# ISLAMIC UNIVERSITY OF TECHNOLOGY

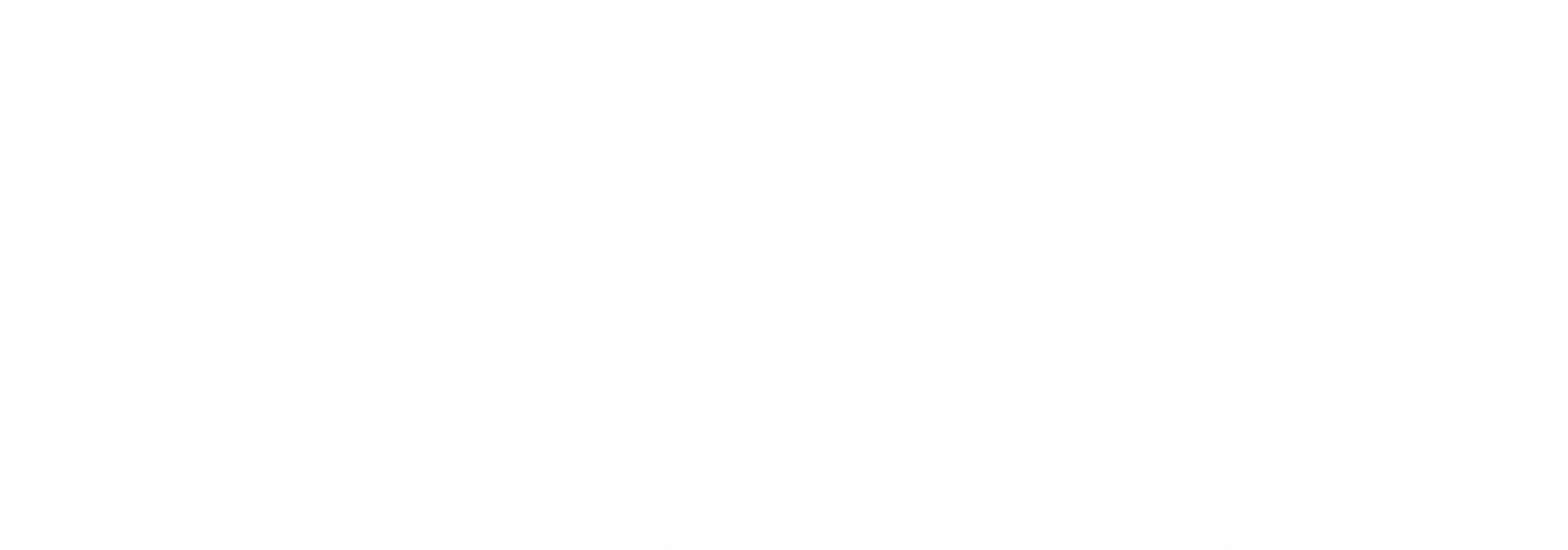
# Organization of Islamic Cooperation

# Board Bazar, Gazipur

# Phase Shift Oscillators

# EEE 4483

# Safayat Bin Hakim



and

,

Substituting for ,

For oscillation to occur, .

In this equation, the numerator is imaginary. Thus, the real component must be .

From here, we can see that

Thus, to start oscillation, must be slightly greater than .