

Quiz 1

(80') Name _____ PID _____

(6') 1. Show the truth tables of $q \rightarrow p$, $\sim p \rightarrow \sim q$, $\sim q \rightarrow \sim p$

| p | q | $q \rightarrow p$ | $\sim p \rightarrow \sim q$ | $\sim q \rightarrow \sim p$ |
|-----|-----|-------------------|-----------------------------|-----------------------------|
| T | T | T | T | T |
| T | F | T | T | F |
| F | T | F | F | T |
| F | F | T | T | T |

(8') 2. Show the truth tables of $(p \rightarrow q) \wedge (p \rightarrow r)$, $p \rightarrow (q \wedge r)$

| p | q | r | $(p \rightarrow q) \wedge (p \rightarrow r)$ | $p \rightarrow (q \wedge r)$ |
|-----|-----|-----|--|------------------------------|
| T | T | T | T | T |
| T | T | F | F | F |
| T | F | T | F | F |
| T | F | F | F | F |
| F | T | T | T | T |
| F | T | F | T | T |
| F | F | T | T | T |
| F | F | F | T | T |

(6') 3. Mark each of the following statements as a tautology(t), contradiction(c), or neither(n).

c $p \wedge (q \rightarrow r) \wedge \sim p$

t $p \rightarrow (q \rightarrow (r \rightarrow p))$

(Bonus 5') Any comments and/or suggestions to this course and/or the instructor? (E.g. Did the lectures go too slow or too fast? Were the lectures too easy or too hard?) You may use the other side of this paper.