Started on	Saturday, 24 September 2022, 9:06 PM
State	Finished
Completed on	Saturday, 24 September 2022, 9:14 PM
Time taken	8 mins 17 secs
Marks	7.50/14.00
Grade	**5.36** out of 10.00 (**54**%)

Question **1**

Incorrect

Mark 0.00 out of 1.00

The **minimum** number of productions required to generate language consisting of odd length palindromes over $\{a, b, c\}$ is:

- a. 7 ✖
- b. 5
- c. 4
- d. None of the above

Your answer is incorrect.

The correct answer is:
None of the above

Question **2**

Correct

Mark 1.00 out of 1.00

A grammar is called ambiguous if

- a. It generates both leftmost and rightmost derivation for a given string
- b. It fulfills any of these conditions
- c. It generates more than one string
- d. It generates more than one parse tree for a given string ✔

Your answer is correct.

The correct answer is:
It generates more than one parse tree for a given string

Question **3**

Incorrect

Mark 0.00 out of 1.00

The longest string generated by the grammar

$S \to AB, A \to BC \mid a, B \to bCD \mid aa, C \to a, D \to aba$

is of length ___.

Answer: 9 ✖

The correct answer is: 11

Question **4**

Incorrect

Mark 0.00 out of 1.00

What is the language generated by the following grammar?

$S \to aSb, S \to A, A \to aS$

- a. $a^{m+1}b^m$ ✖
- b. $a^m b^m$
- c. ∅

Your answer is incorrect.

The correct answer is:

Question **5**

Incorrect

Mark 0.00 out of 1.00

State the ambiguously derivable string for the following grammar:

 ,  ,  ,  , 

Answer: aabba ✖

The correct answer is: baababaa

Question **6**

Correct

Mark 1.00 out of 1.00

Consider the following grammar G :

S \rightarrow aaS \hspace{0.2cm} | \hspace{0.2cm} A, A \rightarrow bbA \hspace{0.2cm} | \hspace{0.2cm} \lambda

The regular expression denoting L(G) is:

(✔ a ✔ * ✖ ✖ ✖ ✖ ✔ ✔ ✖ ✖

) b

Your answer is correct.

The correct answer is:
Consider the following grammar G :

S \rightarrow aaS \hspace{0.2cm} | \hspace{0.2cm} A, A \rightarrow bbA \hspace{0.2cm} | \hspace{0.2cm} \lambda

The regular expression denoting L(G) is:

[(] [a] [a] [)] [*] [(] [b] [b] [)] [*]

Comment:

Question **7**

Incorrect

Mark 0.00 out of 2.00

Consider the following ambiguous grammars with the following productions rules:

1. S \rightarrow SS \hspace{0.2cm} | \hspace{0.2cm} bS \hspace{0.2cm} | \hspace{0.2cm} a
2. S \rightarrow aS \hspace{0.2cm} | \hspace{0.2cm} aSbS \hspace{0.2cm} | \hspace{0.2cm} c

Write the shortest ambiguously derived strings for both the grammars in that order.
(The expected format: x, y)

Answer: abaa ✖

The correct answer is: baa,aacbc

Question **8**

Correct

Mark 1.00 out of 1.00

Which of the following statements are **incorrect**?

- a. All non-regular languages are context-free languages. ✔
- b. Regular languages are closed under homomorphism. ✖
- c. The intersection of two regular languages is a context-free language. ✖
- d. Any regular language can be generated by a context-free grammar. ✖

Your answer is correct.

The correct answer is:
All non-regular languages are context-free languages.

Question **9**

Correct

Mark 3.00 out of 3.00

Which of the following are context-free grammars?

- a.  ,  ,  ,  ✔
- b.  ,  ,  ,  , 
- c.  ,  ,  ✔
- d.  ,  ,  ✔
- e.  ,  ,  ,  ,  , 

Your answer is correct.

The correct answers are:
 , ,

,

 ,  , 

,

 ,  ,  , 

Question **10**

Partially correct

Mark 0.50 out of 1.00

A context-free language L is said to be ___ if all its grammars are ambiguous.

Answer: ambiguous

The correct answer is: Inherently ambiguous

Question **11**

Correct

Mark 1.00 out of 1.00

According to Chomsky hierarchy; regular, context-sensitive, unrestricted, context-free are type 3 ✔ , 1 ✔ , 0 ✔ , 2 ✔ grammars, respectively.

Your answer is correct.

The correct answer is:
According to Chomsky hierarchy; regular, context-sensitive, unrestricted, context-free are type [3], [1], [0], [2] grammars, respectively.

◄ Quiz 2

Jump to...

Quiz 4 ►