

CS 302

6 May, 2021

REMOTE QUIZ 8

Duration : 20 minutes

Closed Notes , Books and all Electronic Devices

Do not forget to write your name on your paper !

QUESTION

(a) (3 pts) State the conditions for a CFG $G = (V, T, R, S)$ to be in (i) Chomsky Normal Form ; (ii) Greibach Normal Form .

***(b) Given the CFG $G = (\{S, X, Y\}, \{a, b\}, R, S)$ where the productions in R are given as :
 $S \rightarrow aXS \mid bYS \mid e$; $X \rightarrow aXX \mid b$; $Y \rightarrow bYY \mid a \cdot$; (i) (4 pts) Convert G into its Chomsky Normal Form G' . (ii) (3 pts) Give a rightmost derivation of the string **abab** in $L_{G'}$. What is the language $L_{G'}$?***