Birla Institute of Technology and Science-Pilani, Hyderabad Campus
Second Semester 2021-2022
Tutorial-5
Course No CS F351
Course Title: Theory of Computation

General Instructions: *Argue logically. Write it in a manner that explains your logic very clearly. Do not miss steps in between.*

1. Prove that the following languages are not CFL.

   (a) $L = \{a^{n!} \mid n \geq 0\}$

   (b) $L = \{wtw^R \mid w, t \in \{0, 1\}^*, |w| = |t|\}$

2. By using CYK algorithm prove that *baaba* can be generated from the grammar $S \to AB \mid BC, A \to BA \mid A, B \to CC \mid a, C \to AB \mid a$

3. Let L be a CFL and R be a regular language. Then $L \cap R$ is CFL.