

Audit Course Session 6

AUDIT COURSE ELECTRONIC CIRCUITS 2: SIMULATION BASED STUDY

Kindly update your name and roll no, once this document is shared with you

Time slot to complete your work is **40 MINUTES**

Date: 8/2/2021

Kindly upload your schematic & waveform images here, every 10 minutes, indicating your progress and intention to completion of WORK within time slot allotted

Time slot allotted to you all for the completion of Session 6 is 40 MINUTES

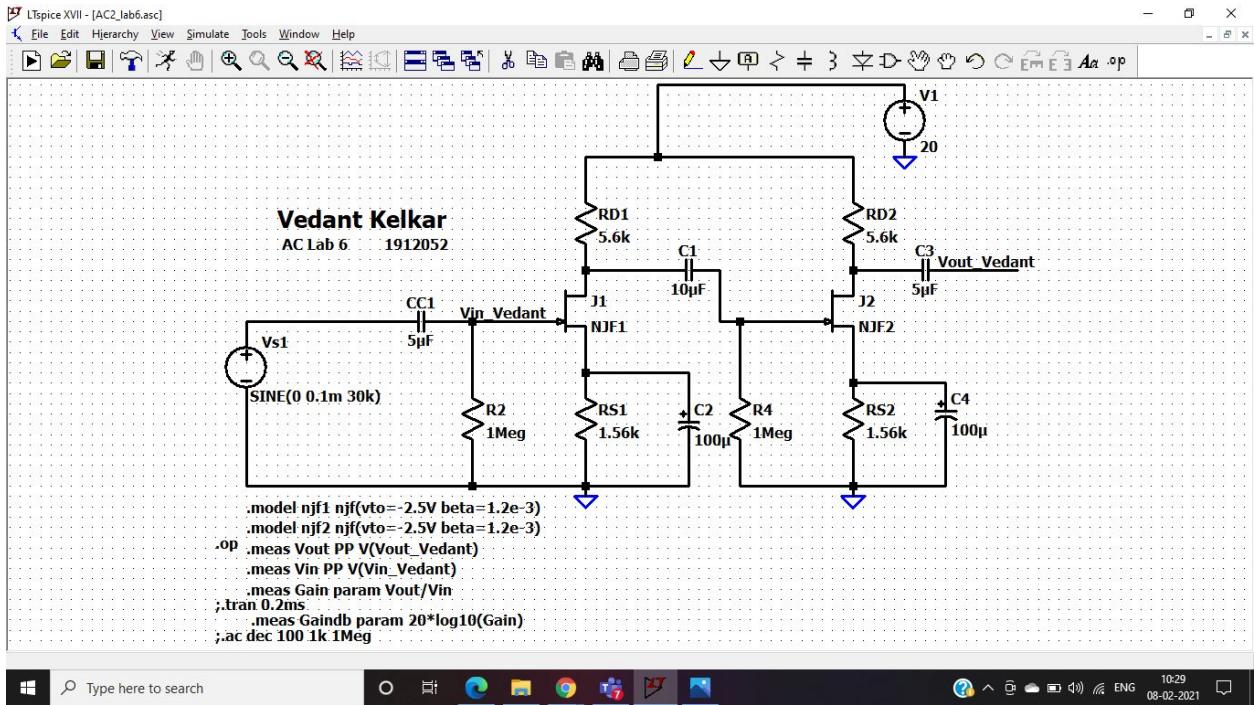
Kindly upload your work (only circuit schematic & waveform in LTSpice) in the shared google doc between this time slot only.

Follow these instruction strictly:

- 1, Start sharp ON TIME, by posting your name and roll no and **screenshot of your LT spice work screen (time and date MUST BE VISIBLE)**
2. Upload your work every 10 minutes, i.e LT spice work screen
3. This means you will upload LT spice work screen 4 times during this time slot.
4. Point 3 indicates your readiness and presences for completion of Session 6

You are entitled for 10 points per session only if you follow above instruction to the details

STUDENTS WORK AREA STARTS HERE



Windows Type here to search 10:29 08-02-2021

LTspice XVII - [AC2_lab6.asc]

File Edit Hierarchy View Simulate Tools Window Help

SPICE Error Log: C:\Users\kelka\Documents\LTspiceXVII\AC2_lab6.log

Circuit: * C:\Users\kelka\Documents\LTspiceXVII\AC2_lab6^

WARNING: Node VOUT_VEDANT is floating.

Veda
AC Lab

WARNING: Less than two connections to node VOUT_VEDANT.
Direct Newton iteration for .op point succeeded.
Semiconductor Device Operating Points:
--- JFET Transistors ---

Name:	j2	j1
Model:	njf2	njf1
Id:	1.01e-03	1.01e-03
Vgs:	-1.58e+00	-1.58e+00
Vds:	1.27e+01	1.27e+01
Gm:	2.21e-03	2.21e-03
Gds:	0.00e+00	0.00e+00
Cgs:	0.00e+00	0.00e+00
Cgd:	0.00e+00	0.00e+00

```

.model njf1 njf(vto=-2.5V beta=1.2e-3)
.model njf2 njf(vto=-2.5V beta=1.2e-3)
.op .meas Vout PP v(vout_vedant)=-1.#INF FROM 20 TO 20
.meas Vin PP v(vin_vedant)
.meas Gain param Vout/Vin
.tran 0.2ms
.meas Gaindb param 20*log10(Gain)
.ac dec 100 1k 1Meg

```

Ready Windows Type here to search 10:28 08-02-2021

LTspice XVII - [AC2_lab6.asc]

File Edit Hierarchy View Simulate Tools Window Help

AC2_lab6 AC2_lab6.asc

SPICE Error Log: C:\Users\kelka\Documents\LTspiceXVII\AC2_lab6.log

Circuit: * C:\Users\kelka\Documents\LTspiceXVII\AC2_lab6^

WARNING: Node VOUT_VEDANT is floating.

WARNING: Less than two connections to node VOUT_VEDANT.
Direct Newton iteration for .op point succeeded.

Ved AC lab

```
vout: PP(v(vout_vedant))=0.03029 FROM 0 TO 0.0002
vin: PP(v(vin_vedant))=0.000199678 FROM 0 TO 0.0002
gain: vout/vin=151.694
gaindb: 20*log10(gain)=43.6194

Date: Mon Feb 08 10:29:28 2021
Total elapsed time: 0.139 seconds.

tnom = 27
temp = 27
method = modified trap
totiters = 2094
.model njf1
.model njf2
.tran 0.2ms
.meas Vout
.meas Vin PP(V(vin_vedant))
.meas Gain param Vout/Vin
.meas Gaindb param 20*log10(Gain)
.ac dec 100 1k 1Meg
```

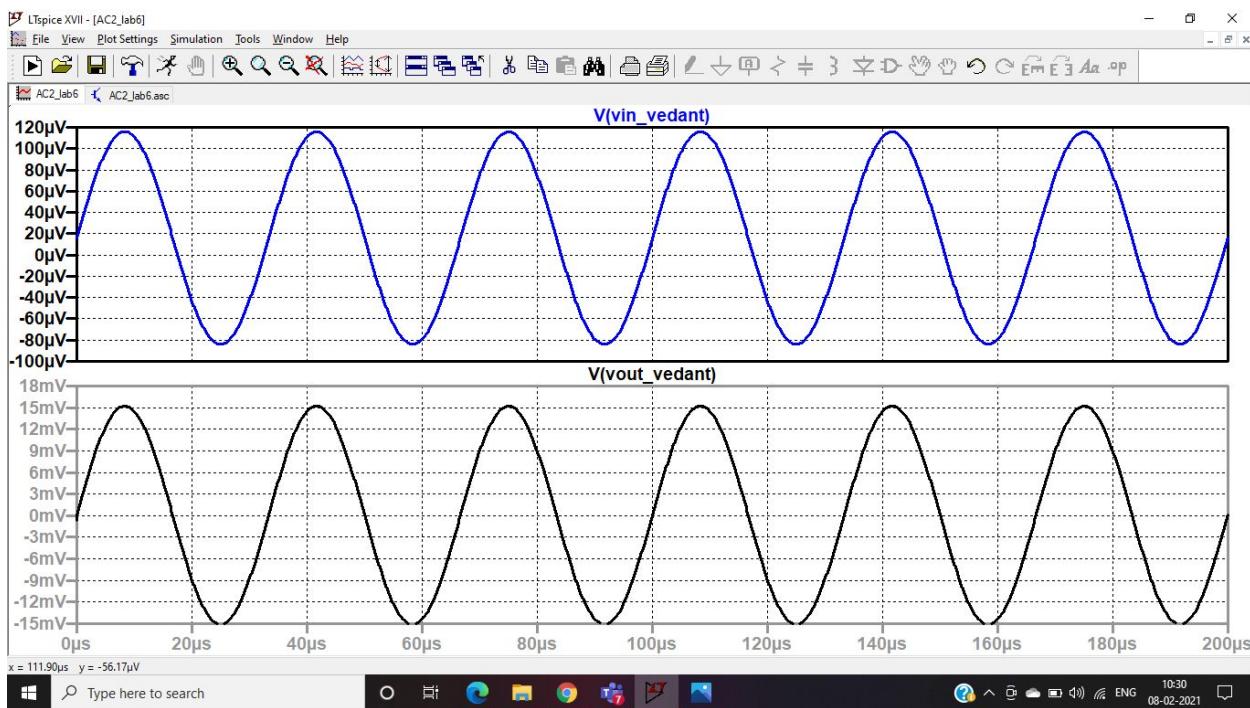
Vout_Vedant

+C4
100 μ

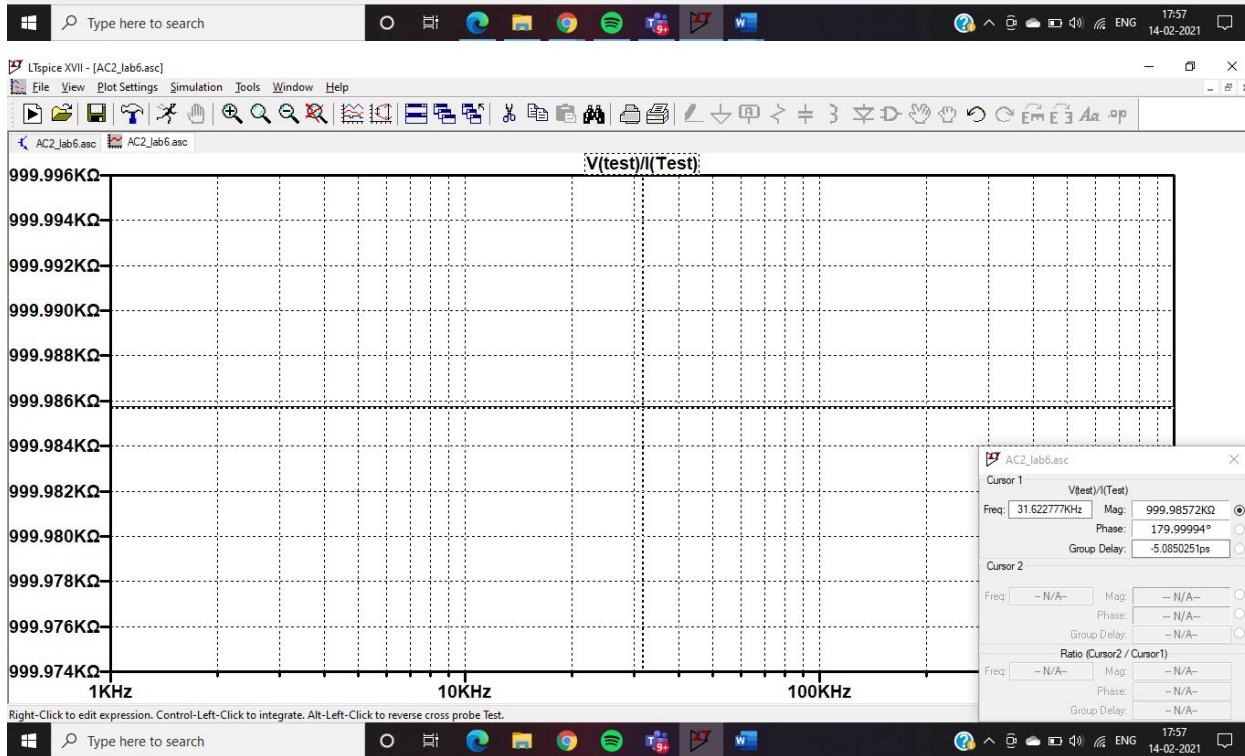
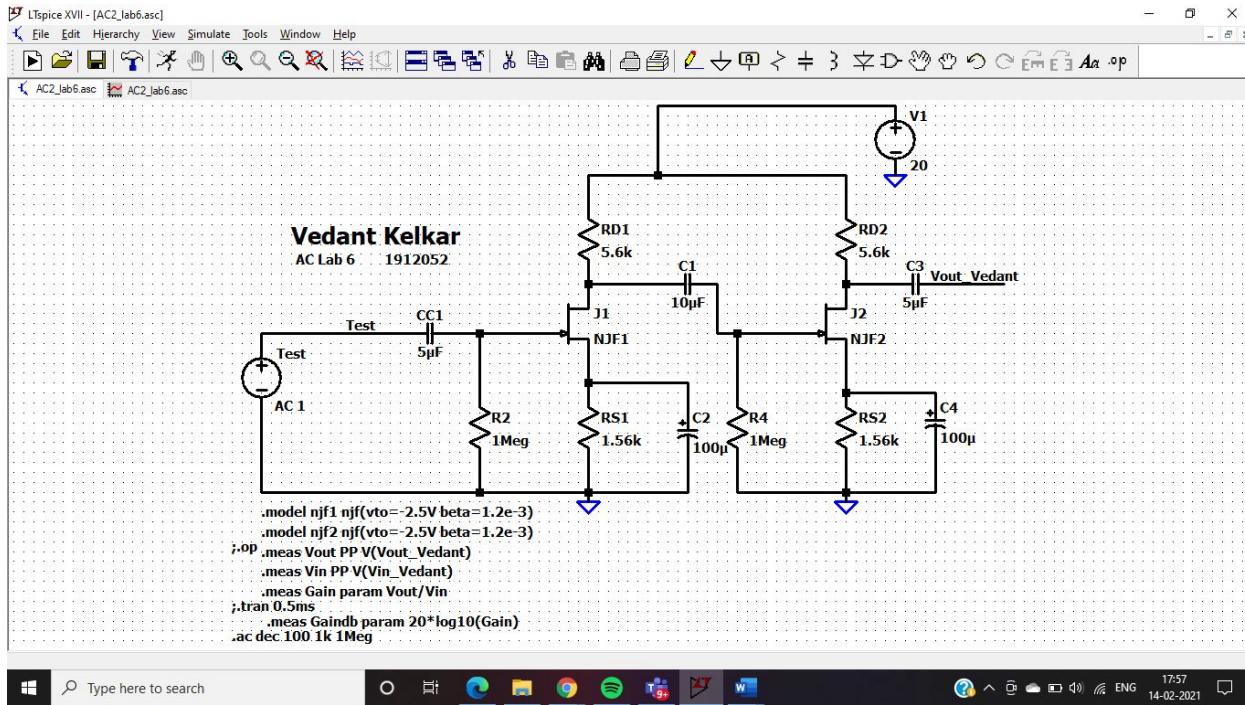
Ready

Type here to search

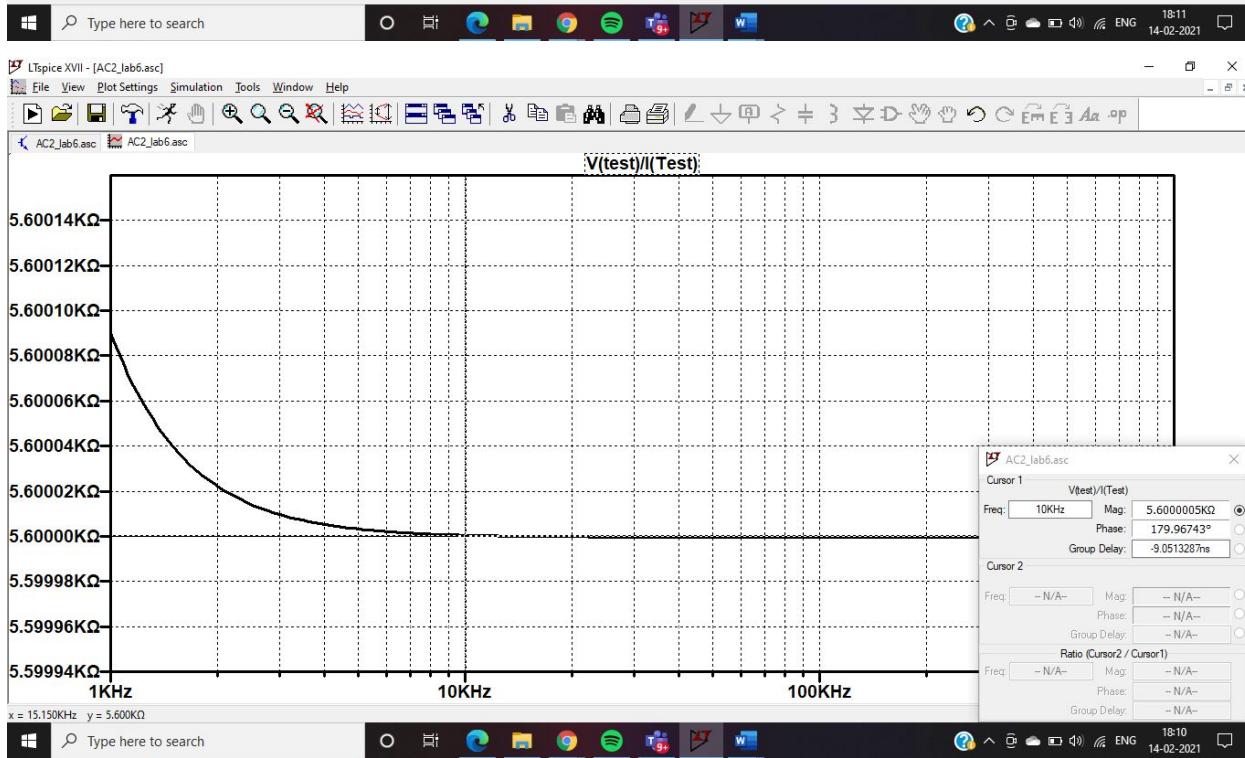
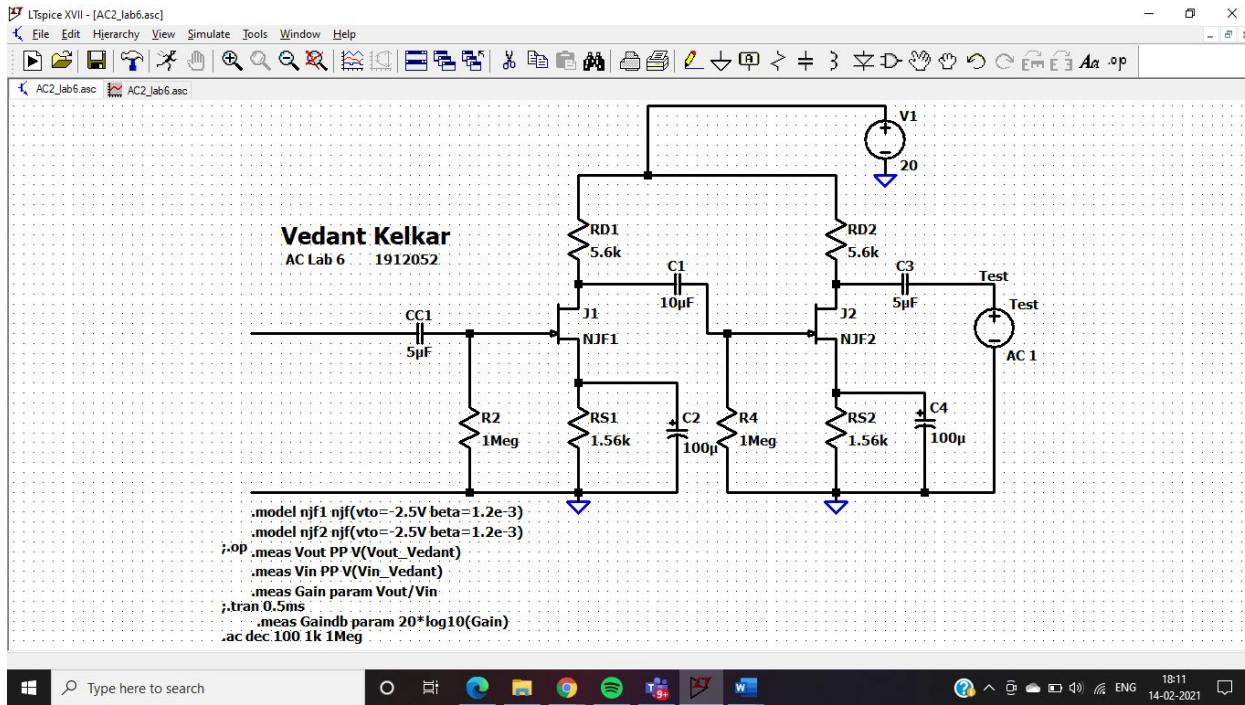
10:29 08-02-2021



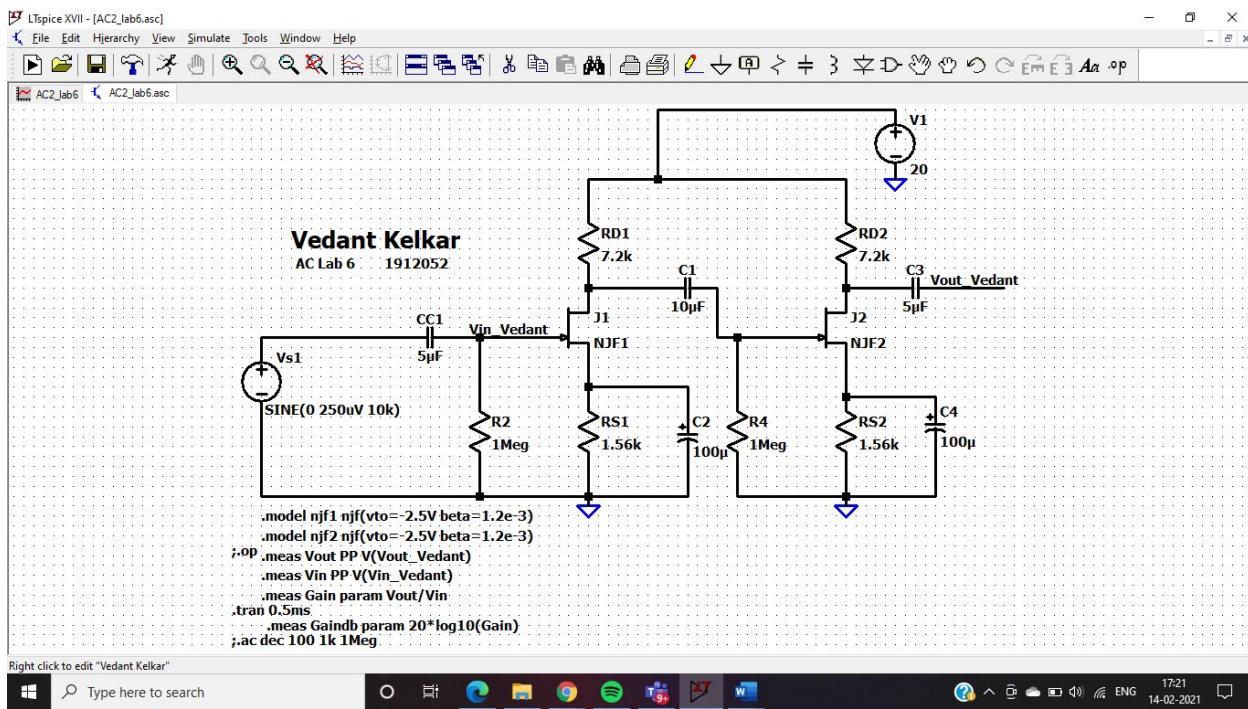
ZIN



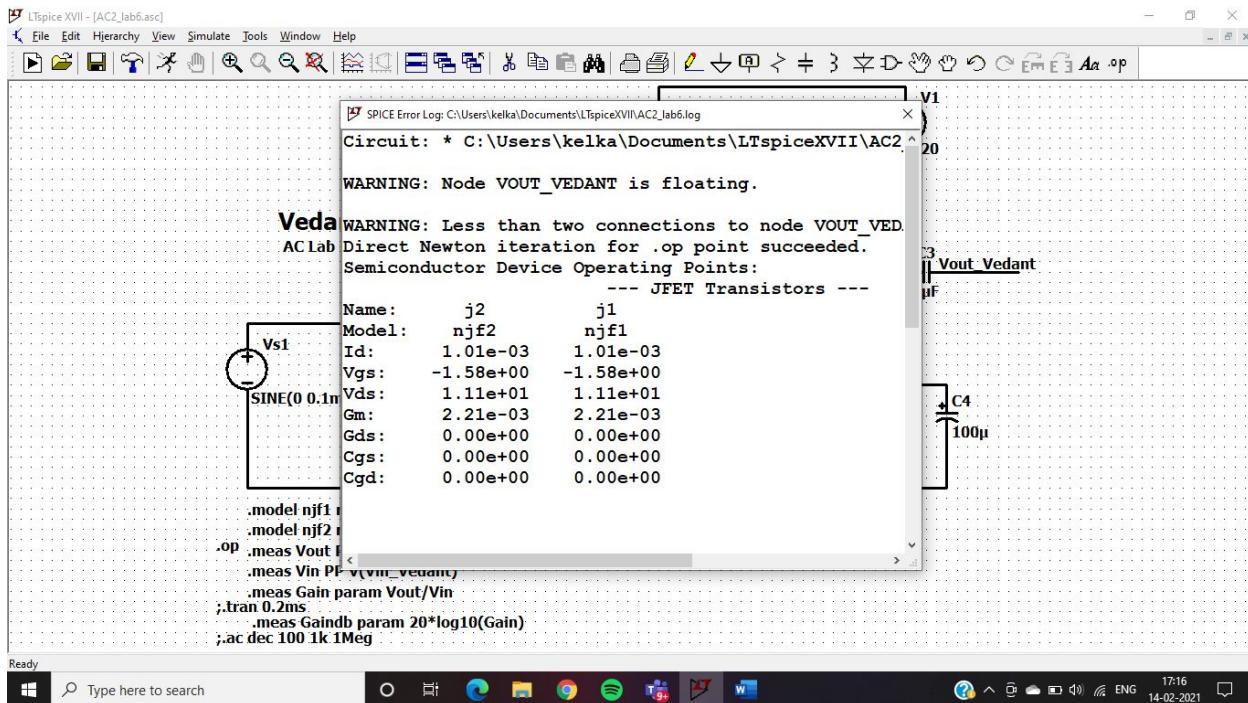
ZOUT

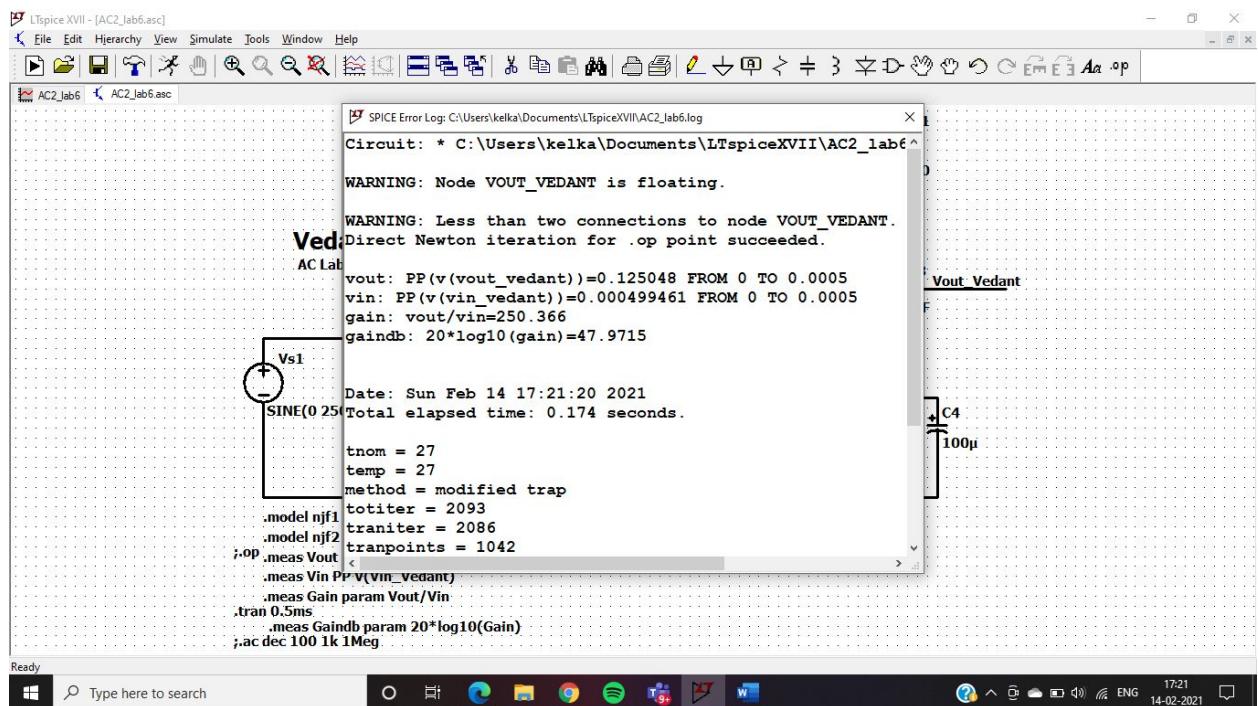
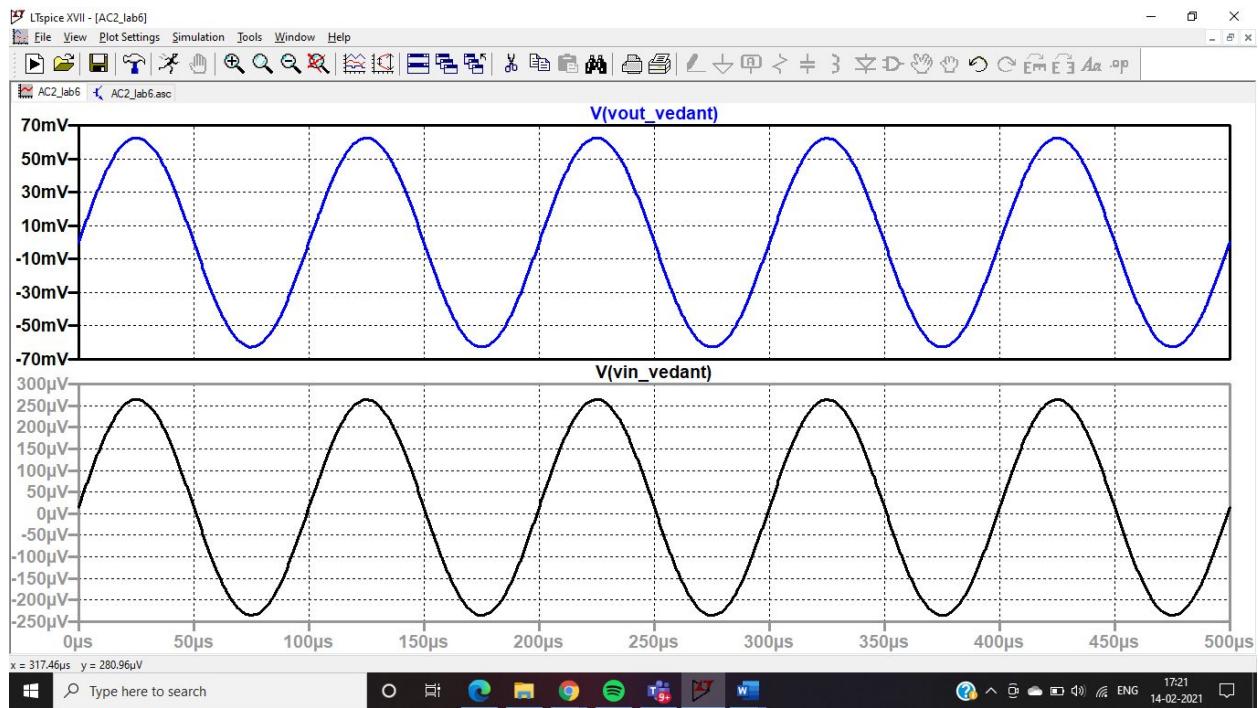


EX 1 RD1=RD2=7.2k

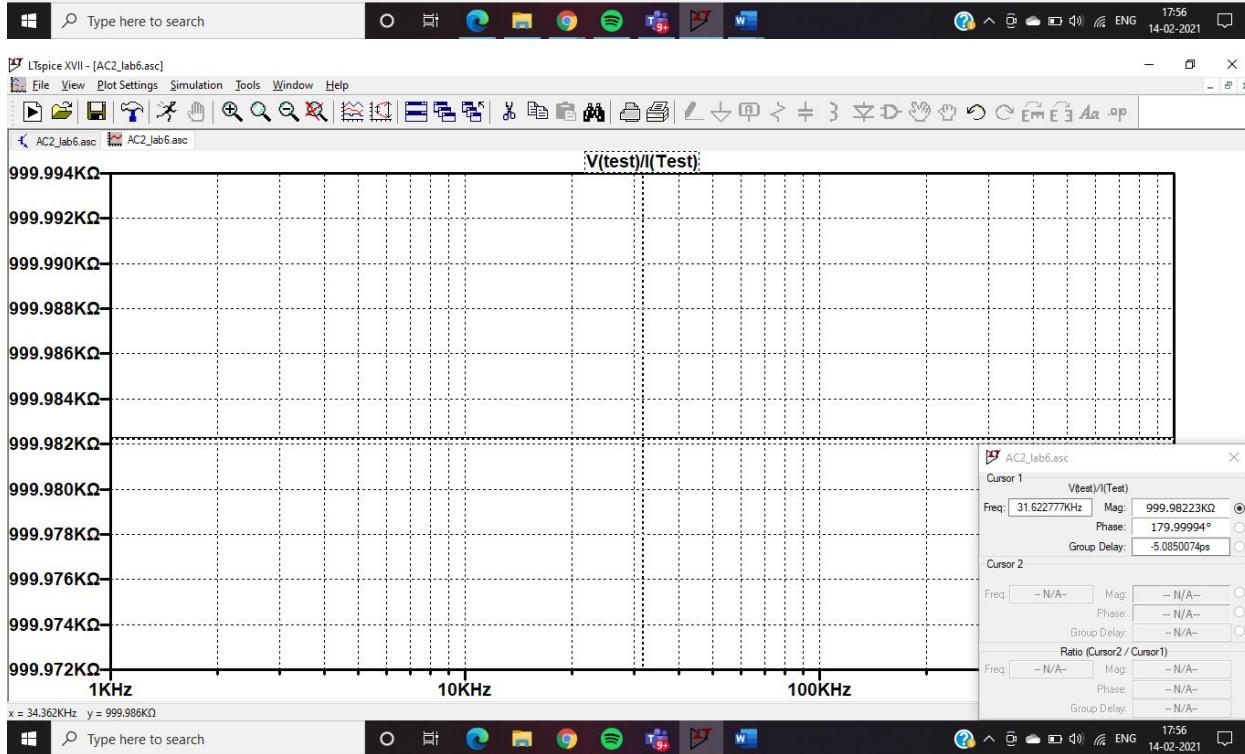
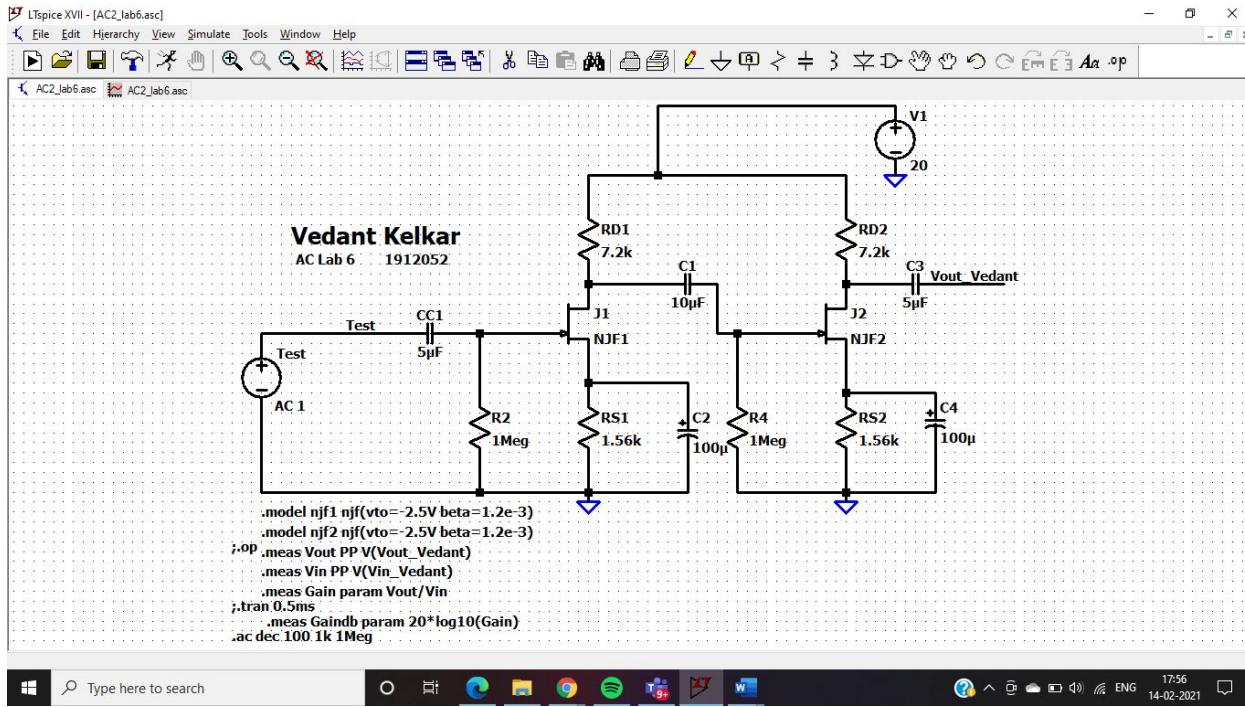


Right click to edit "Vedant Kelkar"

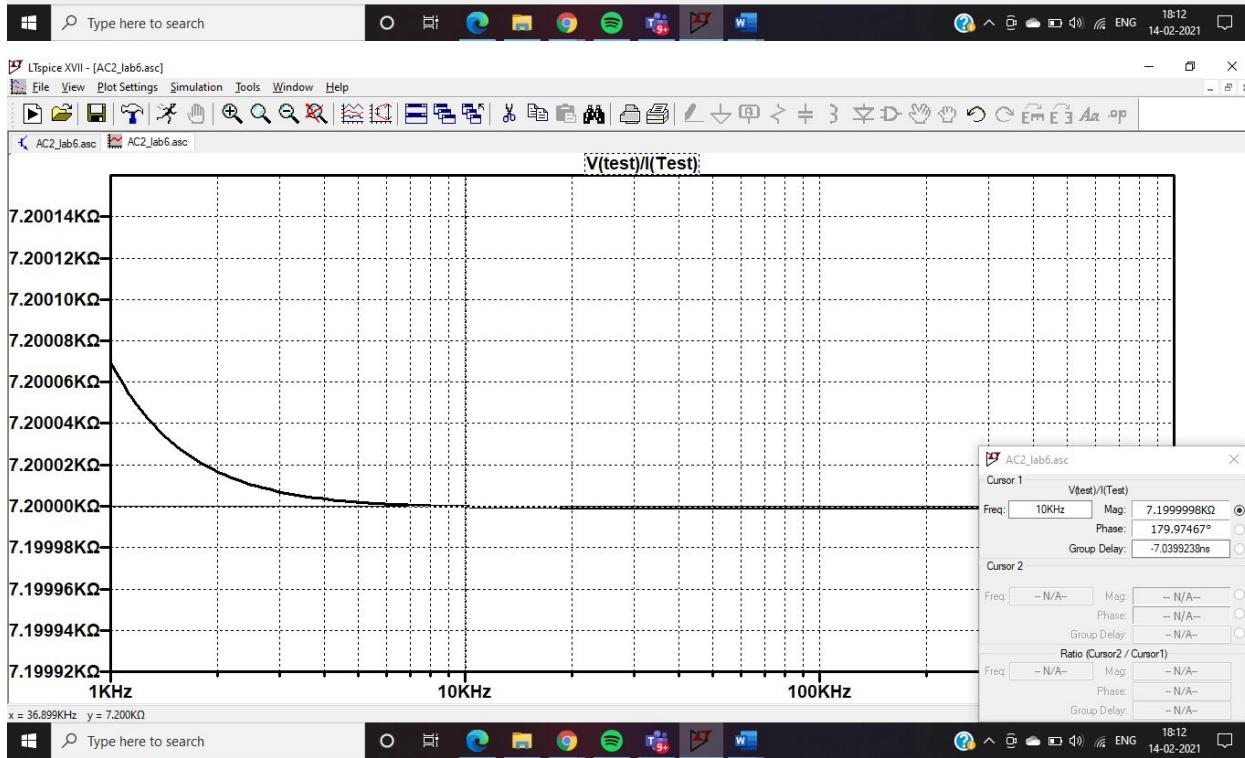
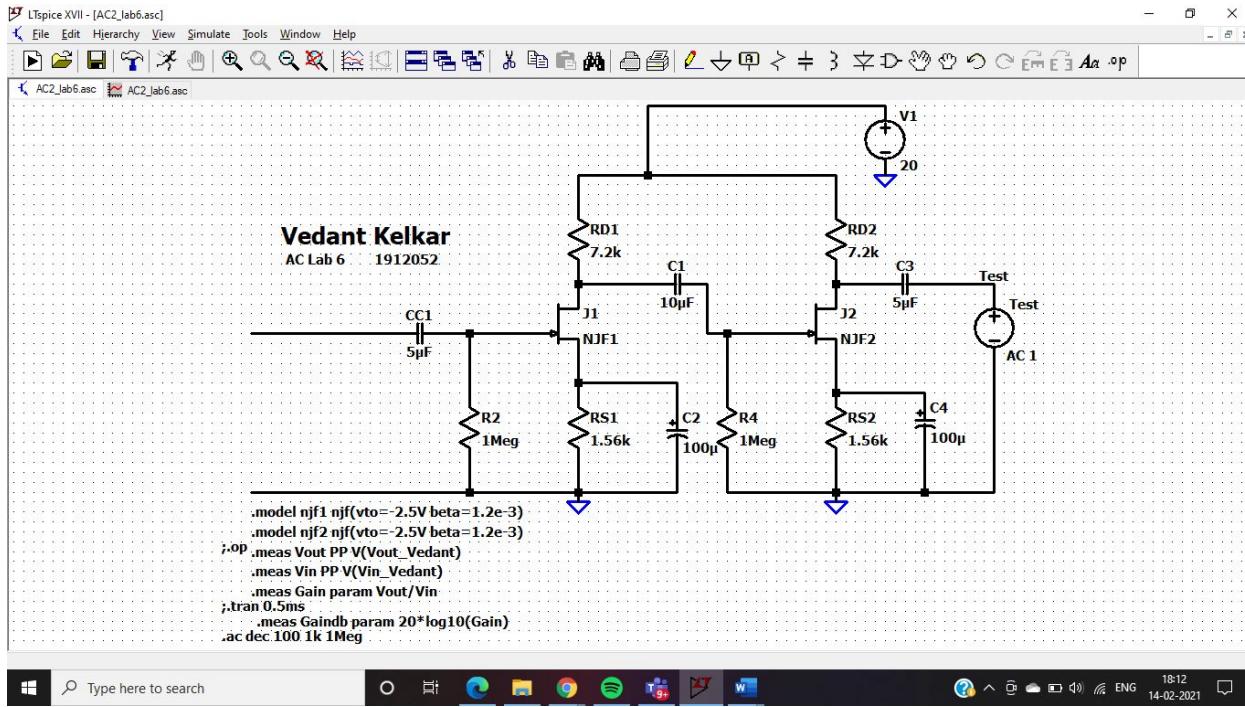




ZIN

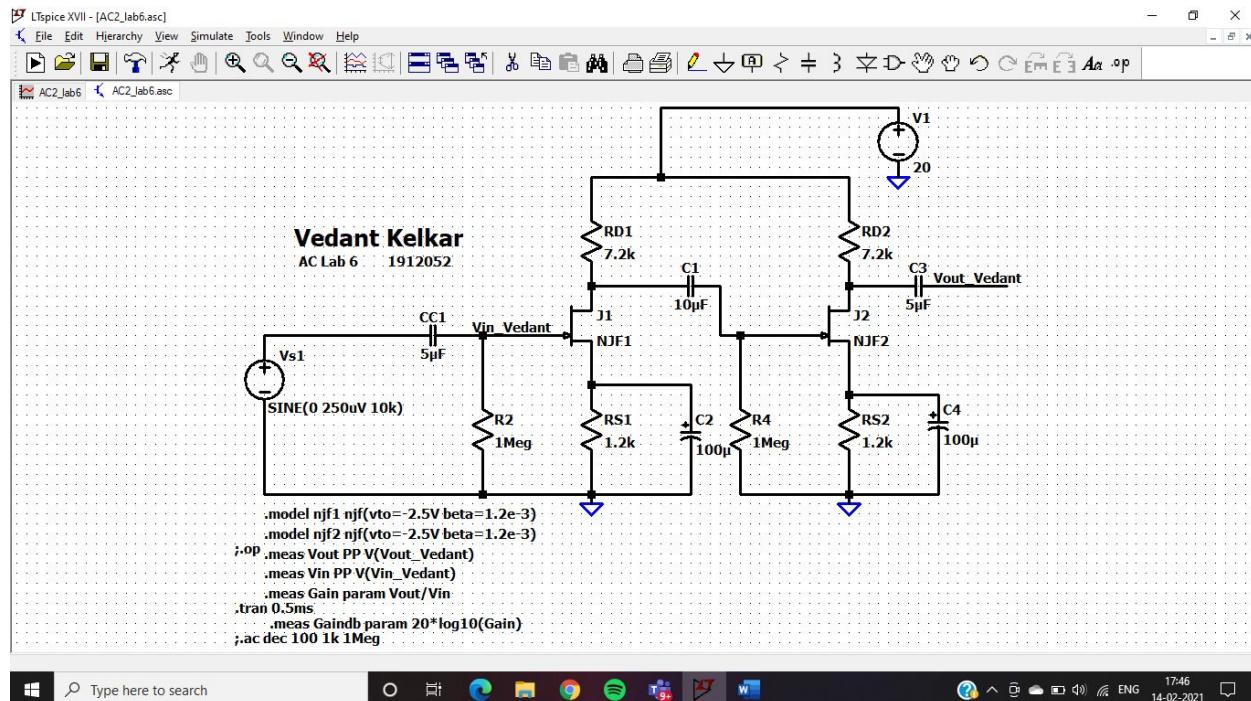


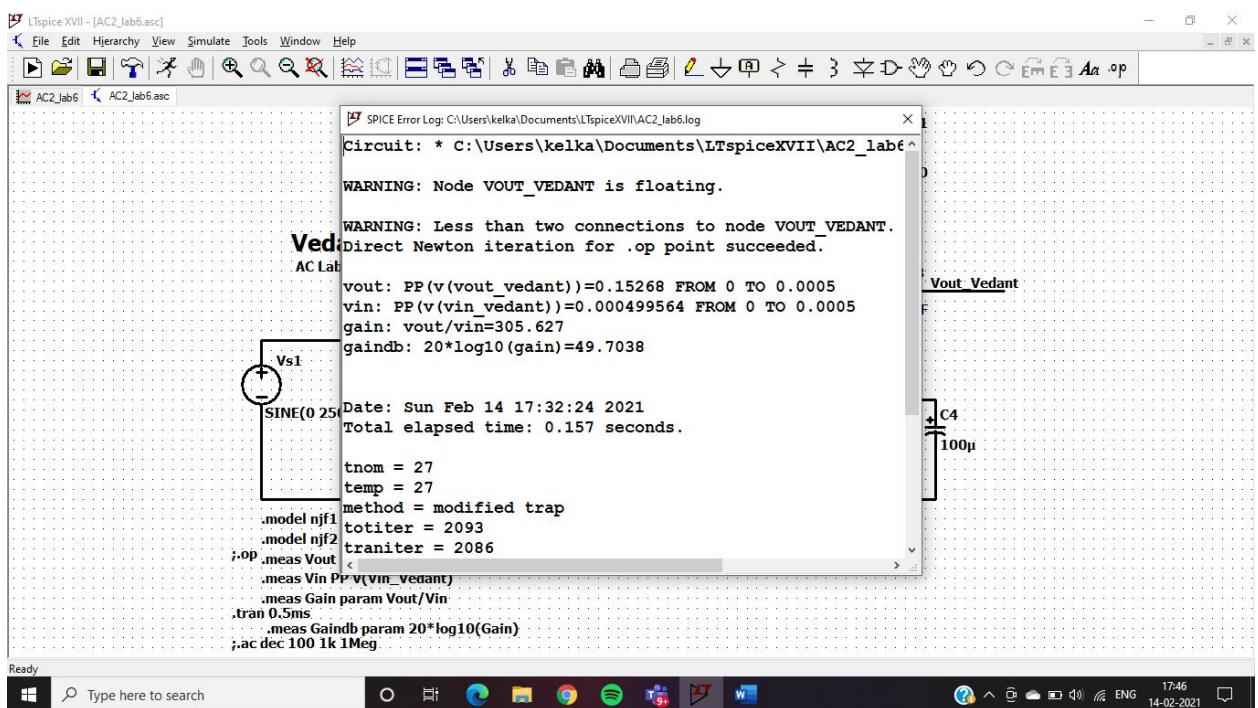
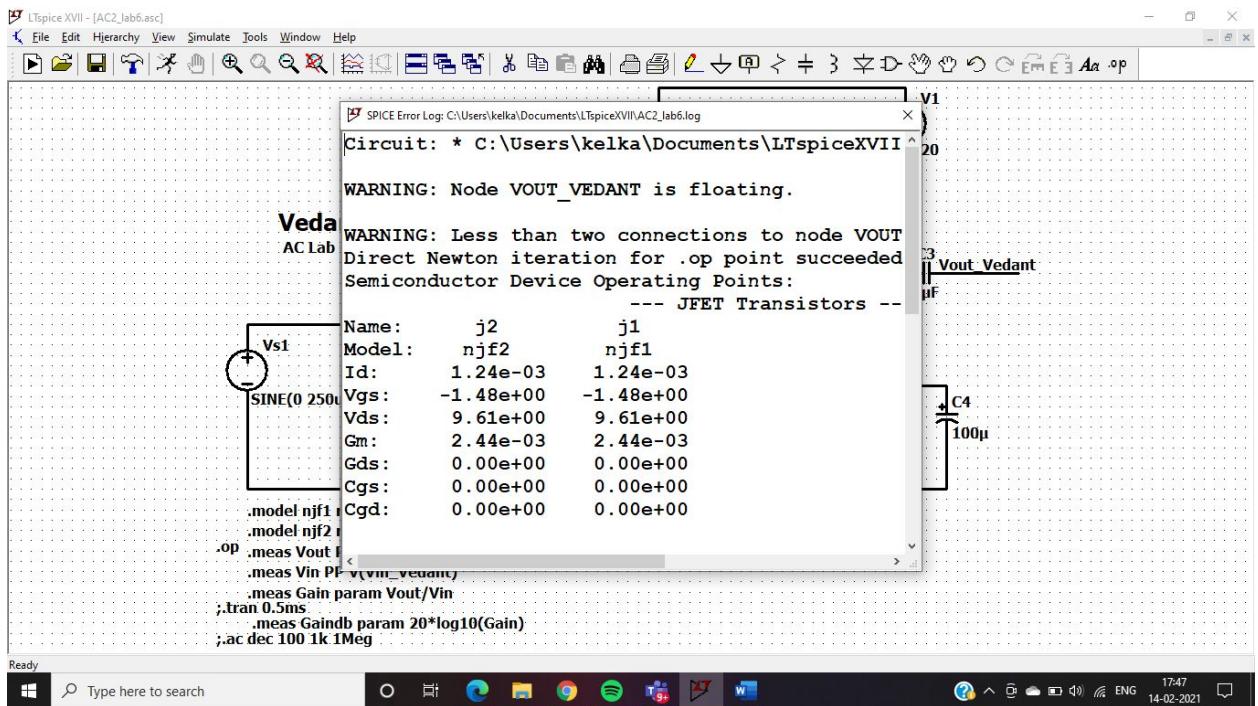
ZOUT

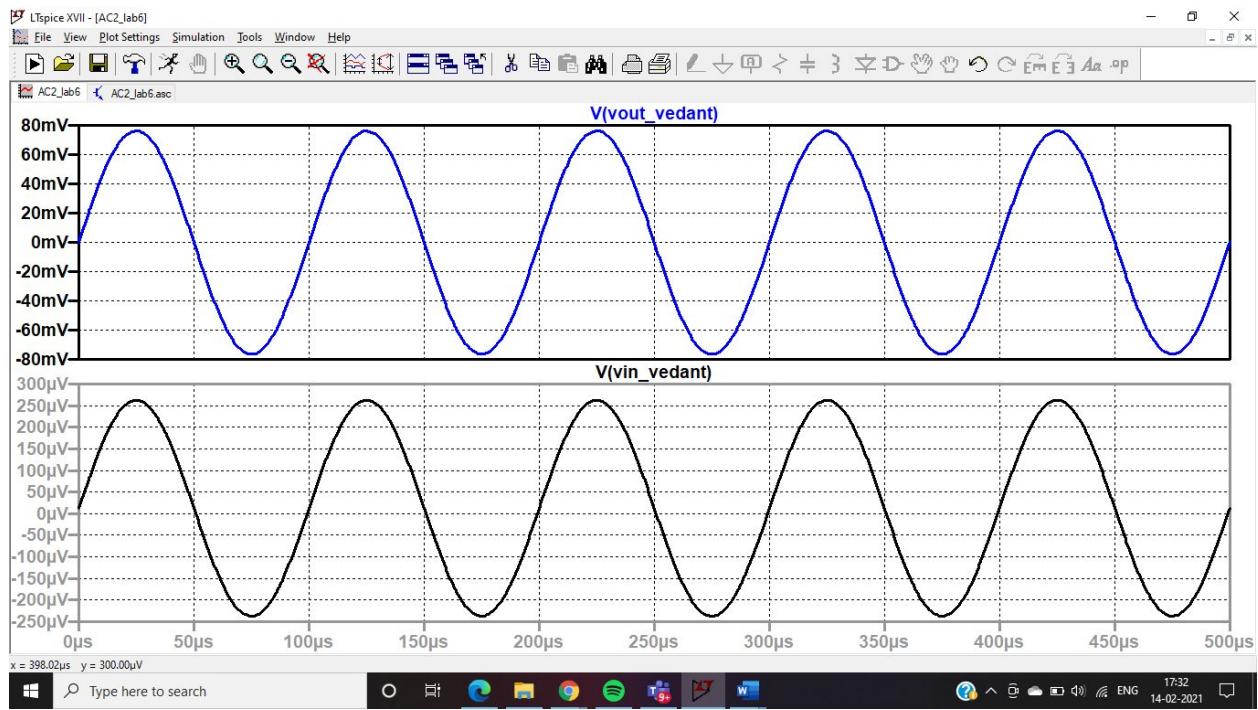


Zin	999.9822k ohms
Zout	7.199k ohms
AvMid	250.366
Av(mid) dB	47.97 dB

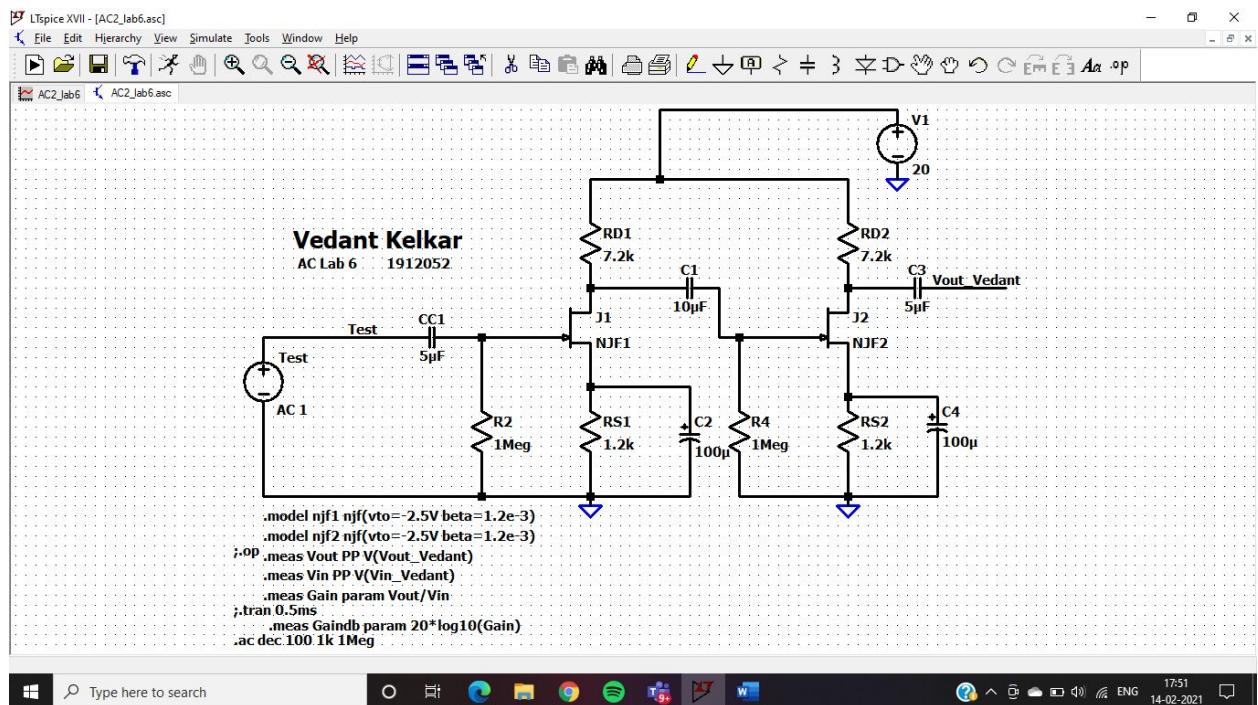
EX2 RS1=RS2=1.2k

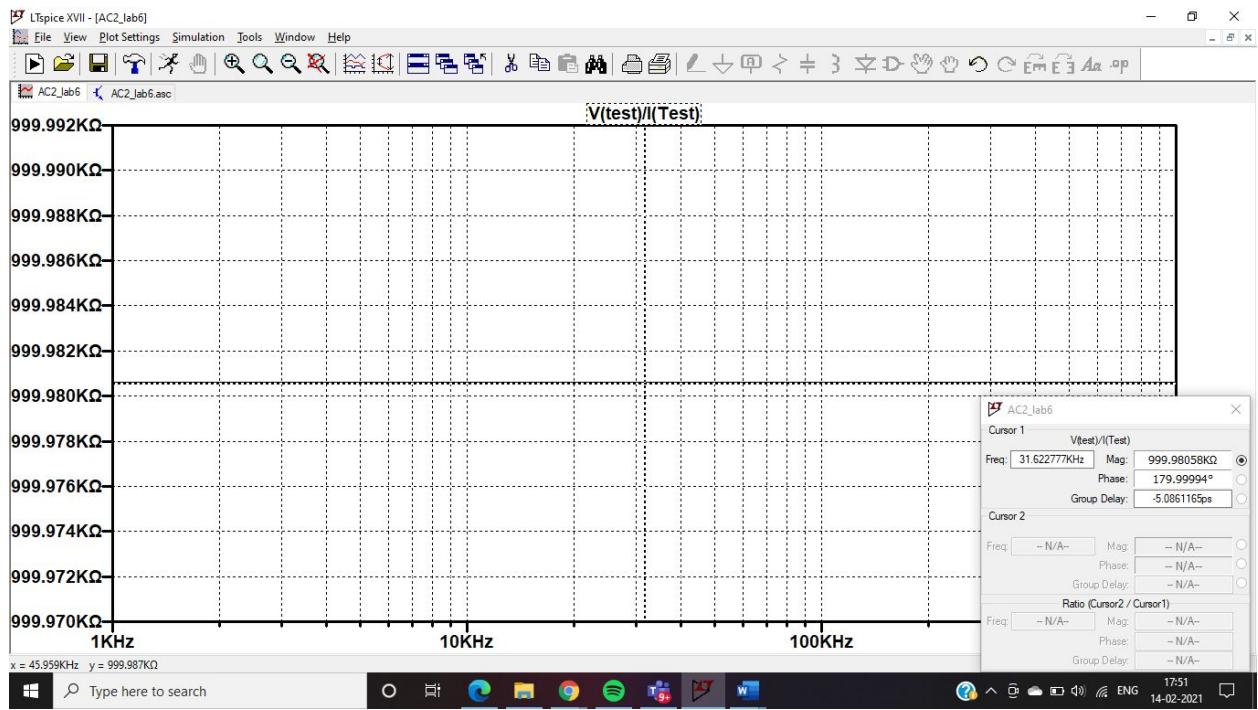




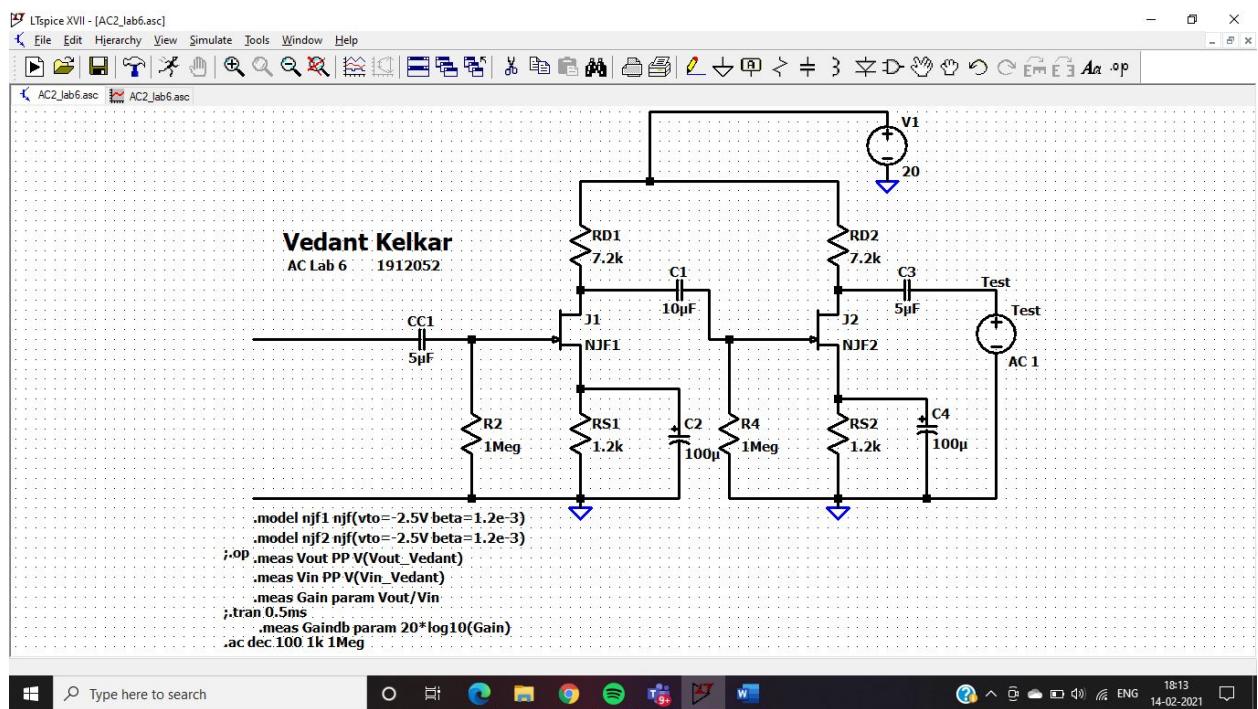


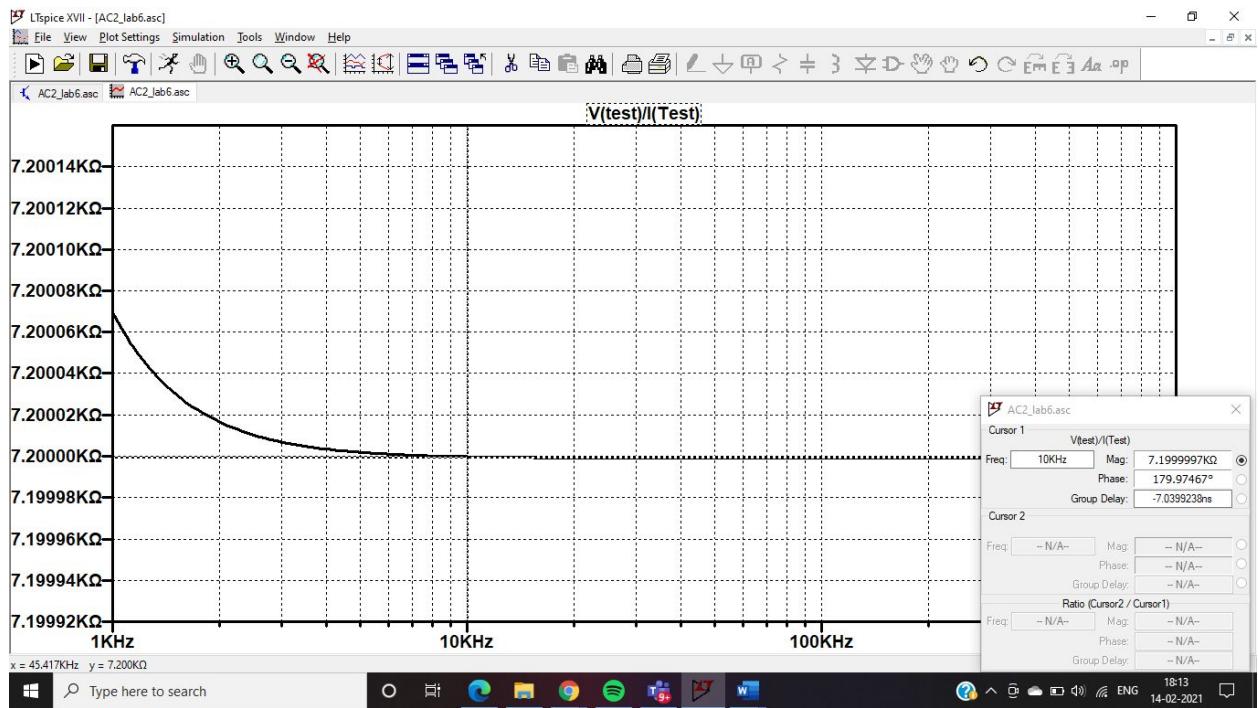
ZIN





ZOUT





Zin	999.9805 KOhm
Zout	7.1999991KOhm
A v (mid)	305.627
A v (mid) dB	49.7038

AC LAB 6 is pending

Suggestions: Complete your pending lab 6 exercise,Zin ,Zout and AC analysis. ALso add the observation table

AC LAB 6 is approved: Inderjit Singh Dhanjal