

1. $S \rightarrow aA \mid \epsilon$
 $A \rightarrow bAb \mid a$

Construct LALR parse table for the above grammar and show the parsing actions for the input string “abab”.

2. For the following grammar specify the SDD and show the annotated parse trees for the following expressions:

$$L \rightarrow E n$$

$$E \rightarrow E_1 + T \mid T$$

$$T \rightarrow T_1 * F \mid F$$

$$F \rightarrow (E) \mid \text{digit}$$

- a. $(3+4)*(5+6)n$

- b. $4*3*2*(1+1)n$

3. Explain implementation of DAG using SDD with an example.
4. For the following grammar, specify SDD and show annotated parse tree for the expression $1*2*3*4$

$$T \rightarrow FT'$$

$$T' \rightarrow *FT'$$

$$T' \rightarrow \epsilon$$

$$F \rightarrow \text{digit}$$