

COMP 681 Formal Methods Spring 2009 Quiz 1

The questions are equally weighted.

1. Encode the following into the language of propositional logic. Use the indicated schematic letters for the indicated prime propositions.

You'll pass this quiz only if you studied hard, but you're in big trouble if you fail unless you work hard when the going gets tough.

p = You pass Quiz1.

q = You studied hard.

r = You're in big trouble.

s = You work hard.

t = The going gets tough.

Answer

$$(p \Rightarrow q) \wedge (\neg p \Rightarrow (\neg(t \Rightarrow s) \Rightarrow r))$$

2. Draw the parse tree for the following.

$$p \wedge \neg q \vee r \vee s \Rightarrow \neg(p \Rightarrow q) \wedge r \wedge \neg s$$

Answer

