



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI-ABUJA
FACULTY OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE
2025_2 EXAMINATIONS

Course Code: CIT411

Course Title: Microcomputers and Microprocessors

Time: 2 Hours

Credit: 2 Units

Instruction: Attempt 3 questions. Question 1 is Compulsory and any other two (2) Questions

- 1a. Define a coprocessor and explain its role in enhancing system performance. (3Marks)
- 1b. Describe the microprocessor in a computer system (5 Marks)
- 1c. Describe the role and function of a microprocessor in a computer system (6marks)
- 1d. Outline the historical development of microprocessors, focusing on key advancements and major manufacturers. (8 Marks)
- 1e. How does the control unit contribute to the operations of a microprocessor? What are its primary functions? (8Marks)

- 2a. Describe the function of the Program Counter (PC) in the 8085 Microprocessor. (5marks)
- 2b. Define the term 'coprocessor trap' (3 marks) and explain how it works in a computer system (4 marks).
- 2c. What is the purpose of the ROTATE instructions in the 8051 microcontroller? Provide an example of using the RL and RR instructions. (8marks)

- 3a. Explain the significance of the flags in the 8085 Mmicroprocessor. (5Marks)
- 3b. Discuss the importance of the control unit in the 8085 microprocessor and its functioning. (5Marks)
- 3c. Define and compare the key features of RISC and CISC microprocessors. (10 Marks)

- 4a. Convert the decimal number 46 into hexadecimal, octal, and binary number bases. (5marks)
- 4b. What is assembly language and how does it relate to machine code? (5 marks)
- 4c. Differentiate between General Purpose Processors (GPP) and Special Purpose Processors (SPP). Provide examples for each. (10 Marks)

- 5a. What are the main differences between x86 and x64 microprocessor architectures? (5Marks)
- 5b. Discuss the function of microprocessors. Include examples of devices that use microprocessors and describe how microprocessors enhance their performance. (15Marks)