



# ZIMBABWE EZEKIEL GUTI UNIVERSITY

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## FACULTY OF SCIENCE, TECHNOLOGY, AGRICULTURE AND FOOD SYSTEMS DEVELOPMENT

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### DEPARTMENT OF INFORMATION SYSTEMS

#### EXAMINATION PAPER

**COURSE CODE** : DIS115  
**COURSE TITLE** : COMPUTER ORGANISATION AND ARCHITECTURE  
**SPECIAL REQUIREMENTS** : None  
**DURATION** : 3 Hours  
**LEVEL** : 1.1  
**DATE** : 2024

14 JUN 2024

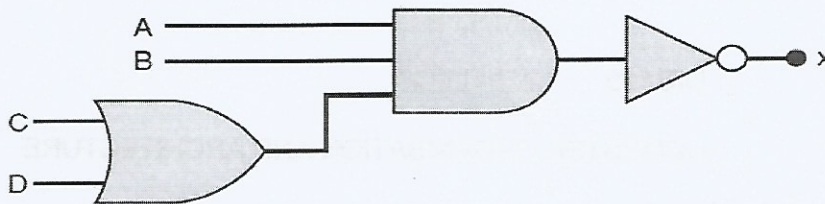
#### INSTRUCTIONS TO CANDIDATES:

1. You may use a calculator
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 following of the following:
  - i. Accumulator. [3]
  - ii. Stack. [3]
  - iii. Registers. [3]
  - iv. System bus. [3]
  - v. Addressing modes [3]

b) Consider the following logic circuit:



Compute the output [10]

**QUESTION 2**

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

**QUESTION 3**

- a) Discuss the factors which affect the performance of a computer [10]
- b) With the aid of diagram, explain the memory hierarchy [15]

**QUESTION 4**

- a) Explain the importance of cache memory in a computer system. [10]
- b) Explain with the aid of a diagram, the bus structure of a computer. [15]

**QUESTION 5**

- a) Explain the functions of a processor [10]
- b) Discuss the brief history of computers generation [15]

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