



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
University Village, Plot 91, Cadastral Zone,  
Nnamdi Azikiwe Expressway, Jabi, Abuja

**FACULTY OF SCIENCES**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**2021 EXAMINATIONS**

**COURSE CODE: CIT 411**

**COURSE TITLE: Microcomputers and Microprocessors**

**CREDIT UNITS: 2**

**TIME ALLOWED: 2 HOURS**

**Instructions: Answer Question 1 and any other three (3)**

- Q1a. Describe Microprocessor as Very Large Scale Integration (2 Marks)
- b. Briefly explain the history of microprocessor (6 Marks)
  - c. Explain Microprocessor interfacing technique (6 Marks)
  - d. What are the characteristics of application areas of Microprocessor? (5 Marks)
  - e. How does Interrupt work? (4 Marks)
  - f. Describe the keyboard input device (2 Marks)
- Q2 a. Discuss what happen when an interrupt usually occurs and ends? (9 Marks)
- b. Differentiate between memory and control units of microprocessors (6 Marks)
- Q3 a. Demonstrate how information exchange operations of microprocessor work? (7 Marks)
- b. Briefly discuss the 8051 Multiply/Divide arithmetic operation (8 Marks)
- Q4 a. Explain the concept of instruction set (5 Marks)
- b. Differentiate between immediate addressing and direct addressing (10 Marks)
- Q5 a. Explain Stack Pointer (4 Marks)
- b. With the aid of a diagram, discuss von Neumann Architecture (8 Marks)
  - c. Describe the benefits of Direct Memory Access (3 Marks)