1.22 (a)$(746)_{10}=(0111\ 0100\ 0110)_{BCD}$
(b)$(746)_{10}=(1011101010)_2$
(c)$(746)_{10}=(01010111\ 01010100\ 01010110)_{ASCII}$

1.23 (a)Sign bit=0
Exponent=10000010=$(130)_{10}$=127+3
Binary=$(1.1000\ 0010)\times2^3$
$=(1100.0001)_2$

(b)Sign bit=1
Exponent=01111000=$(120)_{10}$=127+(-7)
Binary=$(1.01000110)\times2^{-7}$
$=(0.00000010100011)_2$

1.24 Correction factor
(i) -0011 if sum $\leq$ 9

Ex.	0	0011
	+ 1	+ 0100
	1	0111
		- 0011 <--- minus 3
		0100

(ii) 0011 if sum > 9

Ex.	3	0110
	+ 9	+ 1100
	12	1 0010
		0011 0011 <--- add 3
		0100 0101

Chapter 2

BOOLEAN ALGEBRA

2.1 (1)

A	B'	AB'	C	AB'+C
0	0	0	0	0

F=0

(2)

A	B'	C	D	AB'	C'D	CD	F
0	0	0	1	0	1	0	1

F=1

(3)

A	B	C	D	B'	C'D	A+B'+C'D	A'B	A'B(A+B'+C'D)	B'D	F
0	1	0	1	0	1	1	1	1	0	1

F=1

(4)

A	B	C	A+B'	C'+A	BC	A+BC	F
0	1	0	0	1	0	0	0

(5)

A	B	C	D	A+B'	(A+B')C	(A+B')C+D'	AB'	((A+B')C+D')AB'
0	1	0	1	0	0	0	0	0

C'	C'D	B+C'D	A'(B+C'D)	C'+A'(B+C'D)	CD'
1	1	1	1	1	0

CD'(C'+A'(B+C'D))	F
0	0

F=0

2.2 (1)Q=XY'+X'Z'+XYZ

X	Y	Z	X'	Y'	Z'	XY'	X'Z'	XYZ	Q
0	0	0	1	1	1	0	1	0	1
0	0	1	1	1	0	0	0	0	0
0	1	0	1	0	1	0	1	0	1
0	1	1	1	0	0	0	0	0	0
1	0	0	0	1	1	1	0	0	1
1	0	1	0	1	0	1	0	0	1
1	1	0	0	0	1	0	0	0	0
1	1	1	0	0	0	0	0	1	1

(2)Q=(X'+Y)(X'+Z')(X+Z)

X	Y	Z	X'	Z'	X'+Y	X'+Z'	X+Z	Q
0	0	0	1	1	1	1	0	0
0	0	1	1	0	1	1	1	1
0	1	0	1	1	1	1	0	0
0	1	1	1	0	1	1	1	1
1	0	0	0	1	0	1	1	0
1	0	1	0	0	0	0	1	0
1	1	0	0	1	1	1	1	1
1	1	1	0	0	1	0	1	0