

## **VIVA-VOCE QUESTIONS:**

**Ques 1.** What is left recursion in a context-free grammar (CFG)?

**Ans 1.** Left recursion in a CFG occurs when a non-terminal can directly or indirectly derive a production that starts with itself.

**Ques 2.** Why is left recursion problematic in a CFG?

**Ans 2.** Left recursion can lead to infinite loops in parsing, making it impossible to generate a valid parse tree for the grammar.

**Ques 3.** What is the general approach to remove left recursion from a CFG?

**Ans 3.** To remove left recursion, you create new non-terminals and rewrite productions so that the grammar no longer has any left-recursive productions.

**Ques 4.** How do you distinguish between left-recursive and right-recursive productions in a grammar?

**Ans 4.** A production is left-recursive if the first symbol on the right side is the same as the non-terminal on the left side. It is right-recursive if the non-terminal appears at the end.

**Ques 5.** What is the purpose of introducing new non-terminals when removing left recursion?

**Ans 5.** Introducing new non-terminals allows you to rewrite the grammar in a way that avoids left recursion while preserving the original language generated by the grammar.