**BRAC UNIVERSITY**

**ASSIGNMENT**

**CSE 420 (SECTIONS 1 - 11) SPRING 2021 MARKS 30**

**(TIME : 28 MARCH 12 PM - 29 MARCH 6 PM)**

1. Remove left recursion from the following grammar: 3

S → (A) | a

A→ A,S | S

1. Given the following grammar, calculate the First of S, A, B, C, D: 7

S -> Ad

A -> Bb | CD

B -> (B) | a | ε

C -> bCc | ε

D -> cBc | B

1. Convert the regular expression (x|y)\*xy(xy|xx)\* over ∑={x, y} into its equivalent DFA using Direct method by describing each intermediate step very clearly. 10
2. Convert the regular expression a(a|b)\*a(a|ab) over ∑={a, b} into its equivalent DFA using Direct method by describing each intermediate step very clearly 10