NOAKHALI SCIENCE AND TECHNOLOGY UNIVERSITY

Year-03 Term-01 Lab Final Examination 2025

Department of Computer Science and Telecommunication Engineering Course Title: Compiler Construction Lab (CSTE-3110)

Group-A (SET-B)

1. Write a C program that accept strings containing "bca" as a substring on the alphabet {a, b, c} (using transition diagram only, no other short-cuts acceptable). (15) Implement recursive descent ponten

Sample Input/Output:

Enter a string: abca

Accepted

Enter a string: bebaca

Rejected

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2. Write a C program to compute First and Follow for the following grammar. (15)

 $T \rightarrow A + T \mid A$

A → num * A | num

Sample Input Output:

Enter a string: 3 * 4 - 2

Enter a string: 3 4 *

Rejected

3. Write a Lex program to recognize a valid floating-point numbers with exponentiation. (10)

Enter a number: 12

Not a floating-point number

Enter a number: 12.23

It's a floating-point number Enter a number: 12.23F2

It's a floating-point number with exponentiation



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Group-B (SET-B)

1. Write a C program that accept strings containing "cba" as a substring on the alphabet {a, b, c} (using transition diagram only, no other short-cuts acceptable). (15)

Sample Input/Output:

Enter a string: abcba

Accepted

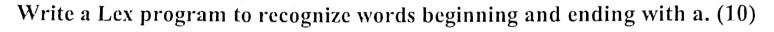
Enter a string: bebeab

Rejected

2. Write a C program to eliminate left recursion from the following grammar: (15)

$$\overrightarrow{A} \rightarrow AaB \mid Aa \mid a$$

 $\overrightarrow{B} \rightarrow Ba \mid b \mid c$



Sample Input	Sample Output	
Enter an identifier: ana	Matching	
Enter an identifier and	Not Matching	

