## DSE-2: System Programming (Semester-V)

**Parse tree**

- Parse tree is the graphical representation of symbol. The symbol can be terminal or non-terminal.
- In parsing, the string is derived using the start symbol. The root of the parse tree is that start symbol.
- It is the graphical representation of symbol that can be terminals or non-terminals.
- Parse tree follows the precedence of operators. The deepest sub-tree traversed first. So, the operator in the parent node has less precedence over the operator in the sub-tree.

**The parse tree follows these points:**

- All leaf nodes have to be terminals.
- All interior nodes have to be non-terminals.
- In-order traversal gives original input string.

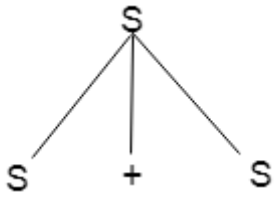
**Example:**

**Production rules:**

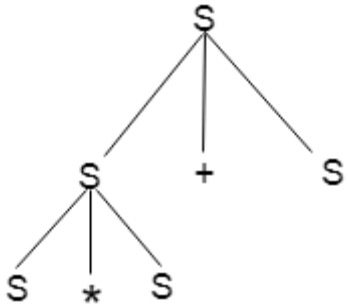
1. T= T + T | T * T
2. T = a | b |c

**Input:** a * b + c

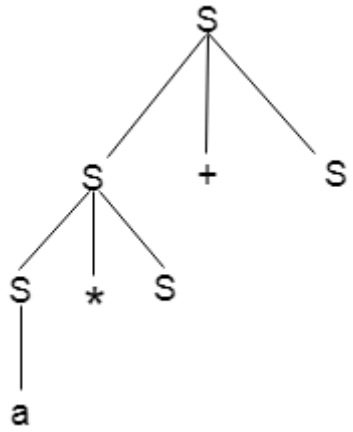
**Step 1:**



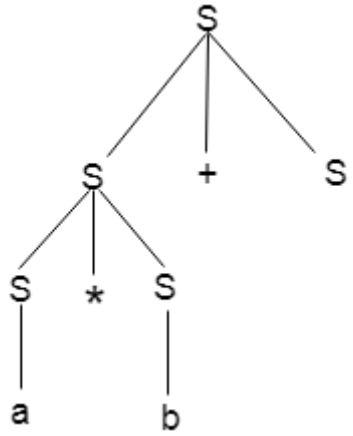

**Step 2:**

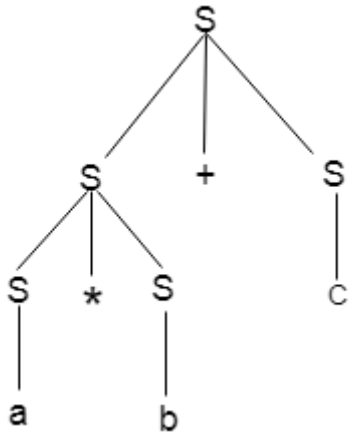


**Step 3:**




**Step 4:**




**Step 5:**