

University of Mumbai

Examination June 2021

Examinations Commencing from 1st June 2021

Program: Computer Engineering

Curriculum Scheme: Rev2016

Examination: BE Semester VI

Course Code: CSC602 and Course Name: System Programming and Compiler Construction(SPCC)

Time: 2 hour

Max. Marks: 80

Question Number	Correct Option (Enter either 'A' or 'B' or 'C' or 'D')
Q1.	A
Q2.	C
Q3.	B
Q4.	A
Q5.	D
Q6.	C
Q7.	B
Q8.	A
Q9.	C
Q10.	B
Q11.	D
Q12.	D
Q13.	B
Q14.	A
Q15.	C

Q16.	A
Q17.	D
Q18.	B
Q19.	C
Q20.	A

Q2B)

Eliminate Left Recursion from following grammar

$S \rightarrow Aa \mid b$

$A \rightarrow Ac \mid Sd \mid \epsilon$

Solution: $S \rightarrow Aa \mid b$

$A \rightarrow bdA' \mid A'$

$$A' \rightarrow cA' / adA' / \epsilon$$

Q3c) Construct Predictive parser table for following Grammar

$$E \rightarrow TE'$$

$$E' \rightarrow +TE' \mid \epsilon$$

$$T \rightarrow FT'$$

$$T' \rightarrow *FT' \mid \epsilon$$

$$F \rightarrow (E) \mid id$$

$$\text{FIRST}(E) = \{ (, id \}$$

$$\text{FIRST}(E') = \{ +, \epsilon \}$$

$$\text{FIRST}(T) = \{ (, id \}$$

$$\text{FIRST}(T') = \{ *, \epsilon \}$$

$$\text{FIRST}(F) = \{ (, id \}$$

FOLLOW():

$$\text{FOLLOW}(E) = \{ \$,) \}$$

$$\text{FOLLOW}(E') = \{ \$,) \}$$

$$\text{FOLLOW}(T) = \{ +, \$,) \}$$

$$\text{FOLLOW}(T') = \{ +, \$,) \}$$

$$\text{FOLLOW}(F) = \{ +, *, \$,) \}$$

	+	*	()	id	\$
E			$E \rightarrow TE'$		$E \rightarrow TE'$	
E'	$E' \rightarrow +TE'$			$E' \rightarrow \epsilon$		$E' \rightarrow \epsilon$
T			$T \rightarrow FT'$		$T \rightarrow FT'$	
T'	$T' \rightarrow \epsilon$	$T' \rightarrow *FT'$		$T' \rightarrow \epsilon$		$T' \rightarrow \epsilon$
F			$F \rightarrow (E)$		$F \rightarrow id$	