

**START OF QUIZ**

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I agree that all answers provided are in my own words, and that I will not discuss the contents of this quiz with any of my fellow students until after the exam period has completed for everyone. Furthermore, any response that used generative AI tools has been rephrased into my own interpretation, and has been appropriately cited.

Signature: \_\_\_\_\_

## Question 1

Topic: Lecture 1

Source: Lecture 5

Up to this point, we've largely ignored function words, but they are extremely influential in parsing. Give 2 reasons why. (1)

## Question 2

Topic: Lecture 3

Source: Lecture 3

CFGs do not explicitly allow for optionality. How do we handle optionality in a CFG? (1)

### Question 3

Topic: Lecture 2

Source: Lecture 2

What properties of English syntax make regular expressions suitable for chunking? Do you think that this functionality would extend to many other languages? Briefly explain. (1)

## Question 4

Topic: Lecture 4

Source: Lecture 4

Why is a feature grammar still considered context-free (or nearly so) in many implementations, despite being more expressive than a plain CFG? (1)

## Question 5

Topic: Lecture 1

Source: Lecture 5

Write the parenthetic parse of the following sentence: “Have fun storming the castle!” (1)

## Question 6

Topic: Lecture 2

Source: Lecture 2

Imagine you've been assigned the task of converting instructions in a recipe into a list of easy-to-accomplish goals for a cooking robot. How could you use a parser to aid your conversion? (2)

## Question 7

Topic: Lecture 3

Source: Lecture 3

Clitics are a special type of syntactic headache. Unlike affixes, which attach at the word level, clitics can attach at the phrase level. For example: “The man who saw the bird’s camera was not quick enough.” or “Those of us who lived through the ’90s’ve experienced a world without the internet.” Explain why phrase-level clitic attachment is problematic for a CFG, and discuss how (if at all) a CFG could be adapted to model this behavior. (2)

## Question 8

Topic: Lecture 4

Source: Lecture 4

We've looked at grammars as being constraints that can identify parses, but we could theoretically use them to infer features, instead. Imagine we encountered a new noun in a language with grammatical gender. How might we use a feature-based parser to infer the gender of the noun, and use that information to expand our grammar? (2)

## Question 9

Topic: Long

Source: Lecture 1

You have a generative AI model that produces English text. How might you use a constituency parser to evaluate the quality of the text, and why would that be insufficient? Give an example of one error that could be detected by the parser, and one that couldn't.  
(3)

# END OF QUIZ