Ain Shams University
Faculty of Engineering
Electronics & Comm. Eng. Dept.

ECE211: Electronics
2nd Year Electrical Engineering
Fall 2024

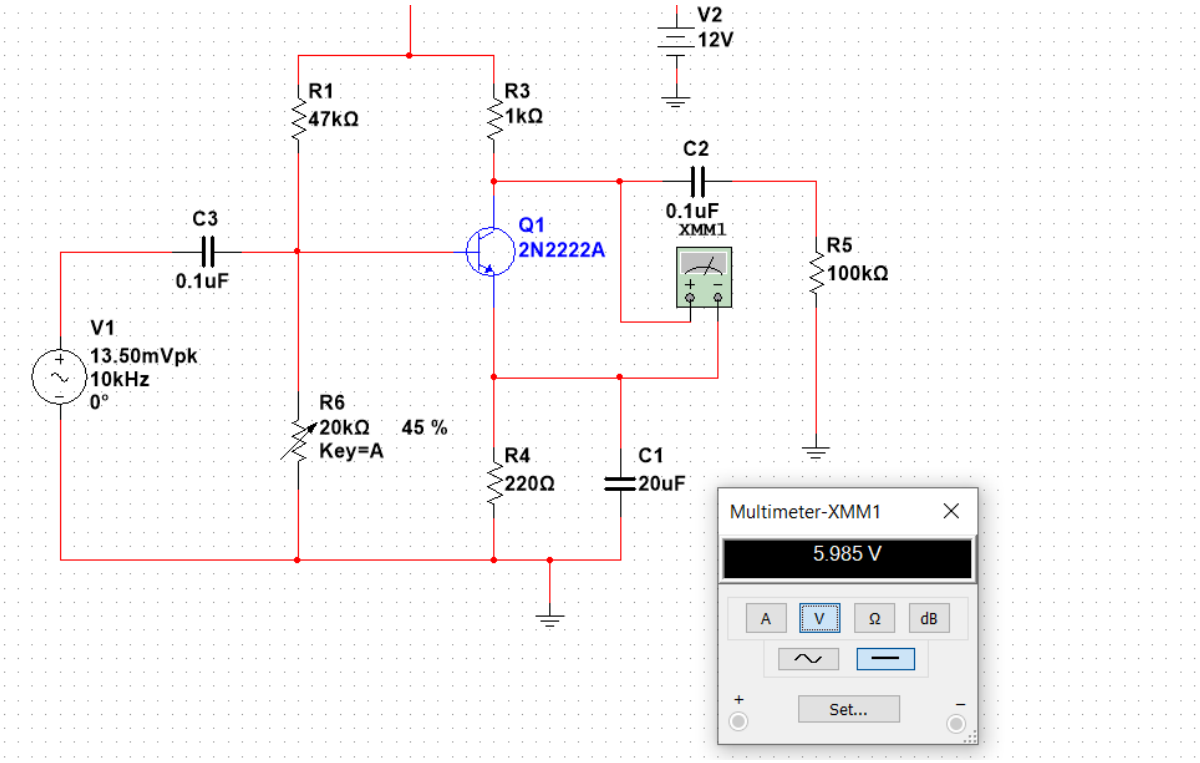
Experiment (3) Report

Names	IDs	Department	Attendance slot	Group No.	Group Code Part A, B
Adham Alaa Abd Alraheem	2200102	CSE	From 11:00-13:30 First Rotation	Team 2	A, 13.5

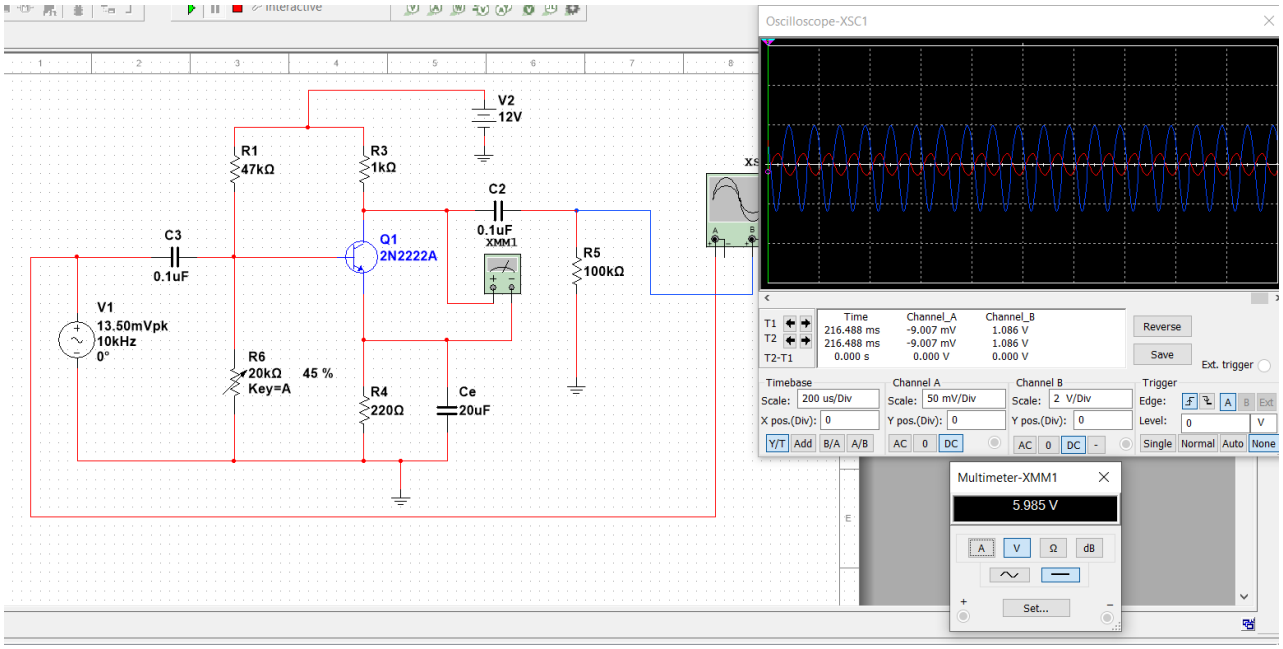
Part A:

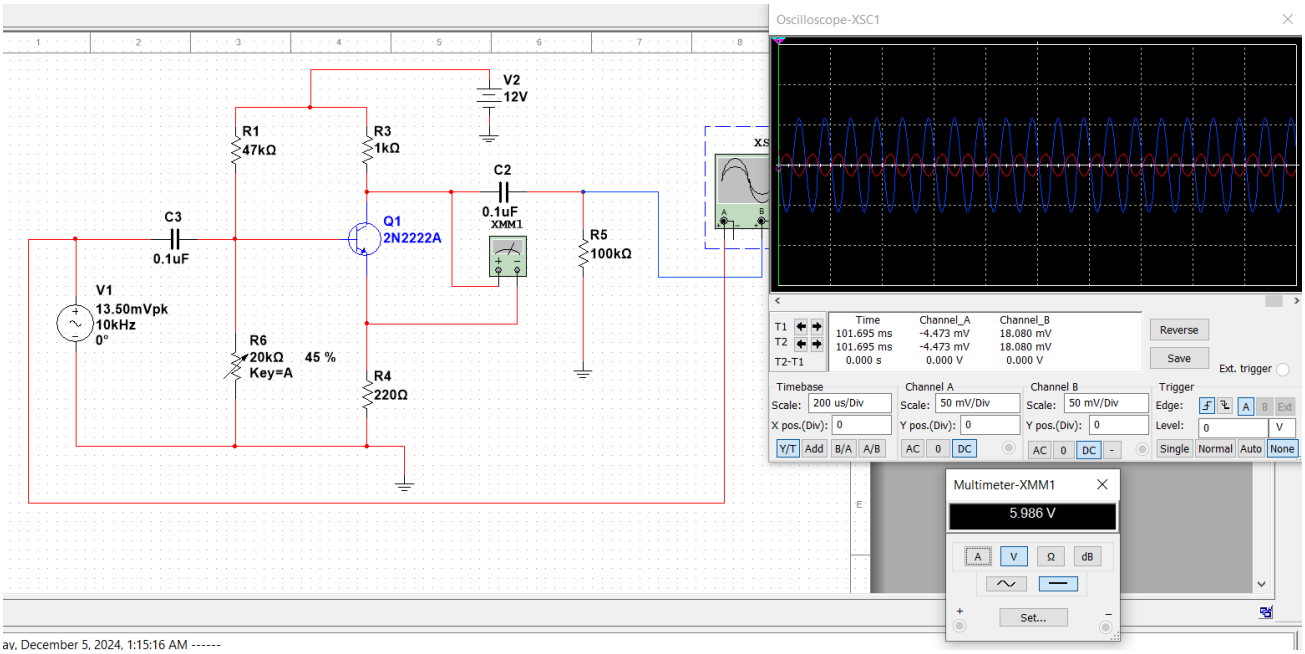
1. The schematic of the circuit drawn in circuit simulator (Figure 1). Adjust the input amplitude to x mV (1 Mark).

2. Tune the circuit till VCE ~ VCC/2. Report the DC value of VCE through a snapshot (1 Mark).

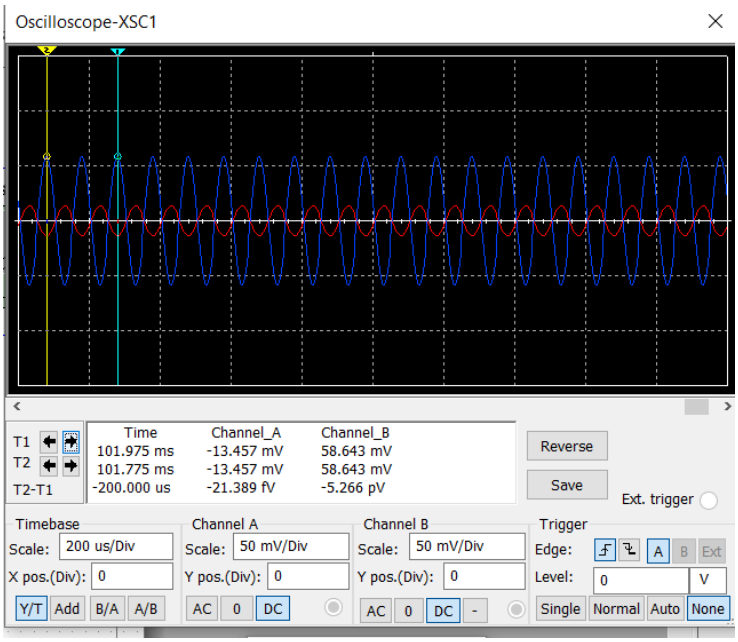


3. Snapshot for the input and the output waveforms, with Ce connected, another snapshot without Ce Connected. (1Mark)

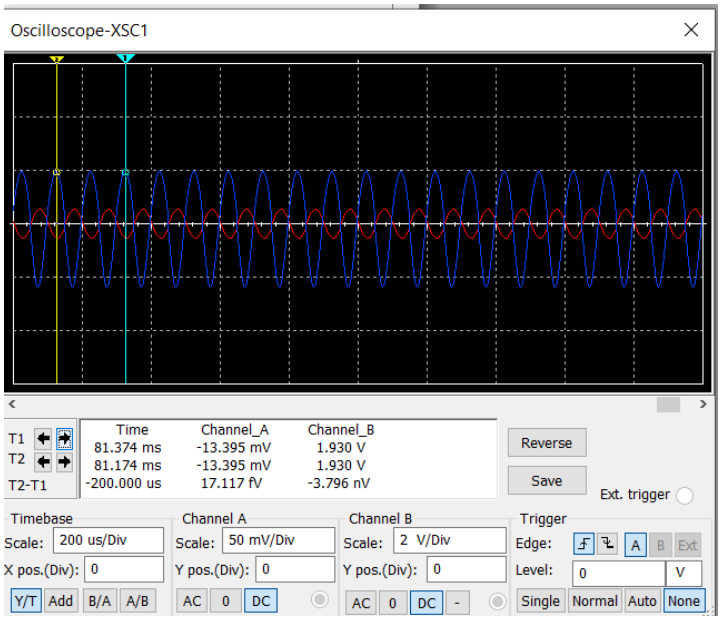




4. Measure the gain from simulation results in (3) (1 Mark).



Without Ce, Gain = Vout/Vin = 58.643/-13.457 = -4.36



With Ce, Gain = Vout/Vin = $1.930/-13.395 \times 10^{-3} = -144.1$

5. Using hand analysis calculate the analytical gain of this circuit, then compare with the simulation results obtained from measurements in (4). (1 Mark).

ICQ = 4.33mA , g_m = ICQ/26mV = 0.165, gain = g_m * R_c = 165