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$\frac{1}{2}$ marks]*

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

2a. Define the following:
    i.   System control element (SCE). *[2 marks]*
    ii.   Main store control (MSC). *[2 marks]*
    iii.   Memory card. *[2 marks]*
    iv.   Dual core processor chip. *[2 marks]*
    v.   L2 cache. *[2 marks]*

2b. Highlight the features and functionality of a multi programming system to accommodate multiple processor. **[7$\frac{1}{2}$ marks]**

3a. Explain what is meant by Micro-operation *[**4$\frac{1}{2}$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$\frac{1}{2}$ marks]*

4b.   Define the following:
  i.   Data types.   *[2 marks]*
  ii.   processors instruction.   *[4 marks]*
  iii.   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:
  i.   MAR.
  ii.   MBR.
  iii.   IR.
  iv.   PC.
  v.   Interrupt.
  vi.   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*