

Solution-Quiz#1
Digital Logic Design
BESE-16B

Feb 21st 2011

Max Marks: 15

(2)

1. For each of the following, state if it is discrete or continuous.

a.	Body temperature	Continuous
b.	Outcome of a coin toss	Discrete
c.	Grades of BS16 students in Digital Logic Design	Discrete
d.	Height of a person	Continuous

(5)

2. Write down the counting from 0 to 12 in base 2, base 8 and base 6.

Decimal	Base 2	Base 8	Base 6
0	0	0	0
1	1	1	1
2	10	2	2
3	11	3	3
4	100	4	4
5	101	5	5
6	110	6	10
7	111	7	11
8	1000	10	12
9	1001	11	13
10	1010	12	14
11	1011	13	15
12	1100	14	20

(4)

3. Perform the following conversions.

$(11010011)_2$	$(211)_{10}$
$(11010011.0011)_2$	$(323.14)_8$
$(A7.3)_{16}$	$(10100111.0011)_2$
$(45.5)_8$	$(37.625)_{10}$

(4)

4. Perform the following operations using r's complement.

a. $(152)_{10} - (56)_{10}$

10s complement of 056 = 944.

$152 + 944 = 1096$

Discard the end carry, result is 096.

b. $(011)_2 - (101)_2$

2s complement of $(101)_2 = (011)_2$

$(011)_2 + (011)_2 = (110)_2$

There is no end carry so the number is negative.

Again take 2s complement to get $-(010)_2$