CA Tutorial 12

Q1:

C \ AB	00	01	11	10
0	0	0	1	1
1	0	1	0	1

- F = AC' + AB' + A'BC

Q2:

(I) F = A'B'C + (A+B+C) + A'B'C'D
F = A'B'C + A'B'C' + A'B'C'D
F = A'B'(C+C') + A'B'C'D
F = A'B'.1 + A'B'C'D
F= A'B' + A'B'C'D

(II) F = ABC + A' + AB'C
F = ABC + AB'C + A'
F = AC (C+C') + A'
F = AC.1 + A'
F = AC + A'
F = C (A+A')
F = C.1
F = C

Q3:

(a) Instruction Size = Opcode + MA
Instruction Size = 12 bit + 25 bits
Instruction Size = 37 bits

(b) 2^{12} = 4096 bits

(c) $2^{25} / 2^{12} = 2^{13}$ bits