



ZIMBABWE EZEKIEL GUTI UNIVERSITY

FACULTY OF SCIENCE, TECHNOLOGY, AGRICULTURE AND FOOD SYSTEMS DEVELOPMENT

DEPARTMENT OF INFORMATION SYSTEMS

EXAMINATION PAPER

COURSE CODE : BIS 124
COURSE TITLE : COMPUTER ORGANISATION AND ARCHITECTURE
SPECIAL REQUIREMENTS : None
DURATION : 3 Hours
LEVEL : 1.2
DATE : 2024

10 JUN 2024

INSTRUCTIONS TO CANDIDATES:

1. No cell phones are allowed in the examination venue.
2. Answer any **FOUR (4)** questions.
3. Begin each question on a new page.
4. Each question carries 25 marks.

QUESTION 1

- a) Explain the need for having a hierarchical memory organization and explain the hierarchy in detail with a block diagram. [10]
- b) Define cache memory and explain why it is important for the execution of the program [15]

QUESTION 2

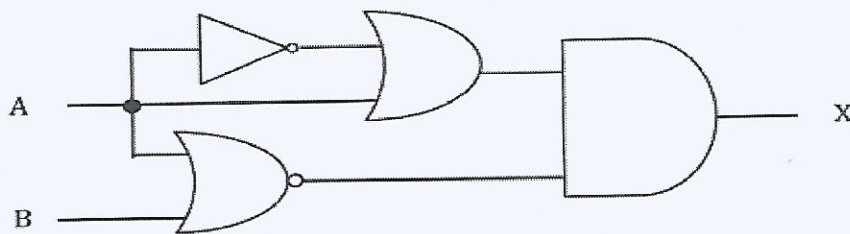
- a) Compare and contrast the RISC architecture and CISC [10]
- b) Explain the concept of pipe lining and how it improves [15]

QUESTION 3

- a) Explain the following terms SIMD, MISD [10]
- b) Explain what is meant by Von Neumann architecture. [15]

QUESTION 4

- a) Explain any five addressing modes. [10]
- b) Consider the following logic circuit:



Construct the corresponding truth table and the Boolean expression [15]

QUESTION 5

a) Explain the functions of the processor [10]

b) Explain the fetch and the execute cycle in detail, giving an example.

[15]

*****END OF PAPER*****

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