1) a) "It is not the case that XYZ is a CSE major."
   b) "It is not the case that XYZ scored at least 90% in the labs."
   c) If "XYZ scored 100% in the CSE015 final" or "XYZ scored at least 90% in the labs," then "XYZ receives an A+ in CSE015."
   d) If "XYZ scored 100% in the CSE015 final" and "XYZ scored at least 90% in the labs," then "XYZ receives an A+ in CSE015."
   e) It is not the case that if "XYZ is a CSE major," then "XYZ receives an A+ in CSE015."

2) a)

p	q	r	(q v ¬r)	P xor (q v ¬r)
F	F	F	T	T
F	F	T	F	F
F	T	F	T	T
F	T	T	T	T
T	F	F	T	F
T	F	T	F	T
T	T	F	T	F
T	T	T	F	T

b)

p	q	r	p v q	¬r v p	(p v q) then (¬r v p)
F	F	F	F	T	T
F	F	T	F	F	T
F	T	F	T	T	T
F	T	T	T	F	F
T	F	F	T	T	T
T	F	T	T	T	T
T	T	F	T	T	T
T	T	T	T	T	T

c)

p	q	(p then q)	(p then q) and p	((p then q) and p) then q
F	F	F	F	F
F	T	T	F	T
T	F	F	F	T
T	T	T	T	T

3)

a)

p	q	r	q and r	p or (q and r)	p or q	p or r	(p or q) and (p or r)
F	F	F	F	F	F	F	F
F	F	T	F	F	F	T	F
F	T	F	F	F	T	F	F
F	T	T	T	T	T	T	T
T	F	F	F	T	T	T	T
T	F	T	F	T	T	T	T
T	T	F	F	T	T	T	T
T	T	T	T	T	T	T	T

b)

p	q	r	p then q	p then r	(P then q) and (p then r)	q and r	p then (q and r)
F	F	F	T	T	T	F	T
F	F	T	T	T	T	F	T
F	T	F	T	T	T	F	T
F	T	T	T	T	T	T	T

T	F	F	F	F	F		F	F
T	F	T	F	T	F		F	F
T	T	F	T	F	F		F	F
T	T	T	T	T	T		T	T

4)

    a) Contingency

p	p or q	p then (p or q)
F	F	T
F	T	T
T	F	F
T	T	T

    b) Contingency

p	q	p and q	Not p	(p and q) then not p
F	F	F	T	T
F	T	F	T	T
T	F	F	F	T
T	T	T	F	F

c) Contingency

p	q	r	q or r	p then (q or r)	Not q	Not q or p	p then (q or r) then not q or p
F	F	F	F	T	T	T	T
F	F	T	T	T	T	T	T
F	T	F	T	T	F	F	F
F	T	T	T	T	F	F	F
T	F	F	F	F	T	T	T

T	F	T	T	T		T	T	T	
T	T	F	T	T		F	T	T	
T	T	T	T	T		F	T	T	

5)

    a) You cannot be late or smoke.

    b) It is not the case that you can take an annuity or it is not the case that you can take a lump sum.