CS F342 COMPUTER ARCHITECTURE
QUIZ 1: SET 2

Name:

ID:

Write your answer only in the following table.

Q#	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Ans (a/b/c/d)	a	c	b	c	c	b	b	d	a	d

Q1. Overflow occurs in signed addition when:

a. Two numbers of same sign yield a result of opposite sign
b. Two numbers of opposite signs are added
c. Unsigned addition exceeds register size
d. Subtraction results in negative number

Answer: a. Two numbers of same sign yield a result of opposite sign

Q2. What is the result of adding 2147483647 and 1 in 32-bit signed MIPS?

a. 2147483648
b. -2147483648
c. Overflow
d. 0

Answer: c. Overflow

Q3. Which registers hold the results of multiplication in MIPS?

a. $s0 and $s1
b. HI and LO
c. PC and IR
d. RA and SP

Answer: b. HI and LO

Q4. The instruction 'multu $s0, $s1' stores its result in:

a. Only LO
b. Only HI
c. Both HI and LO
d. Neither

Answer: c. Both HI and LO

Q5. In signed division 'div $s0, $s1', the quotient is stored in:

a. $s0
b. HI
c. LO
d. PC

Answer: c. LO

Q6. In unsigned division 'divu $s0, $s1', the remainder is stored in:

a. LO
b. HI
c. $s0
d. $s1

Answer: b. HI

Q7. The instruction 'lbu $t0, 0($t1)' loads:

a. A signed byte
b. An unsigned byte
c. A halfword
d. A word

Answer: b. An unsigned byte

Q8. Which of the following can NOT be represented by a single jump in MIPS?

a. 0x0000FFFF
b. 0x0FFFFFFC
c. 0x07FFFFF
d. 0x20000000

Answer: d. 0x20000000

Q9. If $t1 = 0x10000000 contains 0x11223344, what will 'lbu $t0, 0($t1)' load in $t0 (big-endian)?

a. 0x11
b. 0x22
c. 0x33
d. 0x44

Answer: a. 0x11

Q10. When multiplying two 32-bit numbers in MIPS, how many bits are used to represent the result internally?

a. 32
b. 128
c. 16
d. 64

Answer: d. 64