



Capital University of Science and Technology

Department of Computer Science

CS 2523 – Computer Organization and Assembly Language

QUIZ NO. 2: Basics of Computer Organization and Assembly Language

Section# 4

CLO: 1. Define concepts in the design of microprocessor as state machine and designing its data path and its controller.

Semester: Fall 22

Max Marks: 10

Instructor: Ms. Tayyaba Zaheer

Date: October 24, 2022

Max Time: 10 Minutes

Name:

Reg. No.

Question No.1 [04 Marks]

Please choose the best possible option:

1. (01 mark) To convert Hexadecimal 101_{16} to binary would result in:
 - a) 000100001_2
 - b) 000100000001_2
 - c) 000100000001_b
 - d) None of the mentioned

Solution: c

2. (01 mark) Considering 1001 a hexadecimal, can be represented as:
 - a) $0x1001$
 - b) $1001H$
 - c) 1001_{16}
 - d) All of the mentioned

Solution: d

3. (01 mark) $52A42A00$ is not a negative double-word.
 - a) True
 - b) False
 - c) Depends on the underlying machine
 - d) None of the mentioned

Solution: a

4. (01 mark) Which of the following are the correct 5 Sub-operations of the control unit?
- a) Fetch, Load, ALU, Write, Store.
 - b) Load, Fetch, ALU, Write, Store.
 - c) Load, ALU, Store, Write, Execute.
 - d) Fetch, Decode, Fetch Operands, Execute, Store.

Solution: d

Question No. 2 [06 Marks]

The address of var1 is 113_{10} . The address of the next variable after var1 is $A30_{16}$. How many bytes are used by var1?

Solution:

$$113_{10} = 71_{16}$$

$$A30_{16} = 2608_{10}$$

Hexadecimal subtraction

$$A30_{16} - 71_{16} = 9BF_{16}$$

Decimal subtraction

$$2608_{10} - 113_{10} = 2495_{10}$$