and Pentium IV Microprocessor. **(6 Marks)**

(c). Perform the following binary arithmetic's:

(i). $11101.11_2 + 11111_2 + 1111_2.11101_2$ **(4 Marks)**

(ii). $11011_2 \times 1001101_2$ **(4 Marks)**

Question FOUR

(a). Using a diagram, describe the memory Hierarchy. **(6 Marks)**

(b). Explain the following types of RAM clips:

(i). BRAM
(ii). SDRAM
(iii). SRAM
(iv). RDRAM

(8 Marks)

(c). Discuss how the system clock in a microprocessor works. **(6 Marks)**