



NATIONAL OPEN UNIVERSITY OF NIGERIA
University Village, 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja
FACULTY OF SCIENCES
COMPUTER SCIENCE DEPARTMENT
2023 2 EXAMINATIONS

CIT309 – Computer Architecture

Credit: 3 units

TIME ALLOWED: 2½ Hours

INSTRUCTION: Answer Question 1 and any other FOUR (4) Questions

QUESTIONS

1) Briefly describe each of the following:

- i) SMP architecture. (2 marks)
- ii) Uniprocessor architecture (2 marks)
- iii) Processor performance measure. (2 marks)
- iv) Memory (2marks)
- v) Pipe-lining (2 marks)
- vi) Micro architecture (2 marks)
- vii) Cache memory (2 marks)
- viii) Von Neumann architecture (2 marks)
- ix) Flynn's taxonomy (2 marks)
- x) Time-shared bus (2 marks)
- xi) Logic gate (2 marks)

2a) Briefly explain the difference between Multicore and Multiprocessor (4 marks)

2b) List and briefly explain four major types of parallel processor system discussed in this course (8 marks)

3a) Explain any four (4) important instruction set design issues in computer architecture. (6 marks)

3b.) Briefly explain any four (4) the key components of a Mainframe Symmetric system. (6 marks)

4a.) What are the principal advantages and disadvantage(s) of using micro-programing to implement a control unit? (6 marks)

4b.) List and explain any three (3) popular advantages of Symmetric Multiprocessor over Uniprocessor architecture. (6 marks)

5a) Differentiate between the following terms: (6 marks)

- i.) Control bus ii.) Address bus iii.) Data bus iv.) Karnaugh map v.) Boolean algebra

5b.) List and explain any three performance parameters in computer memory. (6 marks)