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**NATIONAL OPEN UNIVERSITY OF NIGERIA**

**14/16 AHMADU BELLO WAY, VICTORIA ISLAND, LAGOS**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**JUNE/JULY EXAMINATION**

**COURSE CODE: CIT309**

**COURSE TITLE: COMPUTER ARCHITECTURE (3UNITS)**

**TIME ALLOWED: 21/2 HOURS**

**INSTRUCTION: ANSWER ANY FOUR QUESTIONS IN ALL**

1a. Illustrate with simple diagram the basic Instruction fetch and execution cycle. [10.5 marks]

1b. Write short note on the three components of the C. P. U. [7 marks]

2a. When does the Overflow rule occur? [7.5 marks]

2b. Explain the (4) elements of a machine instruction. [10 marks]

3a Give (4) examples of shorter sub cycles/operation that made up of an instruction cycle. [7.5 marks]

3b Write short note on the following: [10 marks]

1. Multithreading
2. Process switch
3. Thread
4. Thread switch

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4a. List and briefly explain the four (4) characteristics of Reduced Instruction Set architecture. [10 marks]

4b. Differentiate between the Structure and Function of a Computer system. [7.5 marks]

5a. Discuss why (PC - MAR) must precede (Memory - MBR) operation in fetch cycle. [5.5 marks]

5b. State the (4) characteristics of reduced instruction set architectures. [12 marks]

6a. List and describe the two (2) basic tasks of control unit. [7 marks]

6b. Copy and complete the table below. [10.5 marks]

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **A** | **B** | $$→$$ | $$→$$ | **A.B** | **A+B** | $$→$$ | $$→$$ | **(A XOR B)** |
| **0** | **0** |  |  |  |  |  |  |  |
| **0** | **1** |  |  |  |  |  |  |  |
| **1** | **0** |  |  |  |  |  |  |  |
| **1** | **1** |  |  |  |  |  |  |  |