

EE230- Analog lab (Experimental Results: Lab session-4)
Spring Semester: Year 2021-22

February 2, 2022

Experimental Results:

1. Homework- Question-1 plot in the figure [1].

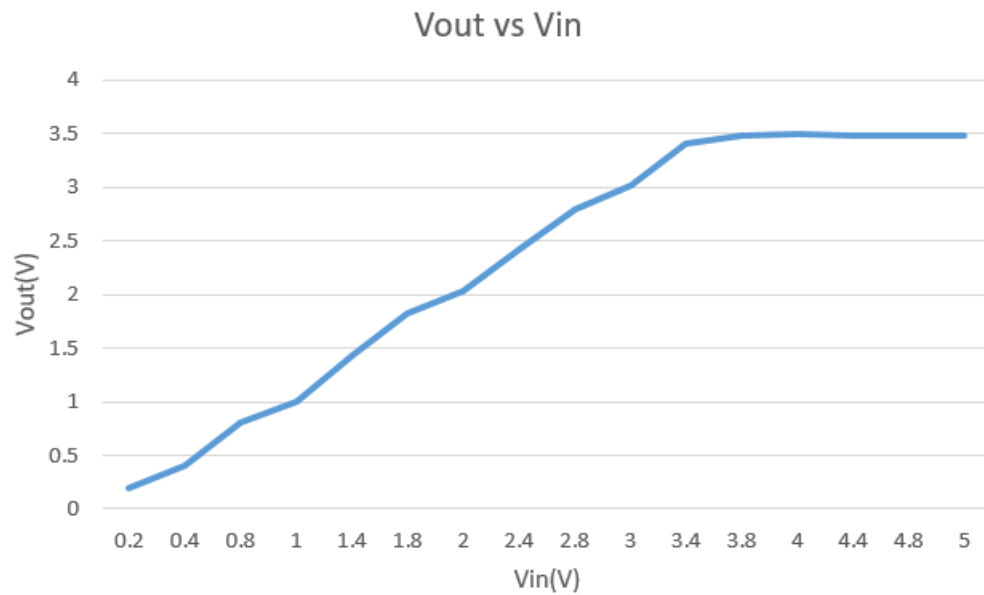


Figure 1: Q1-plot (Relation between V_{out} v/s V_{in})

2. Homework- Question-2: All Pass Filter: Waveforms in the figure [2], [3], Gain and Phase plots in the figure [4], [5]

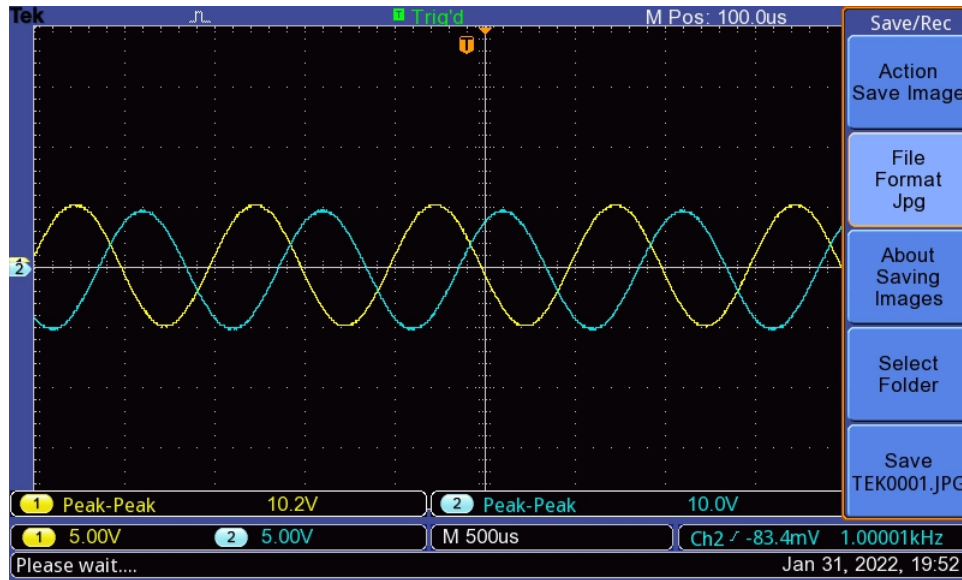


Figure 2: Q2-Waveform1 (Part-a)

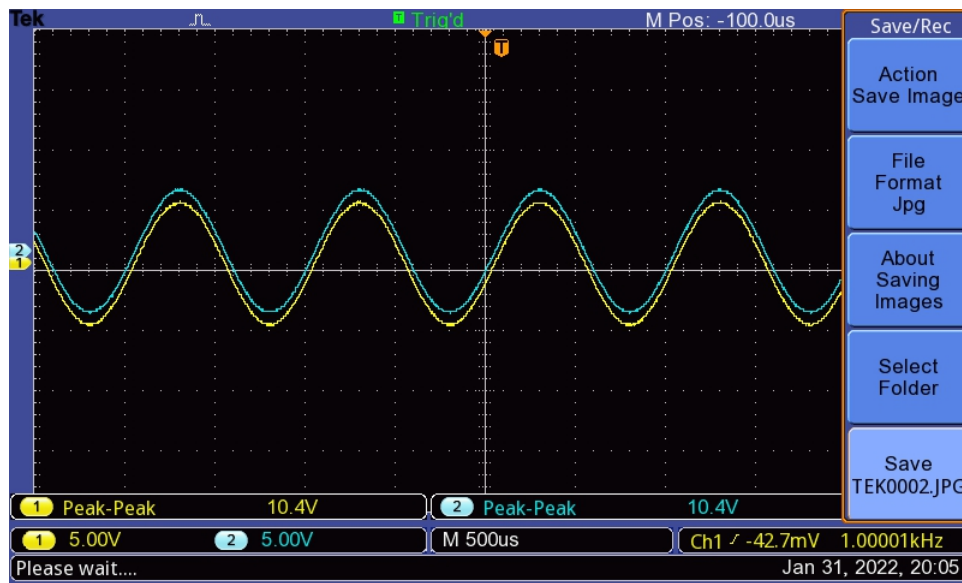


Figure 3: Q2-Waveform2 (Part-b)

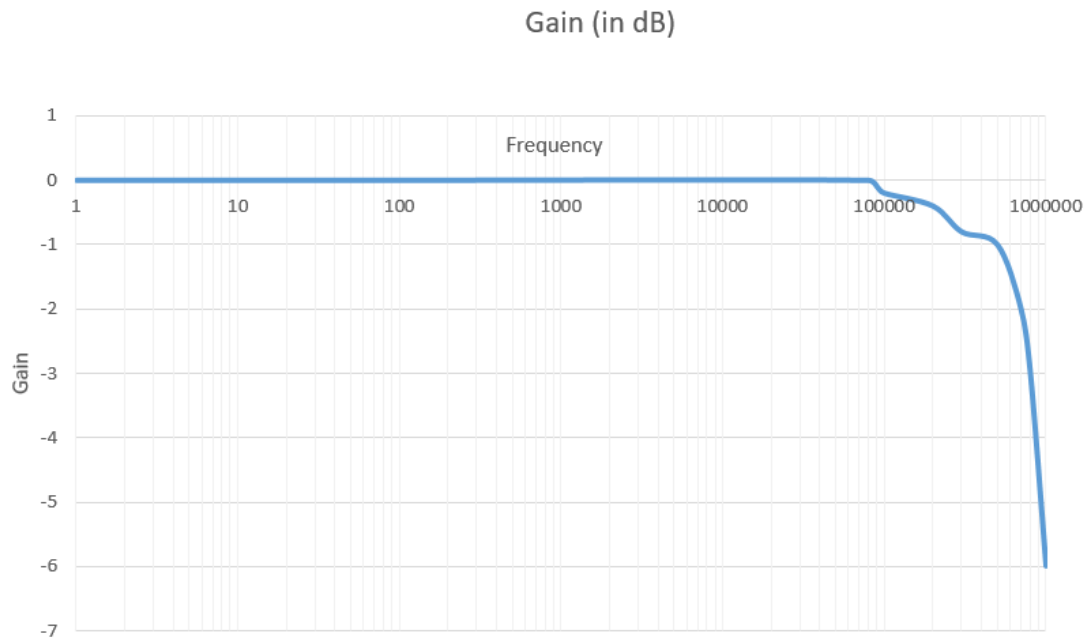


Figure 4: Gain plot (Part-a)

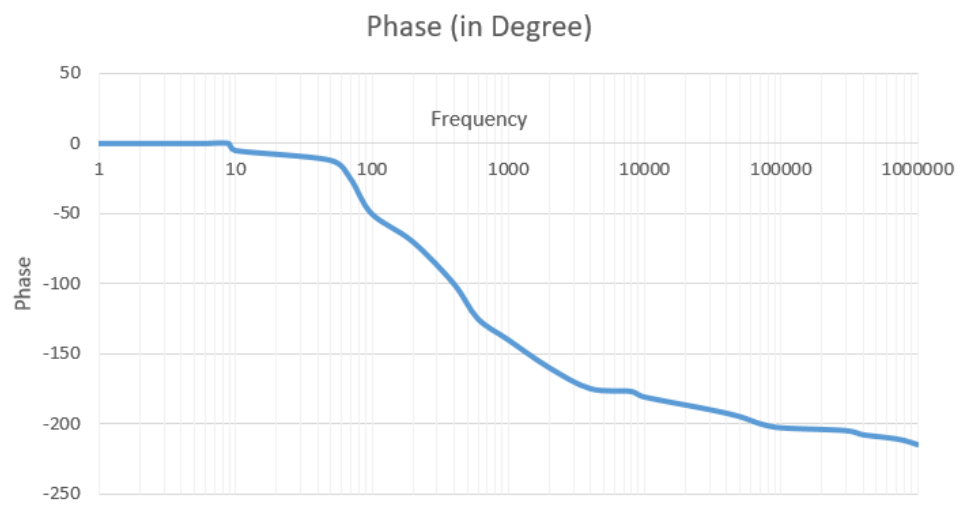


Figure 5: Phase plot (Part-a)

3. Homework- Question-3: Output waveform (Waveform Generator) in the figure [6] and circuit assembled on the breadboard in the figure [7]

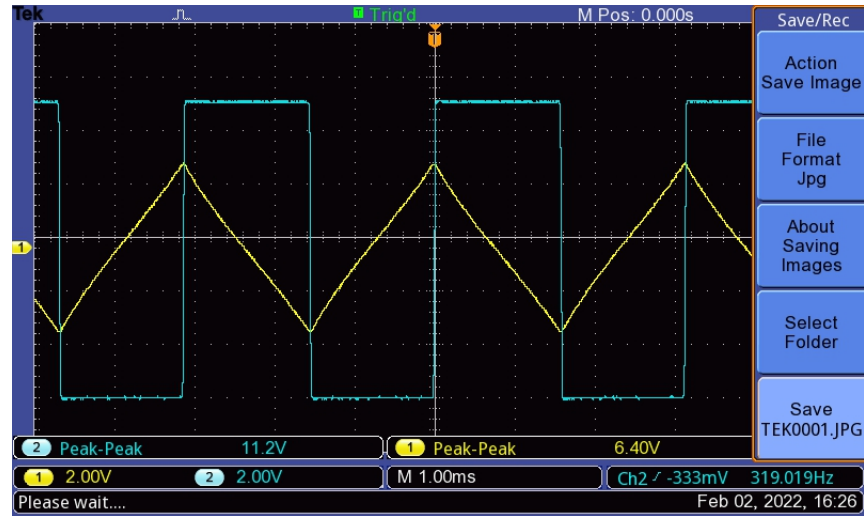


Figure 6: Q3(c)- Waveform Generator

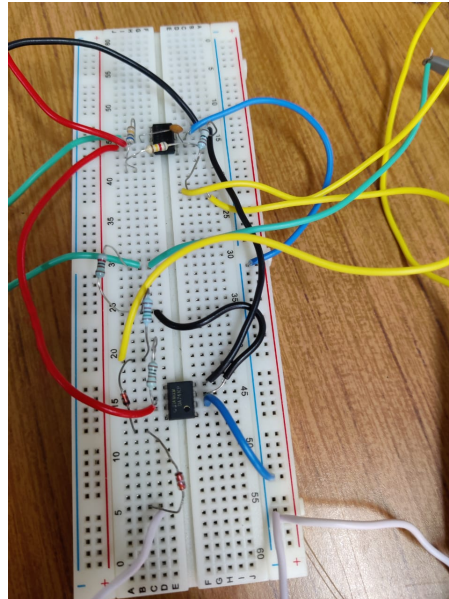


Figure 7: Q3(c)- Waveform Generator Circuit assembled on the breadboard

4. Labwork- Question-1: Output waveform (Schmitt Trigger) in the figure [8],[9],[10] and circuit assembled on the breadboard in the figure [11]

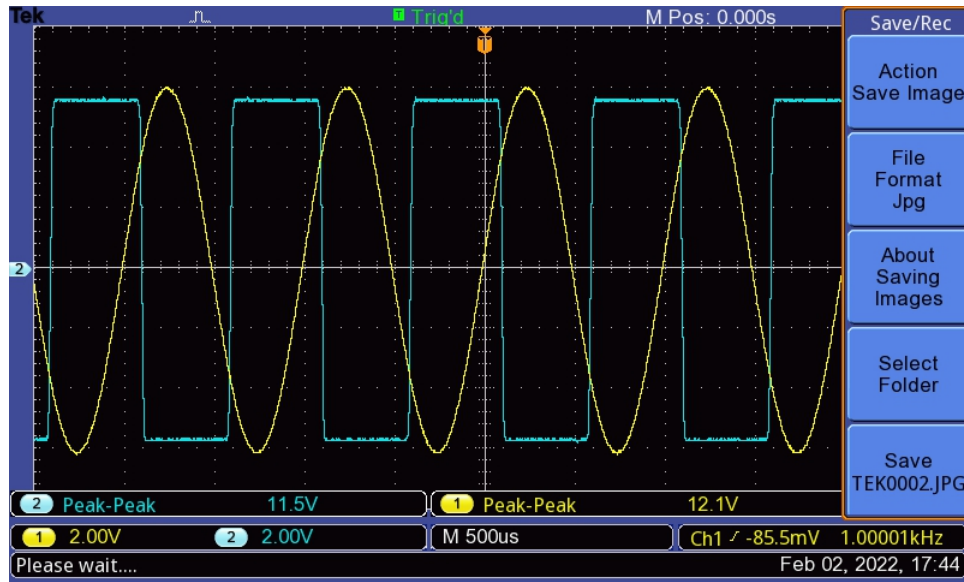


Figure 8: Labwork- Q.1(a): $V_a = 0V$

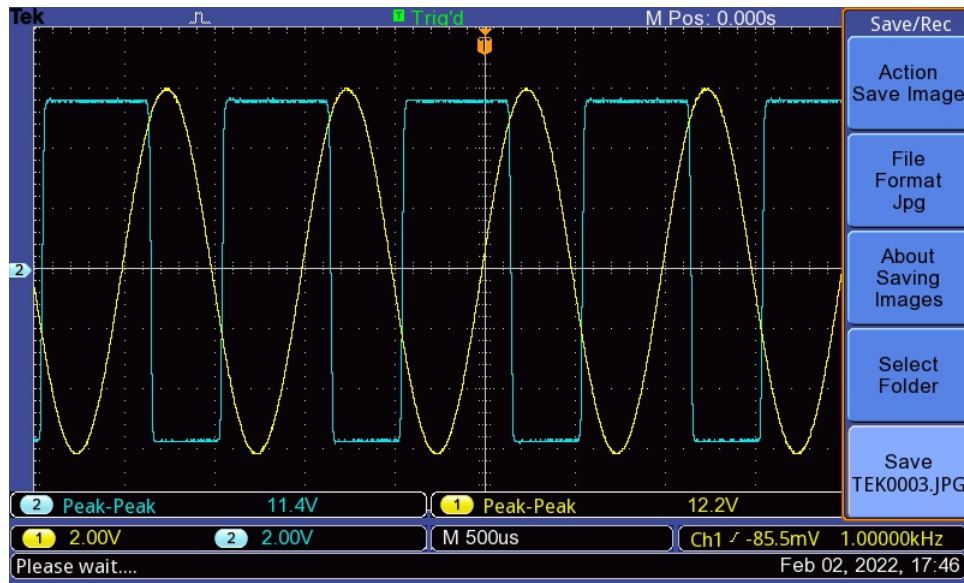


Figure 9: Labwork- Q.1(b): $V_a = 3V$

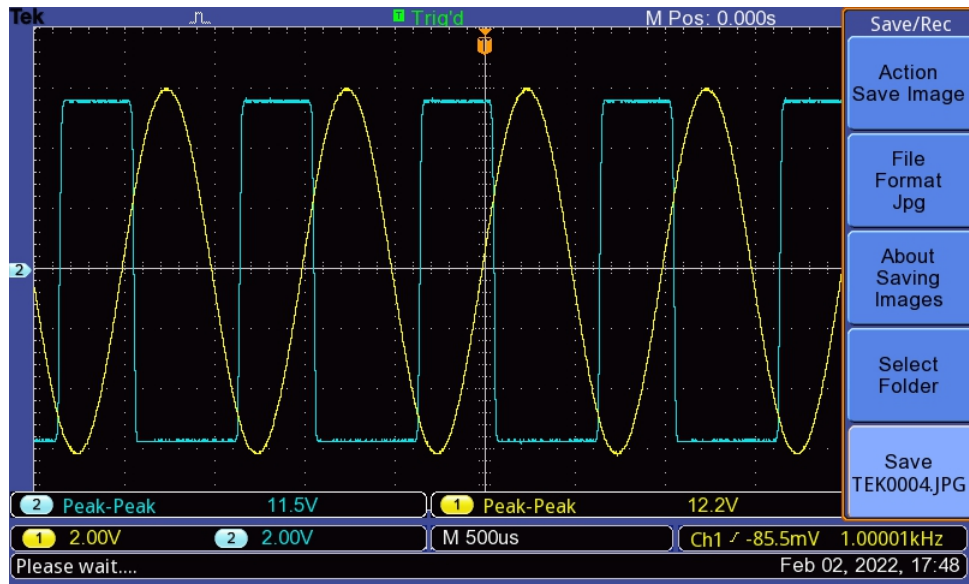


Figure 10: Labwork- Q.1(c): $V_a = -3V$

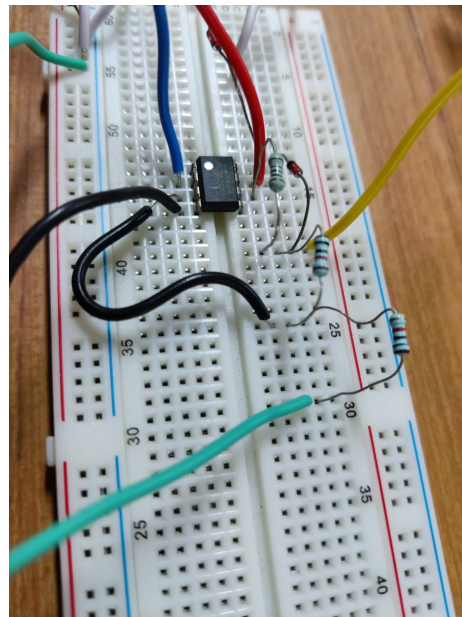


Figure 11: Labwork-Q.1: Schmitt Trigger Circuit assembled on the breadboard

5. Labwork- Question-2: Output waveform (Astable Multivibrator) in the figure [12],[13]

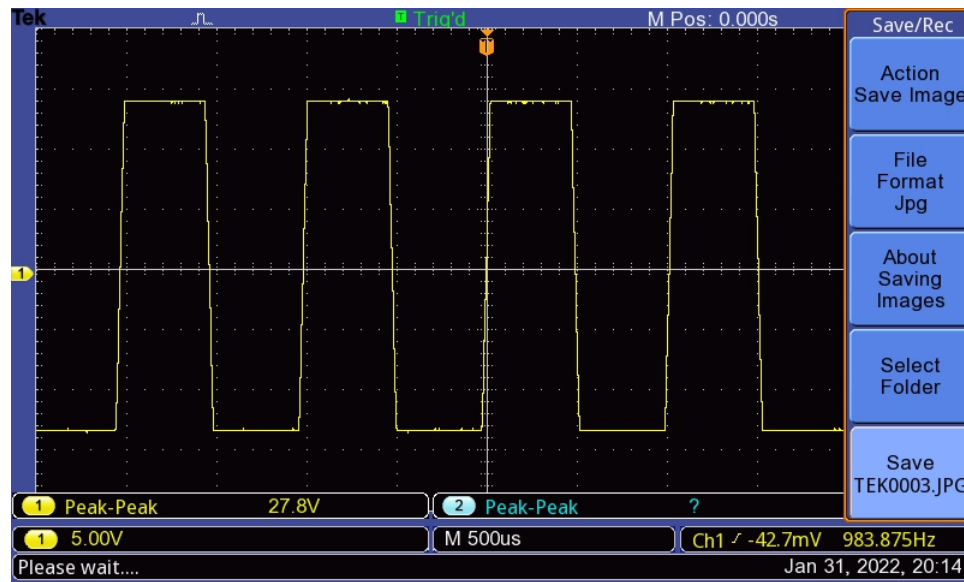


Figure 12: Labwork- Q.2 waveform without Resistor R' and Zener diodes

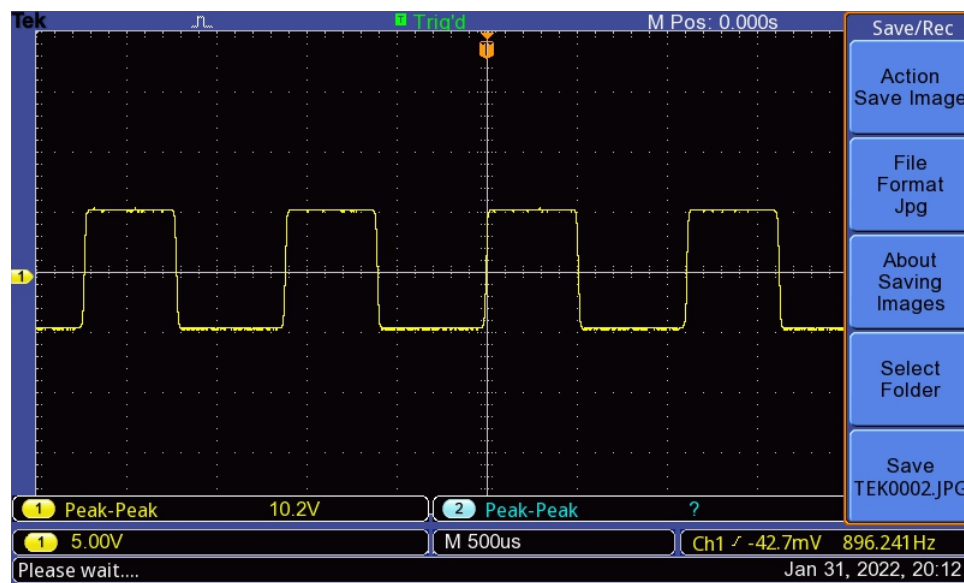


Figure 13: Labwork- Q.2 waveform with Resistor R' and Zener diodes

6. Labwork- Question-3: Monostable Multivibrator circuit assembled on the breadboard in the figure [14]

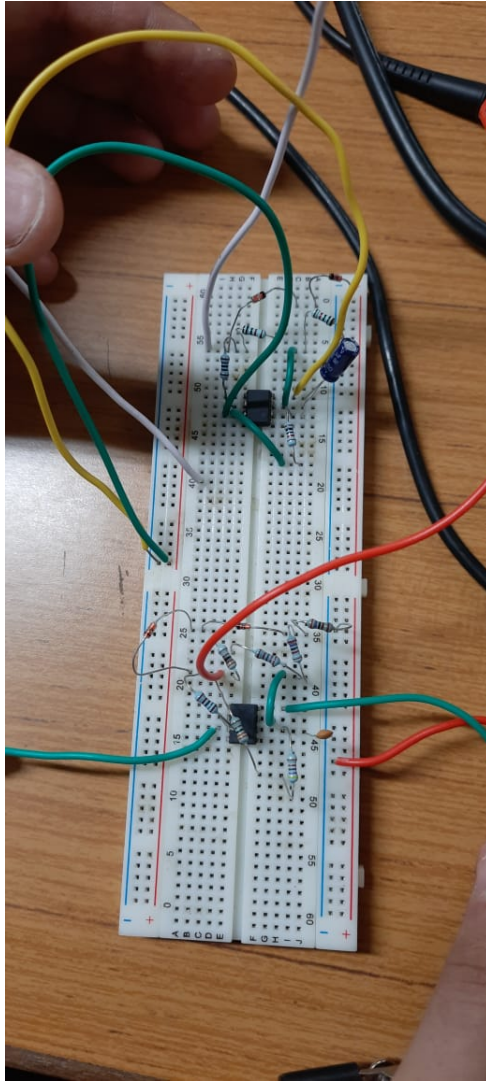


Figure 14: Labwork- Q.3 Monostable multivibrator circuit assembled on the breadboard

Video demo of Monostable Multivibrator

Monostable multivibrator- Output pulse