CSCI 5832 Spring 2004 Quiz 2

Name: _____

*On my honor, as a University of Colorado student, I have neither given nor received unauthorized assistance on this work.*_____

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1. **(10 Points)** Describe a solution to the problem presented by unknown words in the context of part of speech tagging. (Note that you'll probably need to do this in the context of some particular approach to tagging.)

2. **(5 Points)** True or False: The Earley algorithm accepts arbitrary context-free grammars (i.e. it imposes no restrictions on the form of the grammar other than it be context-free.)

3. Consider the phrase "*spaghetti and meatballs on Monday*" in the context of the following grammar fragment:
NP -> NP PP
NP -> NP and NP
PP -> P NP
NP -> {*spaghetti*|*meatballs*|*Monday*}

- **a.** **(5 Points)** Show two parse trees for this input and this grammar.
- **b.** **(5 Points)** Could a plain (non-lexicalized) probabilistic version of this grammar distinguish between these trees? Why or Why not?
- **c.** **(10 Points)** Describe briefly how lexicalized approaches attempt to address this kind of problem.
- **d.** **(5 Points)** Describe a difficulty that the lexical approach would face with this *particular* example.