Generated MCQs

Q1: What is a grammar defined as in the context of formal languages?

A) A method for checking the meaning of words

B) A set of formal rules to check sentence correctness

C) A list of all possible sentences

D) A tool for translating languages

Correct Answer: B

Q2: In the definition of a grammar G = (V, T, P, S), what does 'T' stand for?

A) Type of grammar

B) Temporary symbols

C) Finite set of Terminals

D) Total productions

Correct Answer: C

Q3: What does 'V' represent in the grammar notation G = (V, T, P, S)?

A) Vocabulary size

B) Finite set of Variables (Non-terminals)

C) Validation rules

D) Version of the grammar

Correct Answer: B

Q4: Which component of the grammar G = (V, T, P, S) is the 'Start variable'?

A) V

B) T

C) P

D) S

Correct Answer: D

Q5: How are Variables (Non-terminals) typically represented in grammar rules?

A) Small letters

B) Numbers

C) Capital letters

D) Special symbols like * or +

Correct Answer: C

Q6: What is the term for the sequence of production rules applied to generate a sentence from the start symbol?

A) Parsing

B) Derivation

C) Compilation

D) Analysis

Correct Answer: B

Q7: In a derivation tree (parse tree), what kind of symbol usually labels the root node?

A) A terminal symbol

B) The start variable

C) An end marker

D) An operator

Correct Answer: B

Q8: What type of symbols are typically found at the leaf nodes of a complete derivation tree?

A) Non-terminal symbols

B) The start symbol only

C) Terminal symbols

D) Production rules

Correct Answer: C

Q9: What characterizes the left-hand side of a production rule in a Context-Free Grammar (CFG)?

A) A single terminal symbol

B) A string of terminals

C) A single non-terminal symbol

D) An empty string

Correct Answer: C

Q10: What does it mean if a grammar is ambiguous?

A) It generates sentences that have no meaning

B) It has rules that are difficult to understand

C) The same sentence can be generated by more than one derivation tree

D) It uses both capital and small letters

Correct Answer: C

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