

# SOUTHWESTERN UNIVERSITY NIGERIA

KM 20, SAGAMU-BENIN EXPRESSWAY, OKUN OWA, IJEBU-ODE, OGUN STATE.

FACULTY OF PURE & APPLIED SCIENCES

DEPARTMENT OF COMPUTER SCIENCE

HND TO BSC CONVERSION PROGRAMME

2018/2019 FIRST SEMESTER EXAMINATION

**COURSE CODE: CSC 307**

**COURSE TITLE: Computer Architecture and Organization**

**INSTRUCTION:** Answer question 1 and any other three (3). **TIME:** 2hrs

1. (a) (i) Outline three examples each of computer Architectural Attributes and computer Organizational Attributes.  
(ii) Draw the computer highway structure showing how the microprocessor is interfaced with memory and I/O devices and explain.
- (b) (i) Convert  $1213_{16}$  to decimal and reconvert to hexadecimal?  
(ii) Convert  $12375_8$  to decimal and check your answer.
- (c) Draw the diagram of the Microprocessor and explain the time and control section?
2. (a) Enumerate and describe the three categories of storage devices?  
(b) Outline five(5) note worthy characteristics of RISC chip sets that have become items in the semiconducts standard market?
3. (a) During the execution of Microprogram, the Microprocessor is always incremental everytime a new microinstruction is fetched from the micro program memory, except in the following situations. State them.  
(b) Explain computer pipelining and the purpose it serves?
4. (a) Draw the basic organization of a hardwired control unit and succinctly explain hardwired control unit?  
(b) What is cache memory? State four advantages and two disadvantages of cache memory?
5. (a) Outline the elements of Machine Instructions?  
(b) Differentiate between hardwired control unit and microprogrammed control unit?

Hint: at least 7 differences.