



THE MOMBASA POLYTECHNIC UNIVERSITY COLLEGE

Faculty of Engineering & Technology

DEPARTMENT OF COMPUTER SCIENCE

**CERTIFICATE 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**.

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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 chips:

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

(8 Marks)

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

(6 Marks)