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**NATIONAL OPEN UNIVERSITY OF NIGERIA**

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

**SEPTEMBER/OCTOBER 2015 EXAMINATION**

**SCHOOL OF SCIENCE AND TECHNOLOGY**

**Course code: CIT309**

**Course Title: Computer Architecture**

**Time: 2 Hours**

**Instruction: Answer any Four (4) questions.**

1a. List and describe the two (2) basic tasks of control unit. *[7****1/2*** *marks]*

1b. List and briefly explain the four (4) types of parallel processor system. *[10 marks]*

2a. Define the following:

1. System control element (SCE). *[2 marks]*
2. Main store control (MSC). *[2 marks]*
3. Memory card. *[2 marks]*
4. Dual core processor chip. *[2 marks]*
5. L2 cache. *[2 marks]*

2b. Highlight the features and functionality of a multi programming system to accommodate multiple processor. *[***7*1/2*** *marks]*

3a. Explain what is meant by Micro-operation *[***4*1/2****marks]*

3b. List and discuss four (4) basic functions a computer can perform. *[13 marks]*

4a Discuss how the A.L.U is interconnected with the rest of the processor. *[***7*1/2*** *marks]*

4b. Define the following:

1. Data types. *[2 marks]*
2. processors instruction. *[4 marks]*
3. Instruction. *[4 marks]*

5a. Briefly state how the 2s complement operation can be performed on the given integer numbers.

 *[5****1/2*** *marks]*

5b. Define the following acronym:

1. MAR.
2. MBR.
3. IR.
4. PC.
5. Interrupt.
6. Timer. *[12 marks]*

6a. Explain the following:

i. Clock.

ii. Flags *[5 marks]*

 *[5marks]*

6b. What does it meant by simultaneous execution of action on: Read word from memory and Increment PC. *[7****1/2****marks*