Problem 1: Problem 14.15. Razavi’s book

Problem 2:
Given the following source-coupled CMOS oscillator:

1. Describe the operation principle of the oscillator.
2. Calculate the oscillation frequency?
3. Draw the time-domain waveforms of the nodes $Out^+$, $Out^-$, $X$, and $Y$?
4. What are the advantages and the disadvantages of this architecture if used as a VCO?

Problem 3: Problem 15.4, Razavi’s book

Problem 4: Problem 15.7, Razavi’s book

Problem 5: Problem 15.13, Razavi’s book