
## CSE350, LAB06

**Submitted by:**
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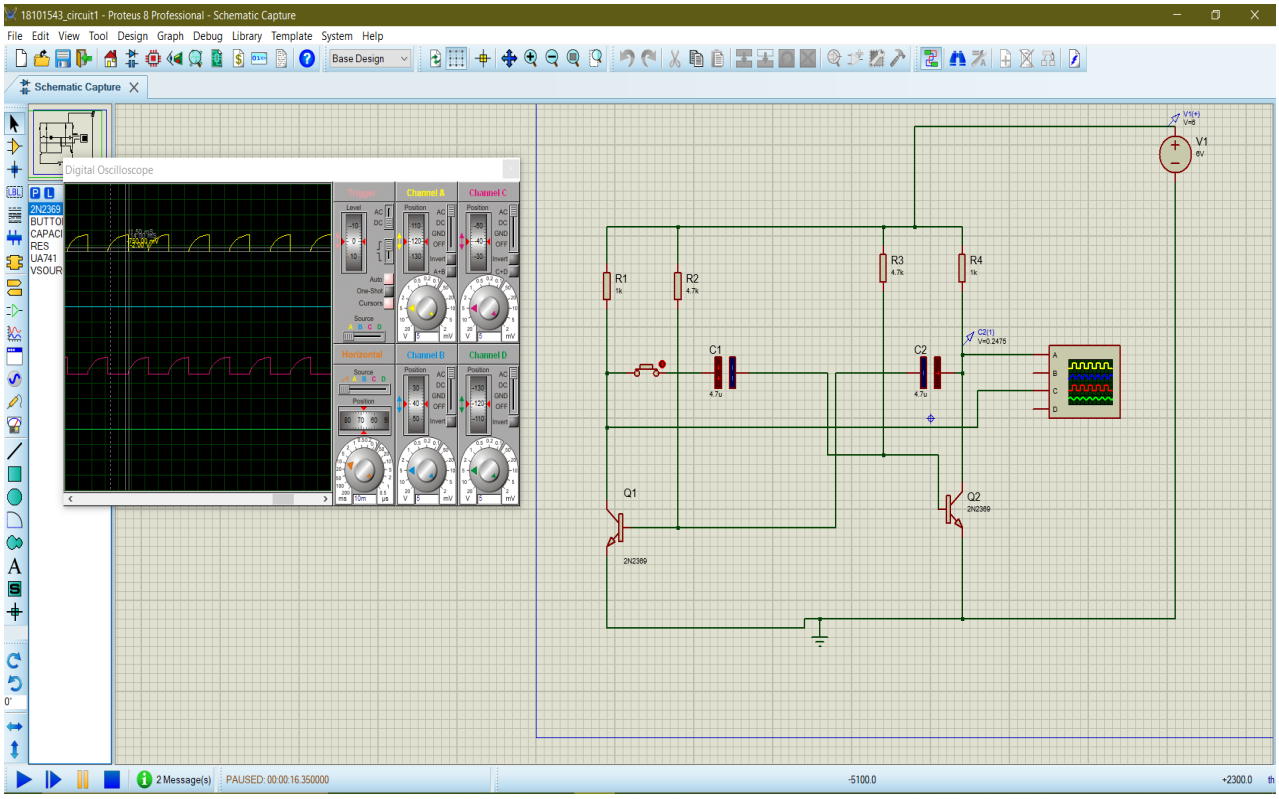
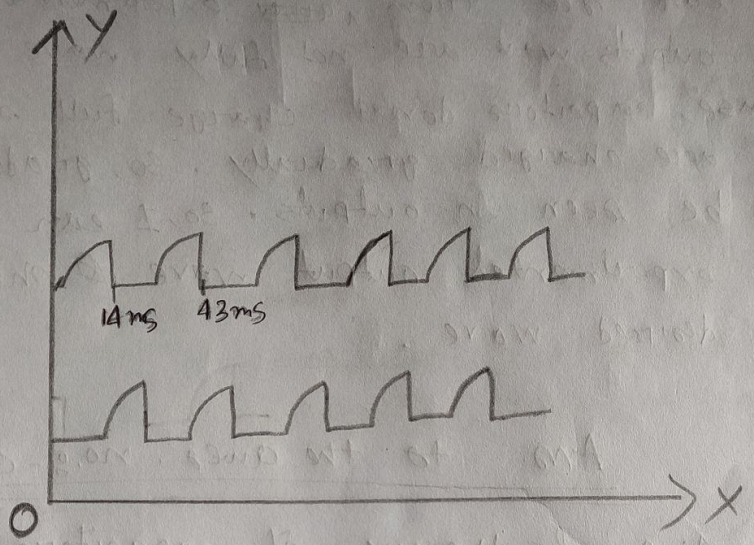
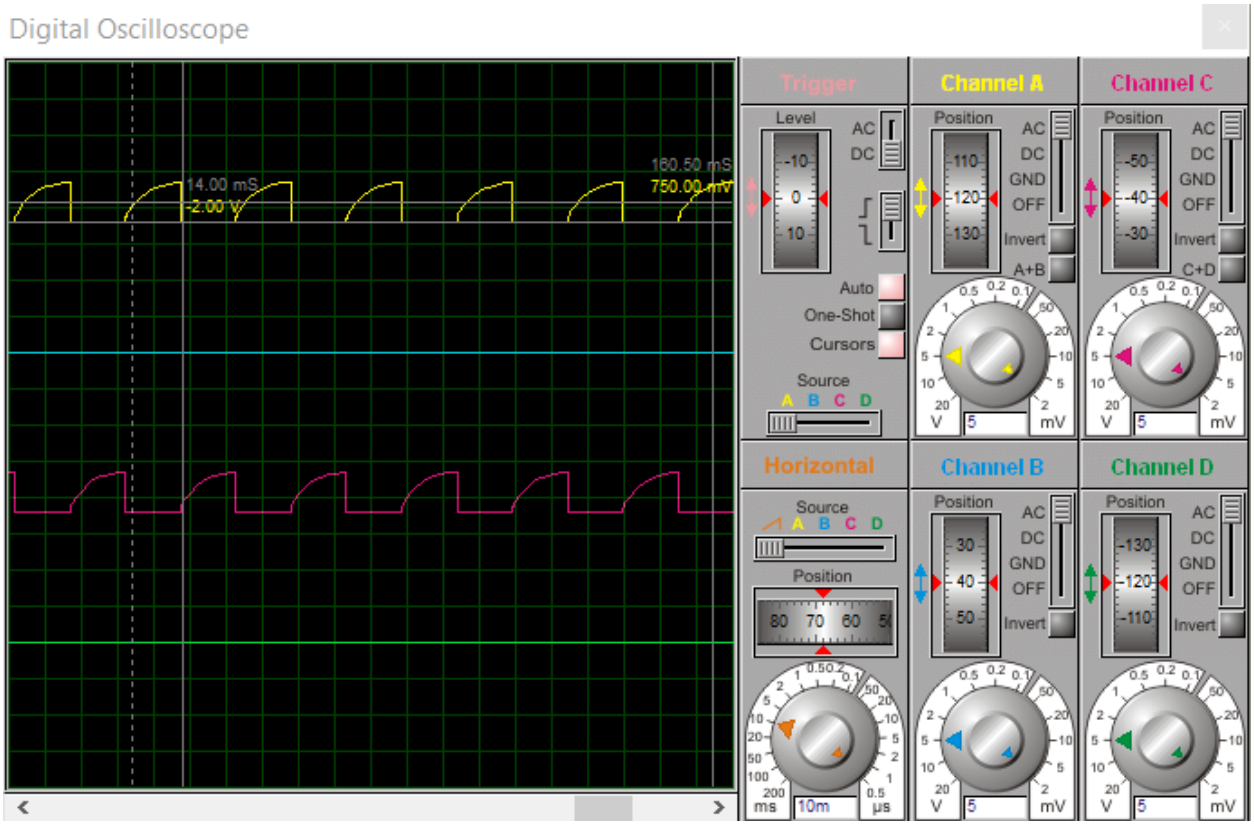
Section: 04.


18101543_circuit1 - Proteus 8 Professional - Schematic Capture
File Edit View Tool Design Graph Debug Library Template System Help
Base Design
Schematic Capture
Digital Oscilloscope
Trigger
Channel A
Channel C
Horizontal
Channel B
Channel D
R1
R2
R3
R4
C1
C2
Q1
Q2
2N2369
V1
2 Message(s)
PAUSED: 00:00:16.350000
-5100.0
+2300.0

Ans. to the Ques. no. 8 - 01




Digital Oscilloscope
14.00 mS
-2.00 V
160.50 mS
750.00 mV
Trigger
Level
AC
DC
Auto
One-Shot
Cursors
Source
A B C D
Channel A
Position
AC
DC
GND
OFF
Invert
A+B
Channel C
C+D
Horizontal
Position
ms
10m
µs
Channel B
Channel D
V
mV

ID - 18 101543



## Ans. to the Ques. no. 02

I can see from my experimental output that outputs are not fully wave shaped. Because, capacitors don't charge full suddenly. They are charged gradually. So, gradual changes can be seen in outputs. So, I can see deviation in experimental output wave shape from the desired wave.

## Ans. to the ques. no. 03

According to theory, if capacitors $C_1$ and $C_2$ are same as well as $R_2 = R_3$ then time period $T = 1.38 * R * C$

$= 1.38 * (4.7 \times 10^3 \Omega) * (4.7 \times 10^{-6} F)$

$= 0.030484 s$

$= \boxed{30.484 ms}$

From our experimental output wave we took 2 points to measure time period

point A = 14 ms, point B = 43 ms

So, time period = (43 - 14) = $\boxed{29 ms}$

So, we can see experimental wave is time period is not exactly same as experimental wave but they are quite similar.

Ans. to the ques no. 8-04

Yes, it is possible to create a variable frequency square wave generator using the given multivibrator. A linear amplifier, a clipping circuit and a C-R differentiating network, connected in regenerative mode, produce discontinuous oscillations. Such a circuit can be successfully used for generating square waves of frequency varying over a fairly wide range.

## Ans. to the Ques. no. 5-05

We know, duty circle $= \frac{t_1}{T} \times 100\%$ where

$T$ = time period

$t_1$ = high time (on time of the wave)

Here in our experiment $t_1 = t_2$ as capacitors $C_1$ $C_2$ are same and resistors $R_2$ & $R_3$ are same. If we change the value of $R_2$ and $C_1$ while keeping the $C_2$ and and $R_2 \neq R_3$ as well as $C_1 \neq C_2$, than we can change the duty circle