Tutorial-6 (Solutions)

Q1 (a) $19 = (0111\ 1111)_{84-2-1}$ $(0100\ 1100)_{Ex-3}$

(b) $26 = (0110\ 1010)_{84-2-1}$ $(0101\ 1001)_{Ex-3}$

(c) $45 = (0100\ 1011)_{84-2-1}$ $(0111\ 1000)_{Ex-3}$

Q2

	3321	4221	731-2	631-1
0	0000	0000	0000	0000
1	0001	0001	0010	0010
2	0010	0010	0111	0101
3	0011	0011	0100	0100
4	0101	0110	0110	0110
5	1010	1001	1001	1001
6	1100	1100	1011	1011
7	1101	1101	1000	1010
8	1110	1110	1101	1101
9	1111	1111	1111	1111

Q3

$679.6 \xrightarrow{BCD} 0110\ 0111\ 1001 \cdot 0110$

$+536.8 \xrightarrow{BCD} +0101\ 0011\ 0110 \cdot 1000$

1216.4

$1011\ 1010\ 1111 \cdot 1110$

$+0110\ +0110\ +0110\ +0110$

$0001\ \ 0000\ \ 0101\ \ 0100$ (carries: 1, 1, 1, 1)

$0001\ \ 0010\ \ 0001\ \ 0110 \cdot 0100$

$1\ \ 2\ \ 1\ \ 6 \cdot 4$

Q4 (a) (i) 1000 0000 0111 (iv) 1110 0000 1100

(ii) 1011 0011 1010 (v) 1010 0000 1101

(iii) 1110 0000 1101 (vi) 1000 0000 1001

(b) (i) 0100 0010 1001.0101
(ii) 0111 0101 1100.1000
(iii) 0100 0010 1111.1011
(iv) 0111 0011 1111.1000
(v) 0100 0010 1111.1011
(vi) 0100 0110 1111.1011

Q5 (a) 1110
(b) 11100100
(c) 1100111
(d) 1010111

Q6 (a) 1010
(b) 110100

Q7 (C), As the number of 1s in the word is odd.

Q8 (a) & (c), As the number of 1s in the word is even in both the cases.