

Design SLR Parsers

$S \rightarrow (S)S$ | $\text{follow}(S) = \{), \$ \}$
 $S \rightarrow \epsilon$

i/p $\rightarrow () () \$$

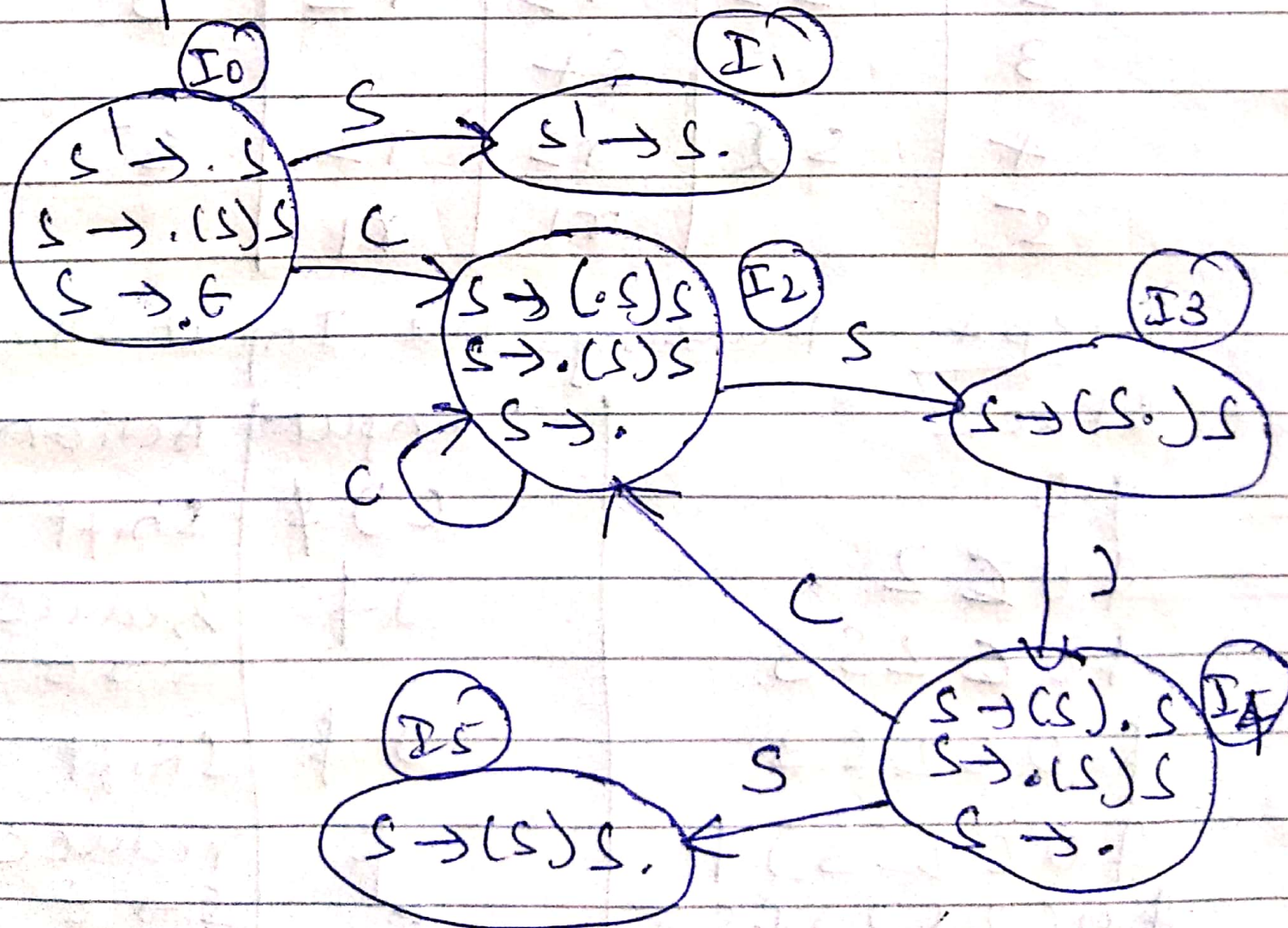
Step 1: Augment the grammar

$S' \rightarrow S$

$S \rightarrow (S)S$ — (1)

$S \rightarrow \epsilon$ — (2)

Step 2: Design goto graph.



Steps: Construction of SLR table

States	Action			go to
	ϵ)	$\$$	
0	s 2	r 2	r 2	1
1			Accept	
2	s 2	r 2	r 2	3
3		s 4		
4	s 2	r 2	r 2	5
5		r 1	r 1	

Step 4: Parsing the Input string

Stack	Input	Action
$\$ 0$	$\epsilon) \$$	shift
$\$ 0 2$	$) \$$	reduce $s \rightarrow \epsilon$
$\$ 0 2 s 3$	$) \$$	shift
$\$ 0 \epsilon 2 s 3$	$\$$	reduce $s \rightarrow \epsilon$
$\$ 0 \epsilon 2 s 3) 4$	$\$$	reduce $s \rightarrow (\epsilon) s$
$\$ 0 \epsilon 2 s 3) 4 s 5$	$\$$	
$\$ 0 s 1$	$\$$	
Accept.		