



Reg.No

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

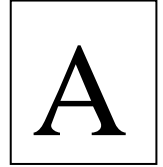
SNS College of Technology, Coimbatore-35
(Autonomous)



B.E/B.Tech- Internal Assessment -II
Academic Year 2023-2024(ODD)

Fifth Semester

Computer Science and Engineering
19CSB301 – Automata Theory and Compiler Design



Time: 1.5 Hours

Maximum Marks: 50

Part-A (5 x 2 =10 Marks)

	CO	Blooms
1. Tabulate the rules for calculating firstpos and lastpos for “.” and “*” Operator	CO2	Rem
2. Construct the Syntax tree for $((a+b)^*(a.c)^*)$ and mark the nullable nodes	CO2	App
3. Define parser and list the types of parser	CO3	Rem
4. Find the first and follow of the CFG given below: $S \rightarrow Bb \mid Cd$ $B \rightarrow aB \mid \epsilon$ $C \rightarrow cC \mid \epsilon$	CO3	App
5. Define Type checking	CO3	Rem

Part-B((2x13)+14=40 Marks)

6. a. Construct the ϵ -NFA to DFA for the given regular expression $(a|b)^*abb$ 13 CO2 App
- (or)
- b. Construct DFA from the given regular expression $((a+b)^*(a+c)^*)$ using Direct Method 13 CO2 App
7. a. Check whether the given CFG is LL(1) or not. Check whether the string $id+id*id$ is accepted by this CFG 13 CO3 Ana
- $E \rightarrow TE'$
 $E' \rightarrow +TE' \mid \epsilon$
 $T \rightarrow FT'$
 $T' \rightarrow *FT' \mid \epsilon$

$F \rightarrow id|(E)$

(or)

- b. Construct the canonical parsing table for the grammar given below. The check whether the string “cdcd“ is accepted or not.

$S \rightarrow CC$

$C \rightarrow cC$

$C \rightarrow d$

8. a. Construct the DFA from the given Regular Expression $(a|b)^*abb$ using Direct Method

(or)

- b. Construct the SLR parsing table for the following grammar. Check whether the string (a) is accepted or not. $A \rightarrow (A)|a$