

**Department of Computer Science and engineering, SVNIT Surat**

**System Software**

**Tutorial 4**

1. Consider the following Grammar:

**$S \rightarrow AS \mid b$**

**$A \rightarrow SA \mid a$**

Construct the SLR parse table for the grammar. Show the actions of the parser, for the input string “abab”.

2. Consider the following Grammar:

**$S \rightarrow AaAb \mid BbBa$**

**$A \rightarrow \epsilon$**

**$B \rightarrow \epsilon$**

A. Obtain the canonical collection of set of LR(1) item.

B. Construct the CLR parsing table for this grammar.

C. Show the moves of CLR parser for the input “aabb”

3. Construct LALR parsing table for the grammar.

**$S \rightarrow Ba \mid bBc \mid dc \mid bda$**

**$B \rightarrow d$**

4. Show that the following grammar is LR(1).

**$S \rightarrow Aa \mid aAc \mid Bc \mid bBa$**

**$A \rightarrow d$**

**$B \rightarrow d$**

5. Construct CLR parsing table for the following grammar. Also show all moves of CLR parser for the input “baab”.

**$S \rightarrow AA$**

**$A \rightarrow aA \mid b$**