# Lab - Assignment - 06

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Section: 07

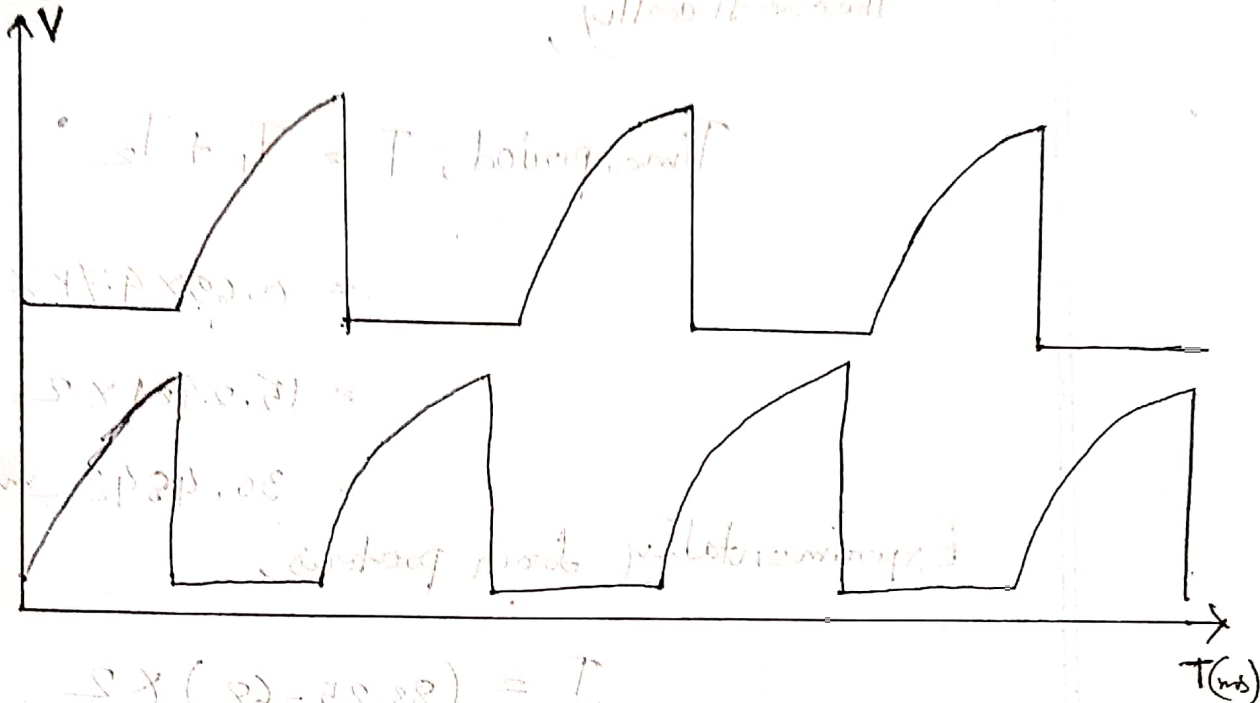<u>Report:</u>

1)



<u>Fig</u> : Output Waveforms

2) Yes, there is a deviation in the experimental output wave shape from the desired wave. We can see that experimental highest peak and lowest peak differs from theoretical values because we did not consider circuits' internal voltage drop.

3) Theoretically,

Time period, $T = T_1 + T_2$

$$= 0.69 \times 4.7K \times 4.7\mu f \times 2$$

$$= 15.2421 \times 2$$

$$= 30.4842 \text{ ms}$$

Experimentally from posters,

$$T = (83.25 - 68) \times 2$$

$$= 15.25 \times 2$$

$$= 30.5$$

So, both time periods are almost similar.

4) Yes, it is possible to use the multivibrator to create a variable frequency square wave generator. It can be done by replacing the constant resistor and capacitor with variable resistor and variable capacitor.

5) Duty Cycle $= (PW/T) \times 100\%$. So, we can change the duty cycle of a circuit by ~~increasing~~ changing the pulse width or time period.

File   Edit   View   Tool   Design   Graph   Debug   Library   Template   System   Help

Base Design

Schematic Capture

DEVICES

2N2369
BUTTON
CAP
CAPACITOR
RES
UA741
VSOURCE

Digital Oscilloscope

Trigger
Channel A
Channel C

Level

Horizontal
Channel B
Channel D

V1(+)
V=6

V1
6V

R3
4.7k

R4
1k

C2
4.7u

C2(2)
V=0.240951

Q1
2N2369

A
B
C
D