Course Code: **CSC 203.**
Course Name: **Fundamentals of Automata Theory.**
Test: **Assignment 3**
Weight: **15 Marks**
Due Date: **19th March 2021**

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a) Convert the following CFG into Chomsky Normal Form:
   S → aXbX
   X → aY | bY |
   Y → X | c
   (Note: Explain all steps followed) [5 Marks]

b) Given the production rules, G:

   E => E+E | E*E | (E) | F

   F => aF | bF | 0F | 1F | ε

   i) Use the Left-most derivation style to derive the string a*(ab+10) from G. [5 Marks]

   ii) Generate a Parse Tree for a*(ab+1)+10 from G. [5 Marks]