Name: **Bishal Saha** Lab Assignment Number: **5,5A**
Course: **EEE4001:Microprocessors and Microcontroller Lab** Date: 18-03-2022
Registration Number: **20BEE0298**

1 Aim

To Turn ON LSB and MSB after delay
Shift LSB/MSB forward Left/Right

2 Algorithm

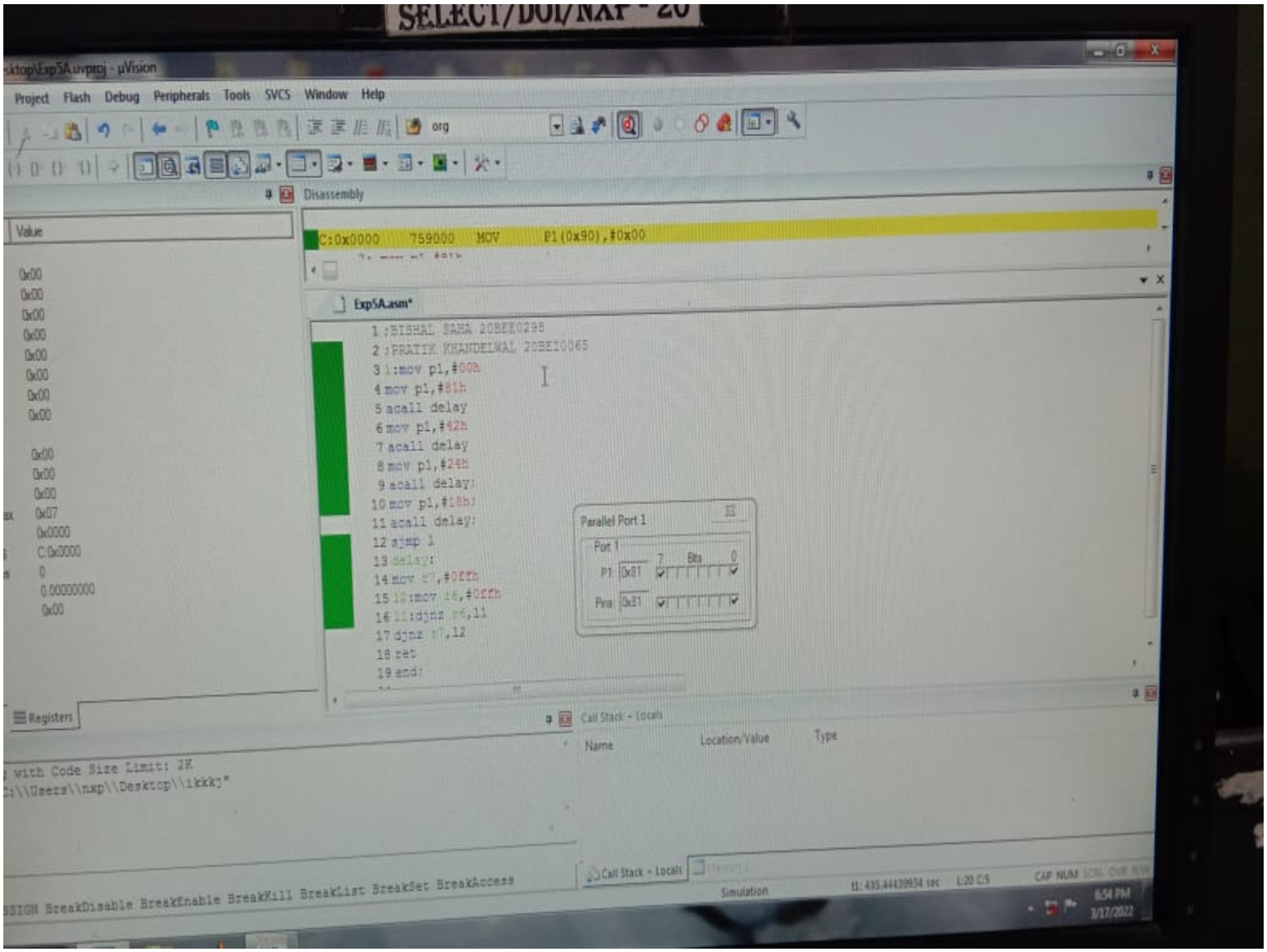
```
1  clear port 1(P1)
2  Turn On P1.0 and P1.7 using mov command for P1
3  call delay
4  Turn On P1.1 and P1.6 using mov command for P1
5  call delay
6  Turn On P1.2 and P1.5 using mov command for P1
7  call delay
8  Turn On P1.3 and P1.4 using mov command for P1
9  call delay
10 again repeat the process from starting using sjmp command
11 declare delay
```

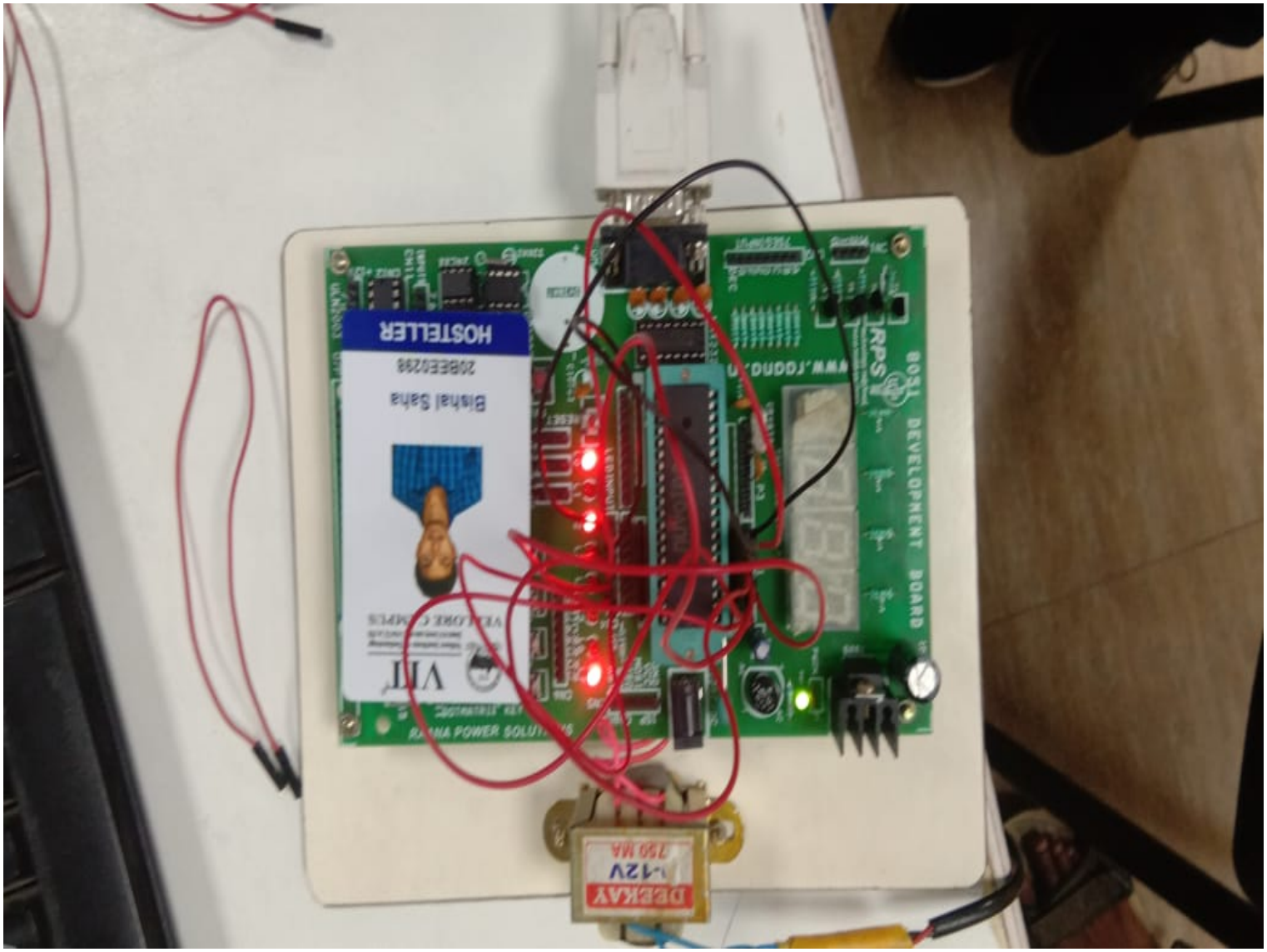
3 Assembly Language Programming and Results:

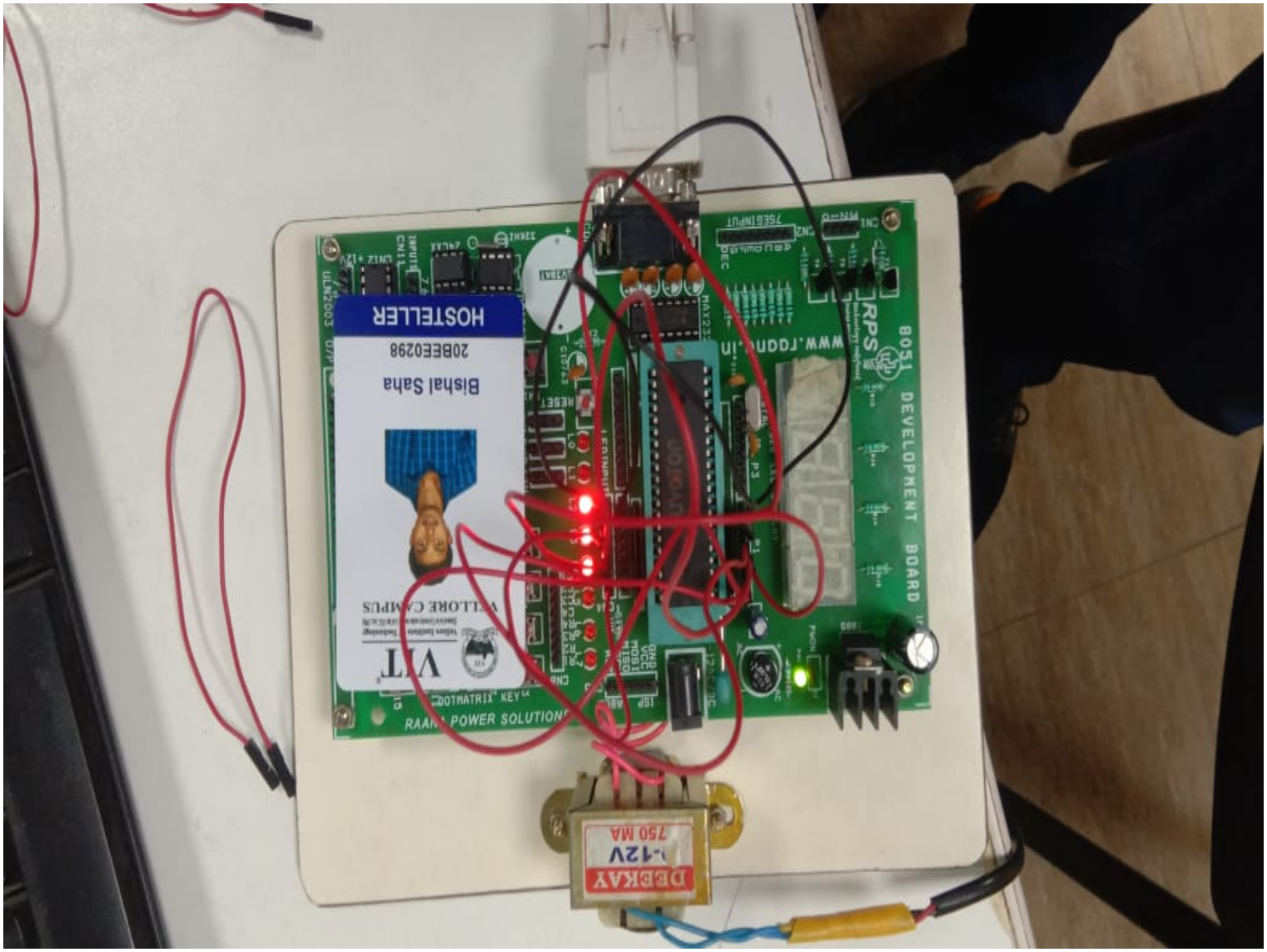
```
L:mov p1,00h
mov p1,81h
acall delay
mov p1,42h
acall delay
mov p1,24h
acall delay
mov p1,18h
acall delay
sjmp L
delay:
mov r7,0ffh
L2:mov r6,0ffh
L1:djnz r6,L1
djnz r7,L2
```

ret
end

3.0.1 OUTPUT




HOSTELLER
Bishal Saha
8051 DEVELOPMENT BOARD
RPS
DEEKAY
12V
250 MA


HOSTELLER
20BEE0298
Bishal Saha
VIT
VELLORE CAMPUS
8051 DEVELOPMENT BOARD
RPS
DEEKAY
750 MA

Another code

5A

```
L: mov  P1, #00h
   mov  P1, #81#h
   acall delay
   mov  P1, #42#h  (0100 0010)2
   acall delay
   mov  P1, #24h
   acall delay
   mov  P1, #18h
   acall delay
   Sjmp L
   delay:
      mov  R7, #0FFh
   L2: mov  R6, #0FFh
   L1: djnz R6, L1
       djnz R7, L2
       ret
```

NOP → microsec delay
delay → more

Debug

↳ * Display

↳ Project → option → check both → path

↓

name of Project

nuvoton

ISP by COM port

Load file =

17/3/22

4 Result

Hence with proper coding in keil compiler in Assembly language we successfully generated the required led pattern in 8051 MicroController.

Name: **Bishal Saha** Lab Assignment Number: **5,5B**
Course: **EEE4001:Microprocessors and Microcontroller Lab** Date: 25-03-2022
Registration Number: **20BEE0298**

1 Aim

To Generate 60HZ SQ Wave on P1.0 use T1-M1,XTAL=11.0502

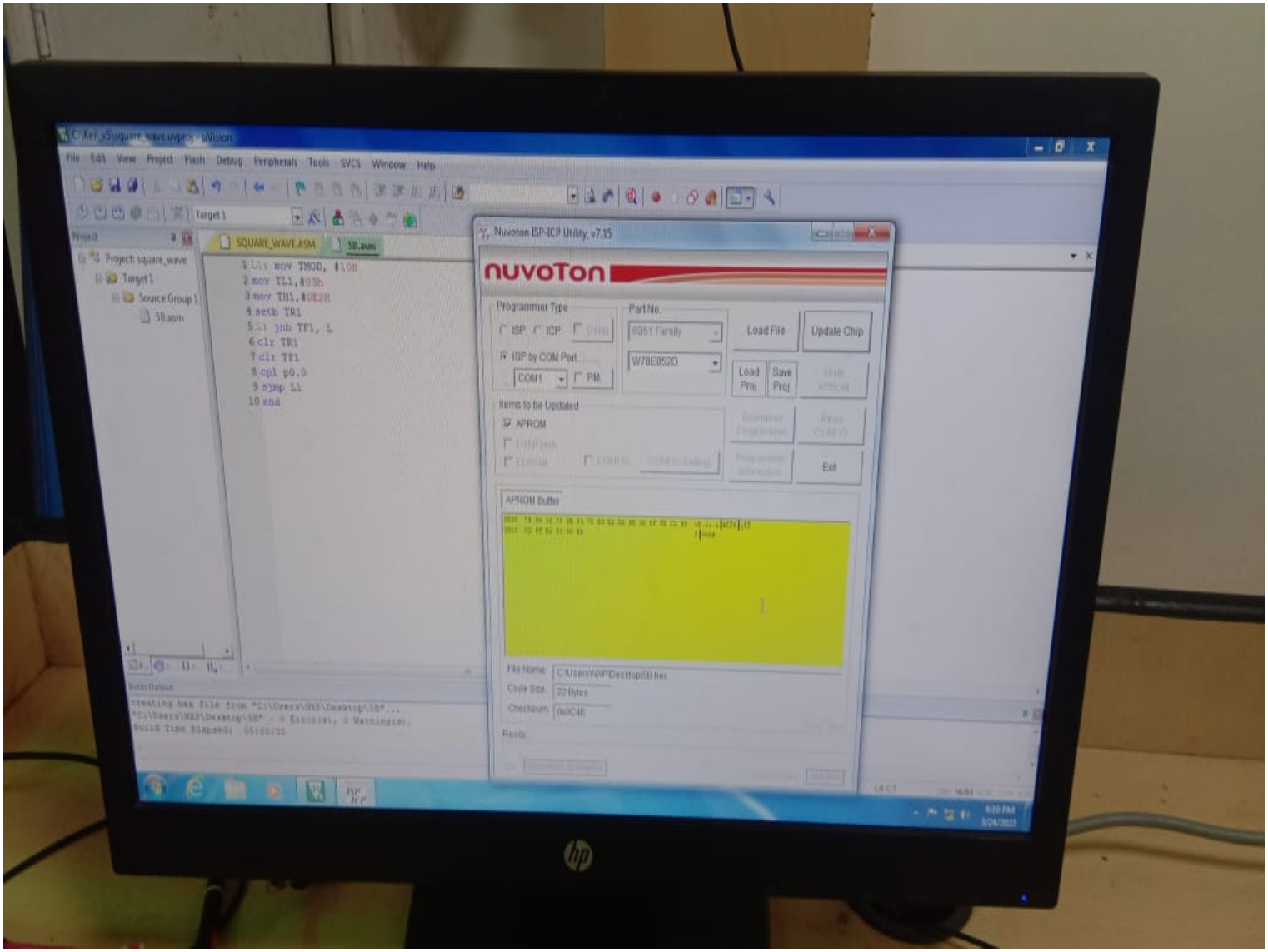
2 Algorithm

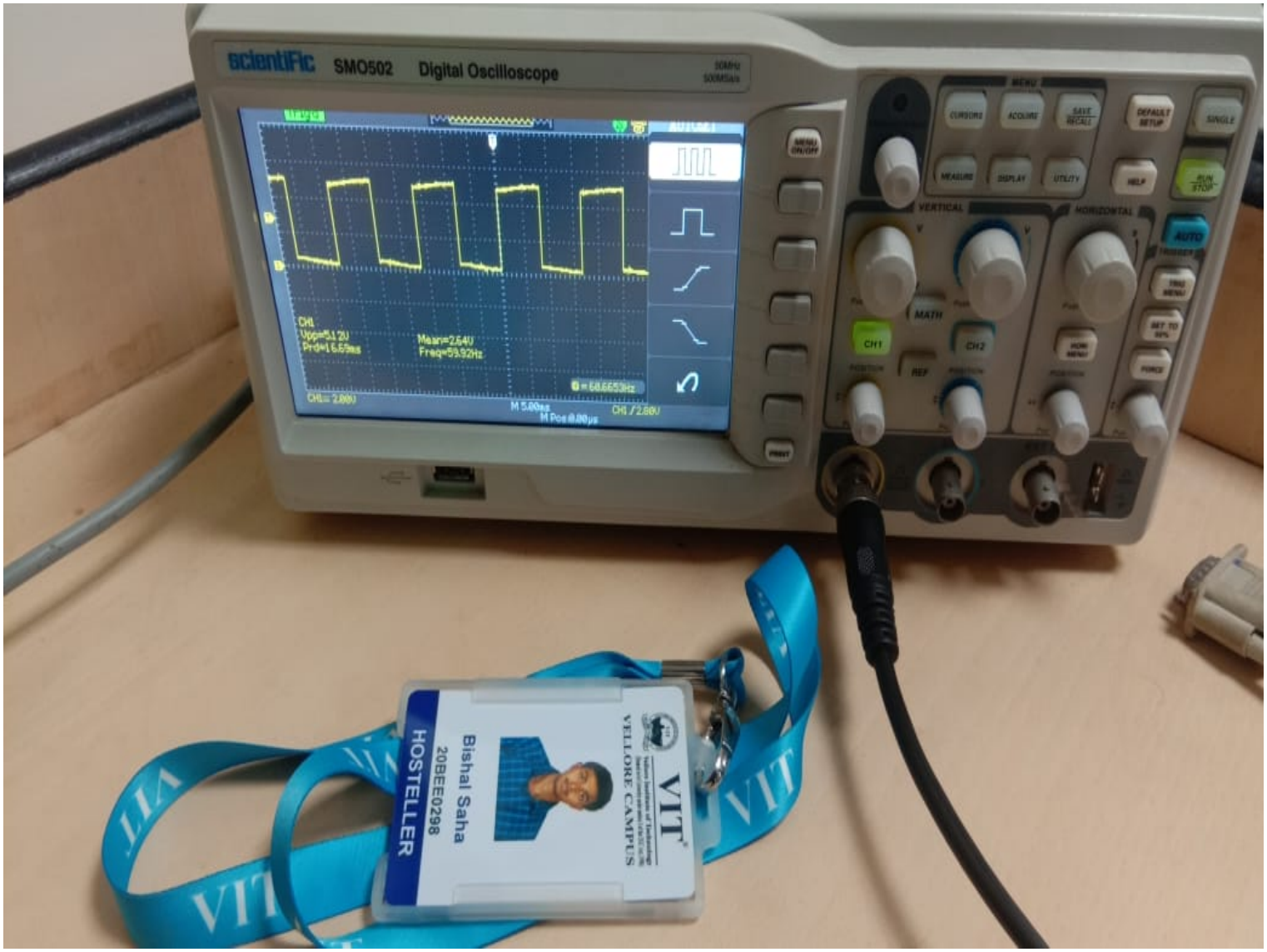
1. Config TMOD value
2. Load initial value
3. Start timer
4. Wait **for** Overflow
5. Stop timer
6. Clear Overflow
7. Access Port Pin
8. Go to step 2,**if** required

3 Assembly Language Programming and Results:

```
L1:mov TMOD,10h
mov TL1,03h
mov TH1,E2h
Setb TR1
L:Jnb TF1 L
clr TR1
clr TF1
clr P1.0
smjp L1
end
```

3.0.1 OUTPUT


SQUARE_WAVE.ASM
1 L1: mov TMOD, #10H
2 mov TL1,#03h
3 mov TH1,#0E2H
4 setb TR1
5 L: jnb TF1, L
6 clr TR1
7 clr TF1
8 cpl p0.0
9 sjmp L1
10 end
Nuvoton ISP-ICP Utility, v7.15
nuvoTon
Programmer Type
Part No.
Load File
Update Chip
ISP by COM Port
COM1
W78E052D
Load Proj
Save Proj
Items to be Updated
APROM
Exit
APROM Buffer
File Name
Code Size
22 Bytes
Checksum
Ready


scientific SMO502 Digital Oscilloscope
Mean=2.64V
Freq=59.92Hz
VERTICAL
HORIZONTAL
MATH
CH1
CH2
REF
VIT
VELLORE CAMPUS
Bishal Saha
20BEE0298
HOSTELLER


RAANA POWER SOLUTIONS
8051 DEVELOPMENT BOARD
VIT
VELLORE CAMPUS
Bishal Saha
20BEE0298
HOSTELLER

5(b):

Generate 50Hz SQR wave on P1.0 use T1 - M1. XTAL = 11.05 MHz.

11.0592 ÷ 12 = 0.9216 MHz
= 1.085069

Gen f = 50Hz
T = 0.01666
= 8.33×10^{-3}

Count = $\frac{8.33 \times 10^{-3}}{1.0850 \times 10^{-6}}$

= 7.6774 ×

Count = 7677.4
= 57859
= E203

```
MOV TMOD, #10h
L1: MOV TL1, #03h
    MOV TH1, #E2h
    SETB TR1
L:  JNB TF1 L
    CLR TR1
    CLR TF1
    CPL P1.0
    SJMP L1
    END
```

4 Result

Hence with proper coding in keil compiler in Assembly language we successfully generated a 60Hz wave on P1.0 use T1-M1,XTAL=11.0502.