



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Asikiwe Expressway, Jabi – Abuja
Faculty of Sciences
2024 1 EXAMINATION

COURSE CODE: CIT 309

COURSE TITLE: COMPUTER ARCHITECTURE

CREDIT: 3 Units

TIME ALLOWED: 3 Hours

INSTRUCTION: Answer Question ONE and THREE Other Questions.

Question One

- 1a. i. Write the full meaning of the following opcode: SLL, SRL, SRA.
- 1a. ii. Differentiate between Batch Multiprogramming and Time Sharing
- 1a. iii. What is the simplest of the error-correcting codes and was devised by who?
- 1b. i. Explain Karnaugh map
- 1b. ii. To facilitate DMA transfers from I/O processors, what are the following features to be provided.
- 1c. i. Explain the terms, Timer.
- 1c. ii. Compare between batch system and long-term scheduler with regards to jobs submission?
- 1d. i. With a well label diagram describes Layers and View of a computer
- 1d. ii. State three (3) characteristics of a ROM?

Question Two

- 2a. i. Write the following number in 8-bit of 0's and 1's; 0, 1, 41, 128, 255
- 2a. ii. When does an overflow occurs?
- 2a. iii. Describe floating points numbers?
- 2b. i. Explain the terms system interconnections
- 2b. ii. In a tabular form, show graphical symbol, Algebraic Function and Truth Table for AND, OR, and NOT gate.

Question Three

- 3a. i. Arrange the following opcode into the its instruction categories
- 3a. ii. What is CPU interconnection:
- 3b. i. Incorporate the following computer attribute into a short note.
 - i. Data processing
 - ii. Data storage
 - iii. Data movement
 - iv. Control
- 3b. ii. Under electronic components, explain the following terms.

Question Four

- 4a. i. Explain Flynn Categorization of parallel processing system
- 4a. ii. What is I/O
- 4b. i. In the context of digital computer, what is the different between data and information

Question Five

- 5a. i. There are two decisions for a scheduler to make before processing a job, state the two processes.
- 5b. ii. Using a well labeled diagram, explain the terms programming in hardware approach?

[3 marks]

- 5b. i. what is subtraction flow?
- 5b. ii. What is Central processing unit (CPU)?
- 5b. iii. List four example of Address and Data signals in intel 8085 CPU.