**CS 5316 – Natural Language Processing**

**Quiz 5**

**(Time limit: 12 minutes)**

1. (2 points) In the HMM for the POS tagging problem, the emission probability refers to

a. Probability of a word given the preceding words

\*b. probability of a word given the specific part-of-speech

c. Probability of a part-of-speech given the preceding part-of-speech

d. None of the above

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2. (2 points) Generate the IOB encoding for identifying people’s names in the following sentence: President Donald Trump asked his aide Sarah to respond to China’s comment.

President/B Donald/I Trump/I asked/O his/O aide/O Sarah/B to/O respond/O to/O China’s/O comment/O.

3. (2 points) Calculate the total number of parameters required in an RNN for POS tagging (3 classes only) assuming 100 recurrent units and 300 length word embeddings.

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W\_ax: 100\*300; W\_aa: 100\*100; b\_a: 100; W\_ya: 3\*100; b\_y: 3

4. (2 points) The forward algorithm is used to solve

\*a. Likelihood problem

b. Decoding problem

c. Learning problem

d. Reading problem

5. (2 points) Long term dependences are easily handled / modeled by an RNN.

True

\*False

This question is somewhat ambiguous so partial grading can be given for both answers.