

## **Audit Course Session 10**

### **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: 22/2/2021**

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 10 is 40 MINUTES**

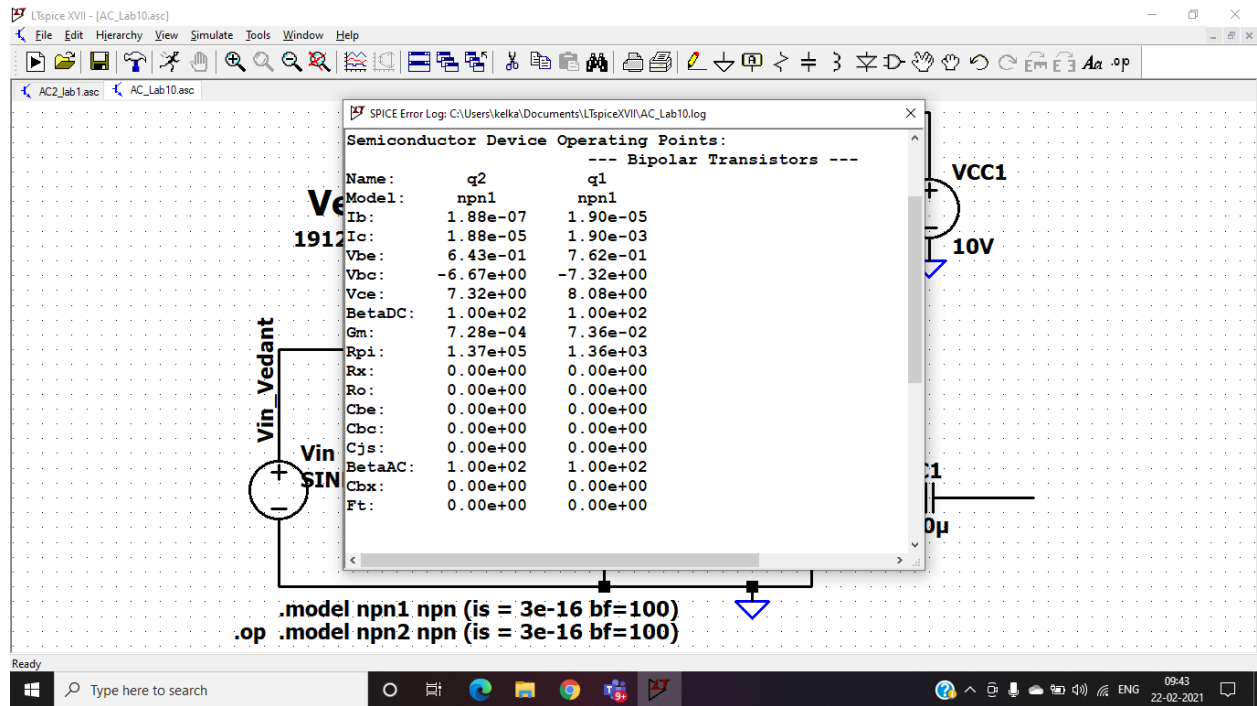
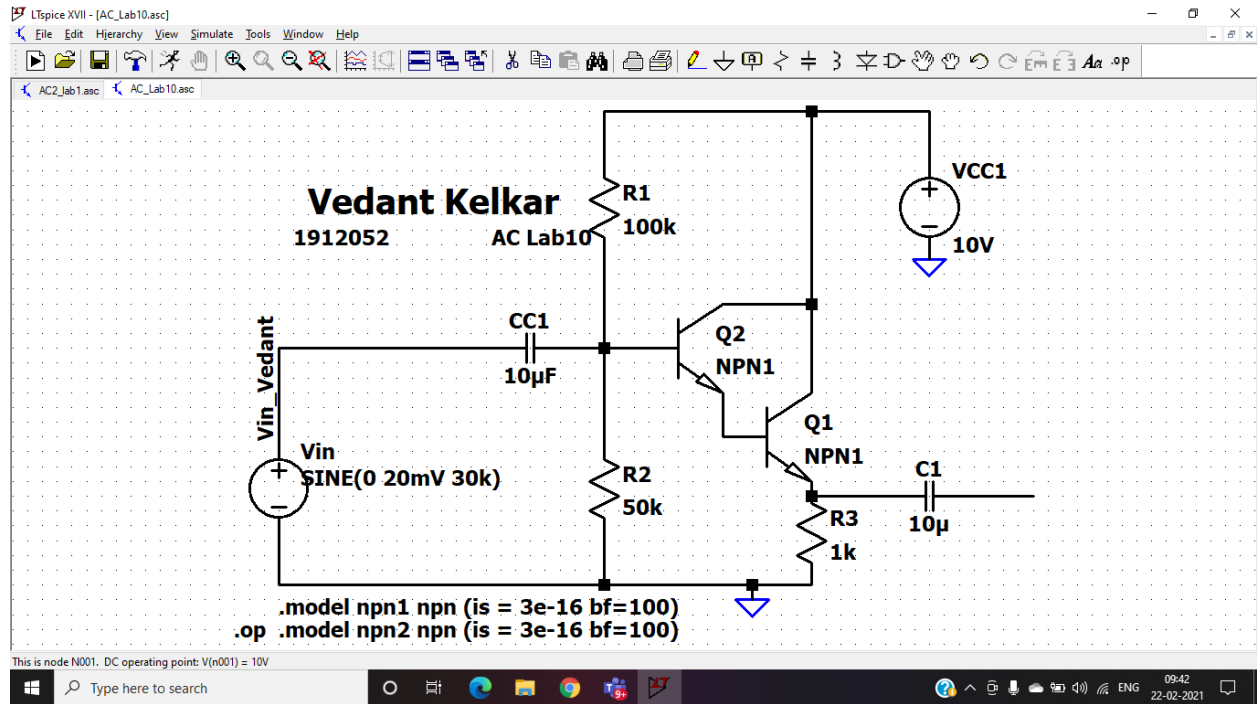
**Kindly upload your work (only circuit schematic & waveform in LTSpice) in the shared google doc between this time slot only.**

**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 10

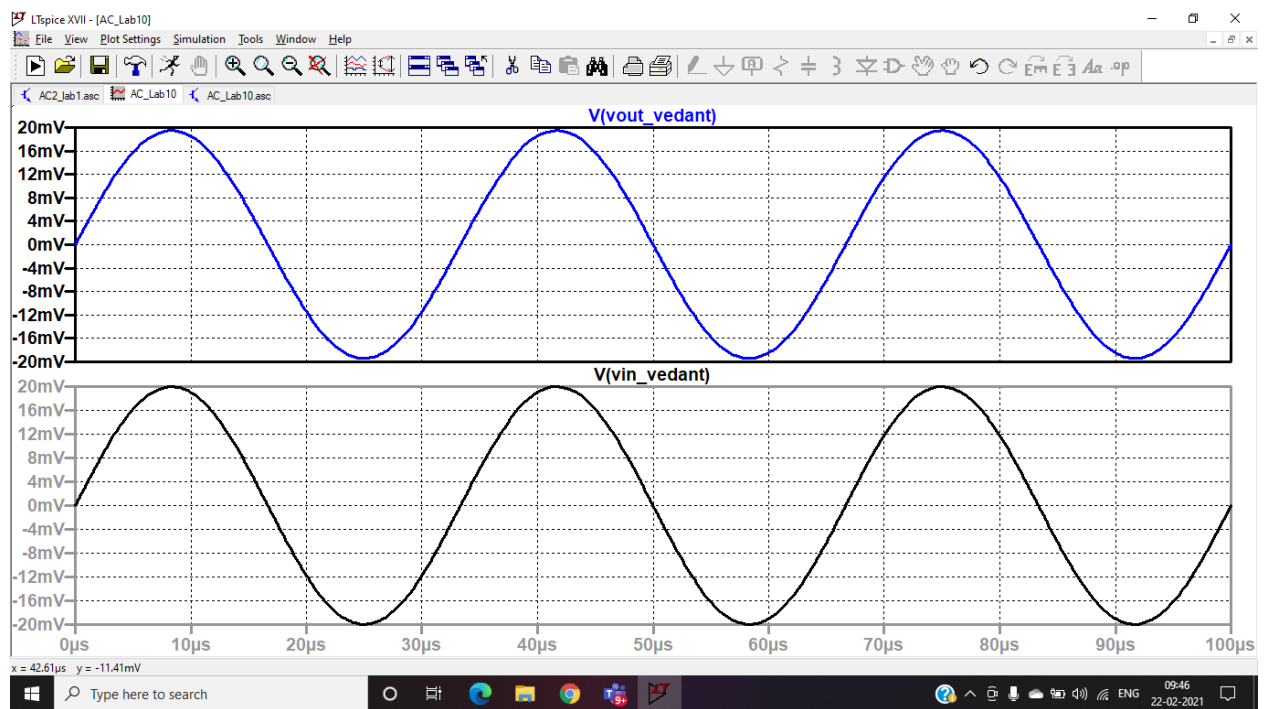
**You are entitled for 10 points per session only if you follow above instruction to the details**

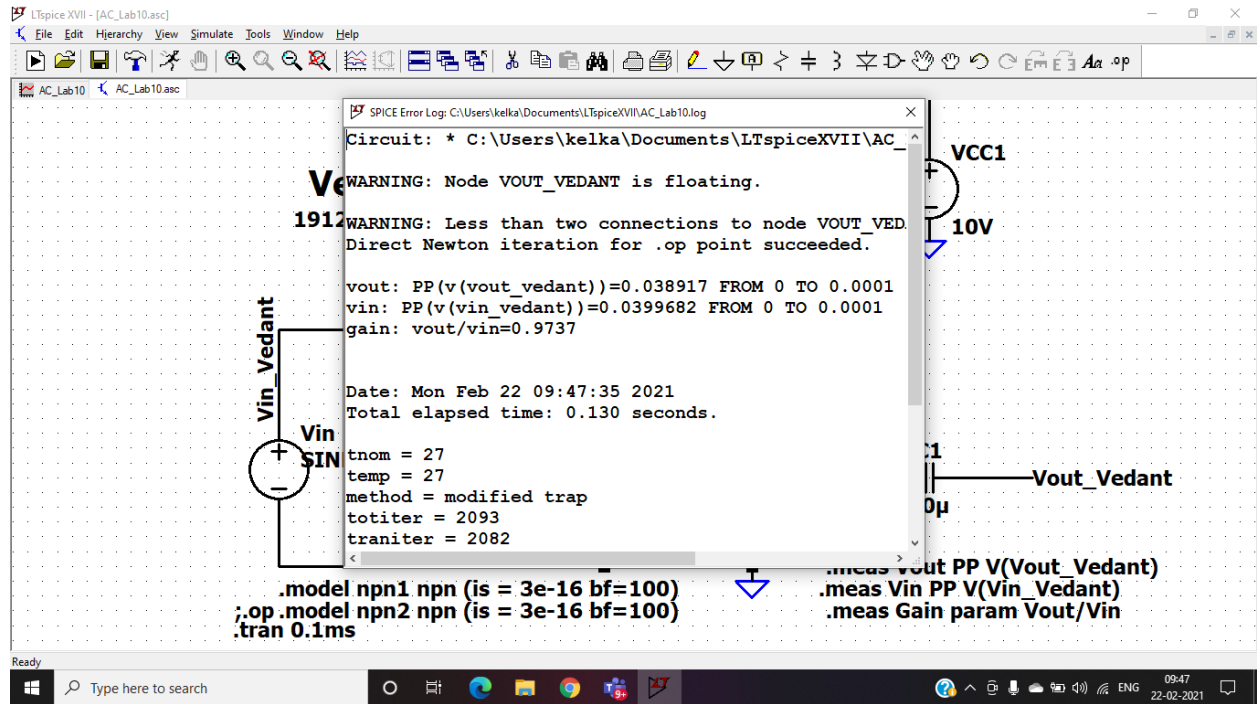
**STUDENTS WORK AREA STARTS HERE**



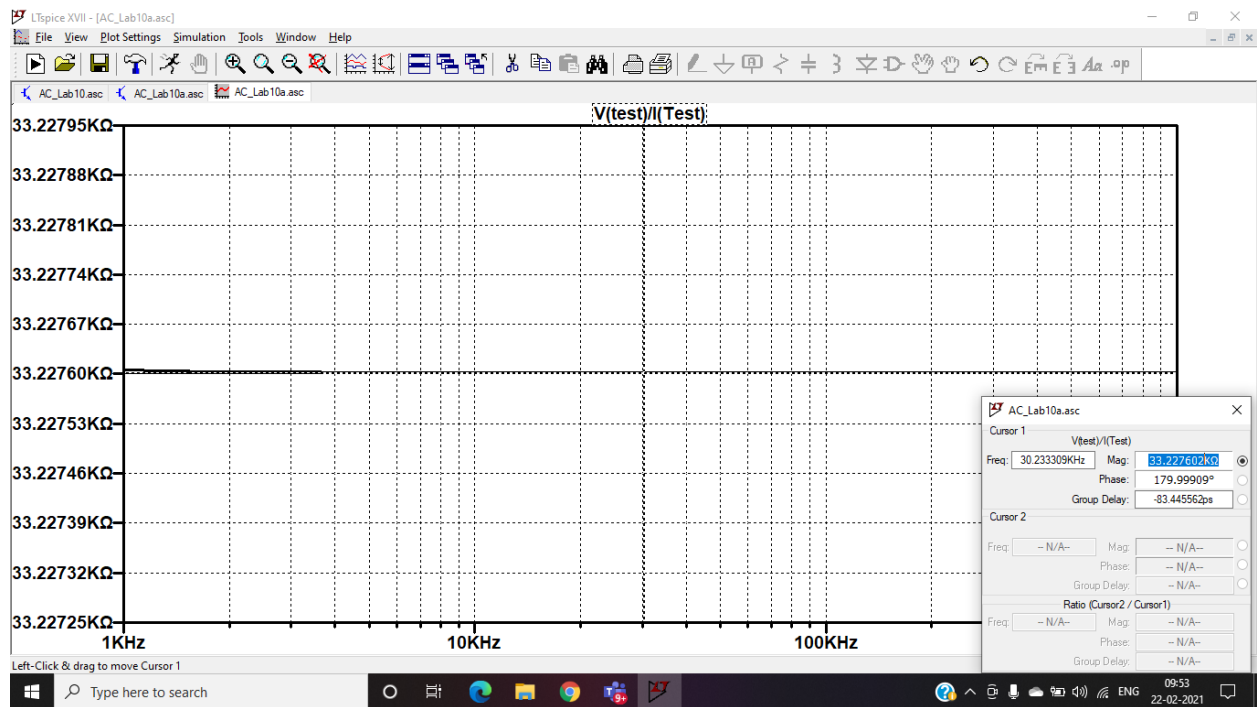
Name:	q2	q1
Model:	npn1	npn1
Ib:	1.88e-07	1.90e-05
Ic:	1.88e-05	1.90e-03
Vbe:	6.43e-01	7.62e-01
Vbc:	-6.67e+00	-7.32e+00
Vce:	7.32e+00	8.08e+00

BetaDC: 1.00e+02 1.00e+02  
 Gm: 7.28e-04 7.36e-02  
 Rpi: 1.37e+05 1.36e+03  
 Rx: 0.00e+00 0.00e+00  
 Ro: 0.00e+00 0.00e+00  
 Cbe: 0.00e+00 0.00e+00  
 Cbc: 0.00e+00 0.00e+00  
 Cjs: 0.00e+00 0.00e+00  
 BetaAC: 1.00e+02 1.00e+02  
 Cbx: 0.00e+00 0.00e+00  
 Ft: 0.00e+00 0.00e+00



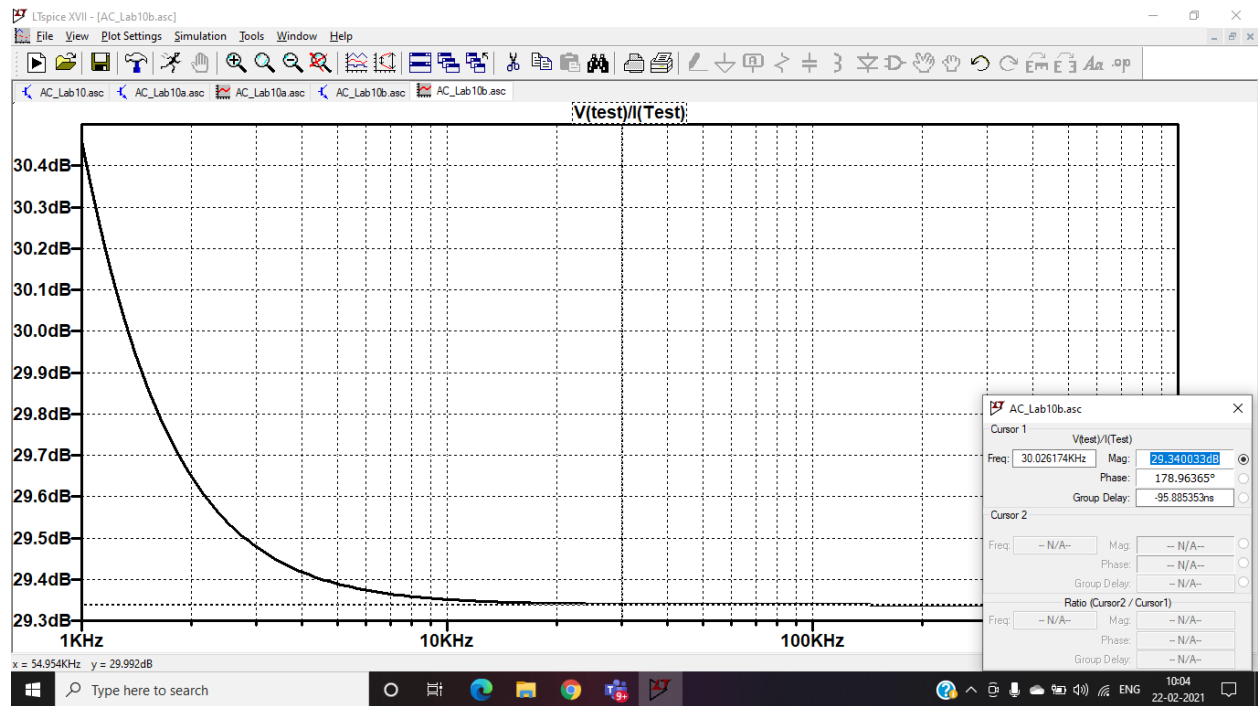


Zin



33.227602KOhm

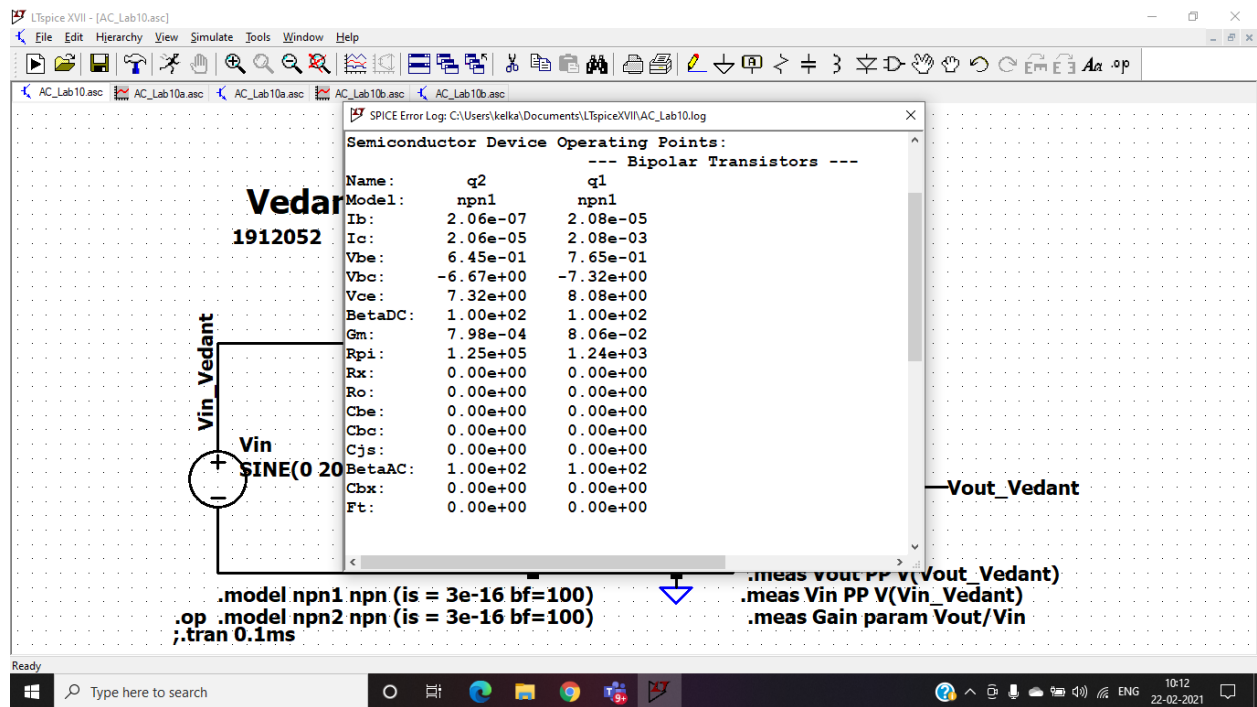
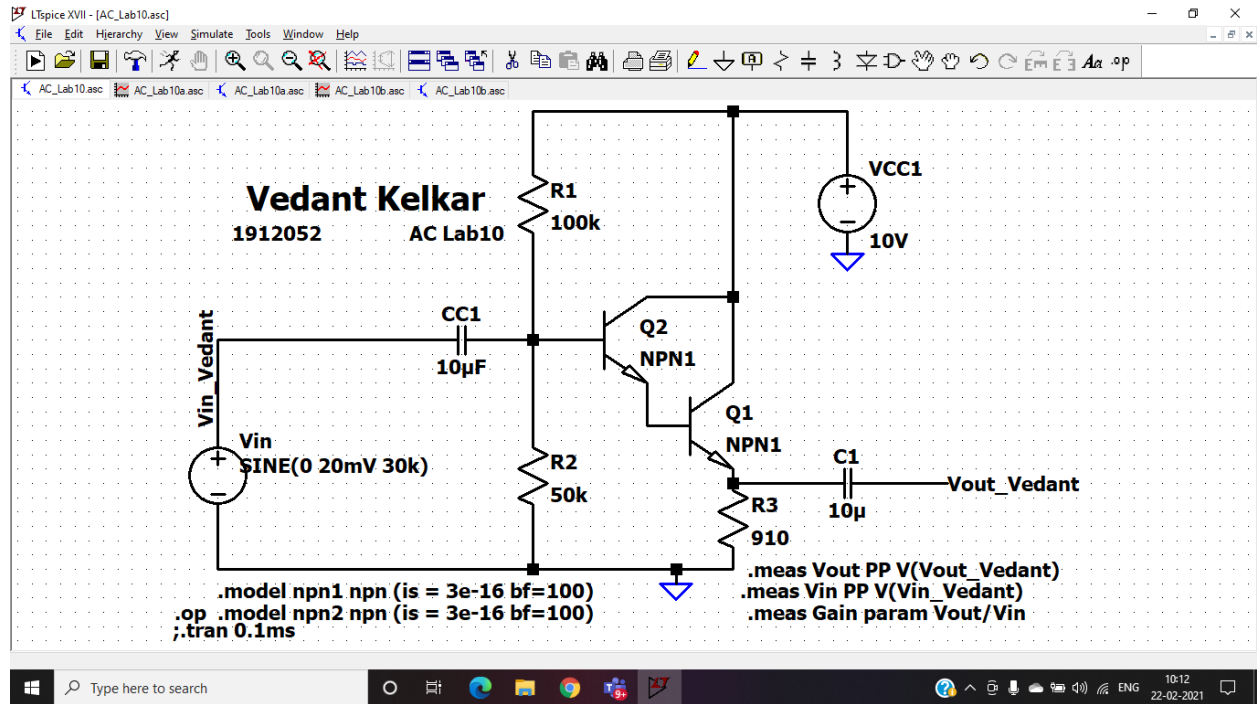
Zout

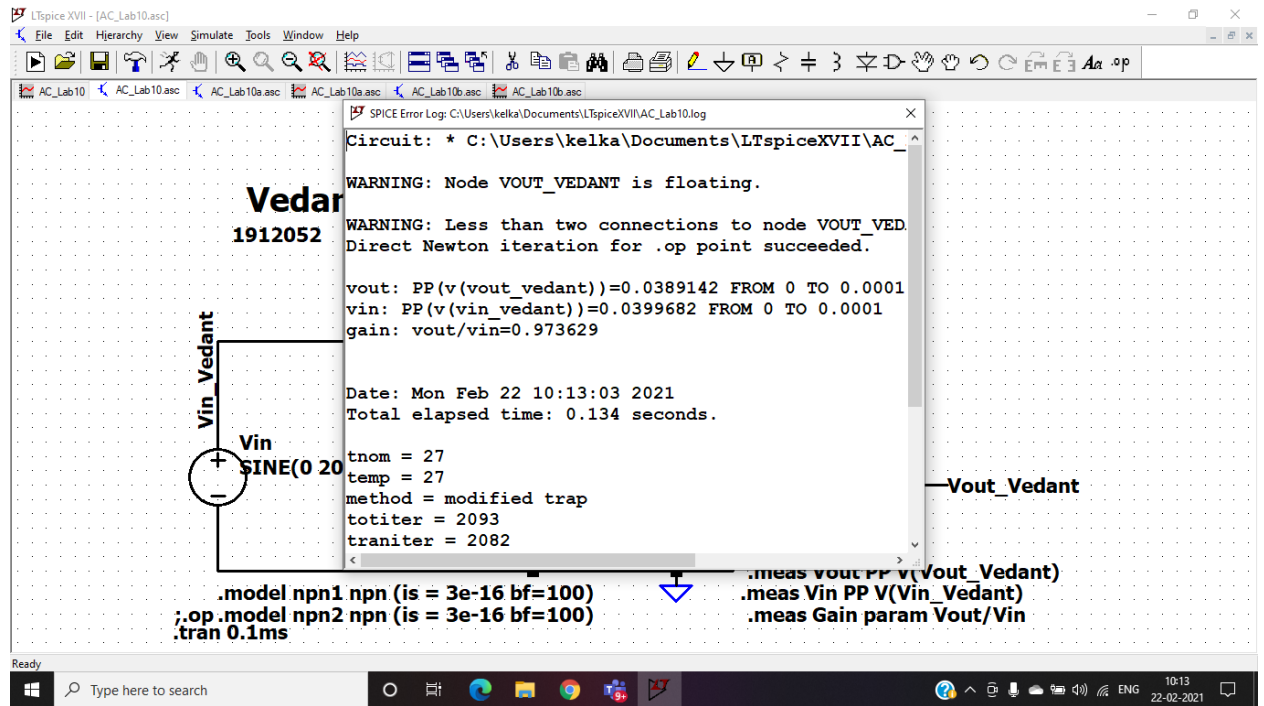
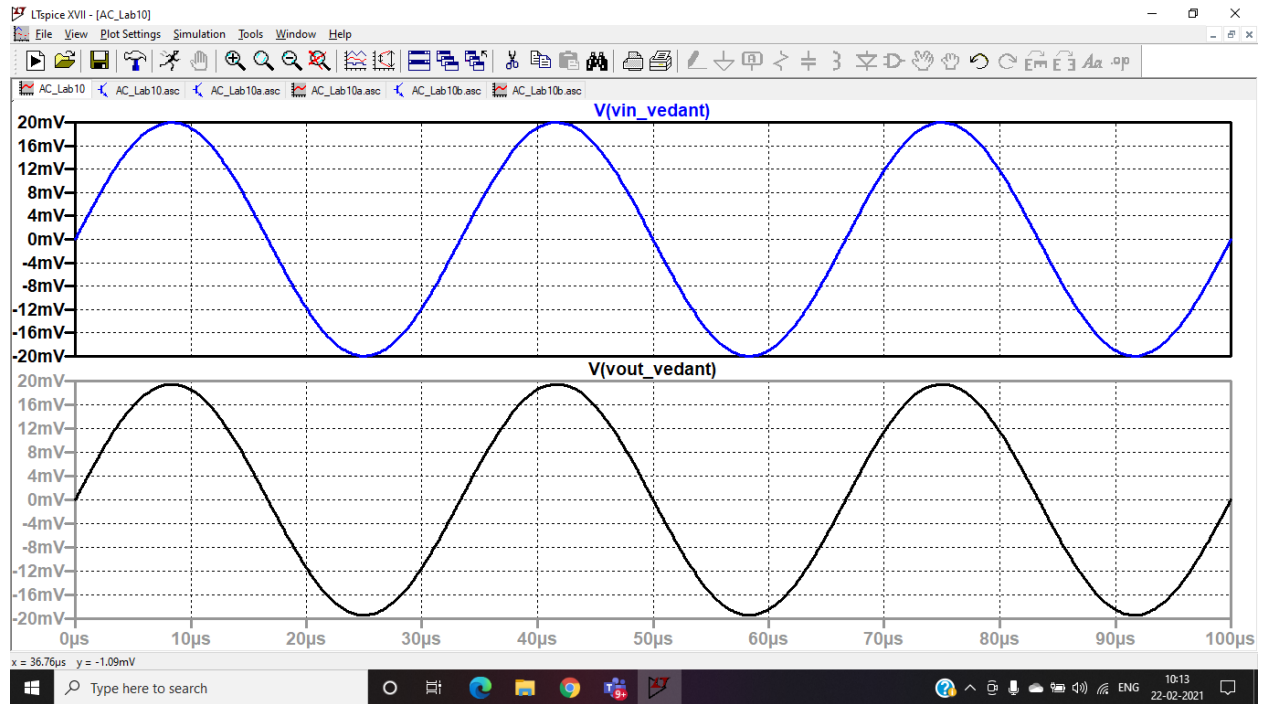


29.340033dB

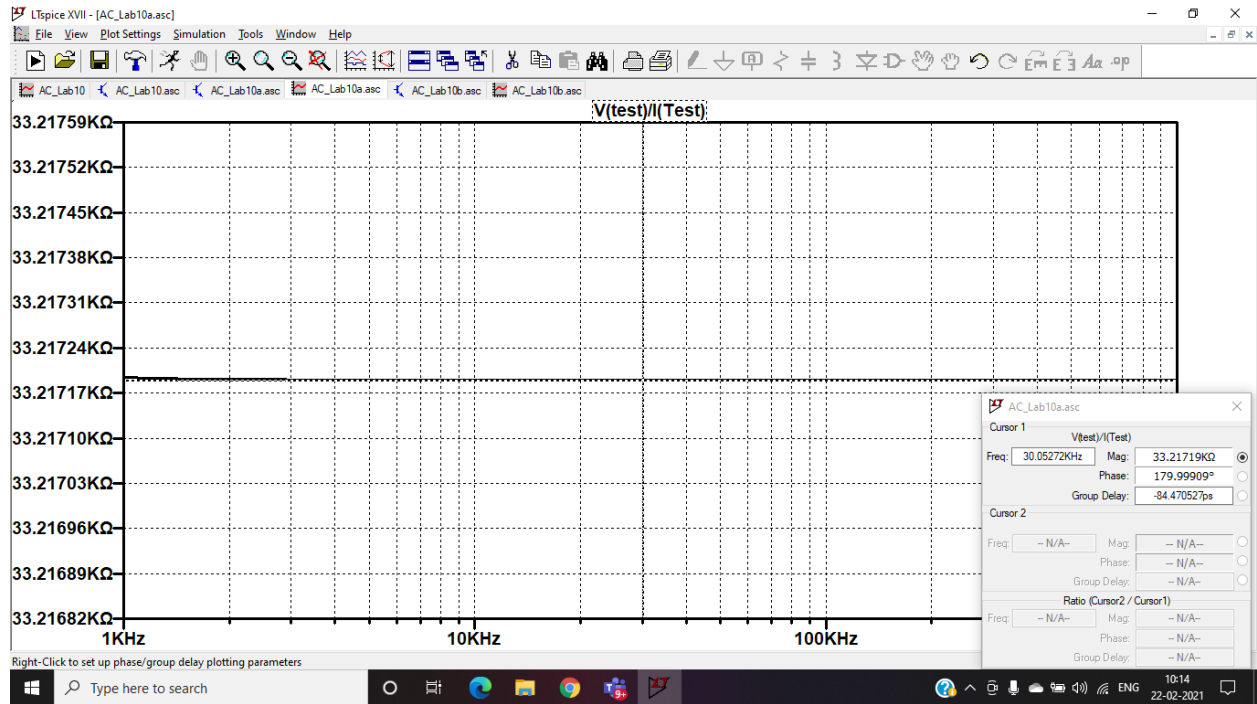
Parameters	
IB1	0.188 uA
IB2	0.019 mA
IC1	0.0188 mA
IC2	1.9 mA
IE2	1.919 mA
VCE2	8.08 V
rpi1	137k ohm
rpi2	1.36k ohm
Zin	33.227k ohm
Zout	29.309 ohm
Alt	101*101 = 10201
Avmid	0.9737

EX1 910

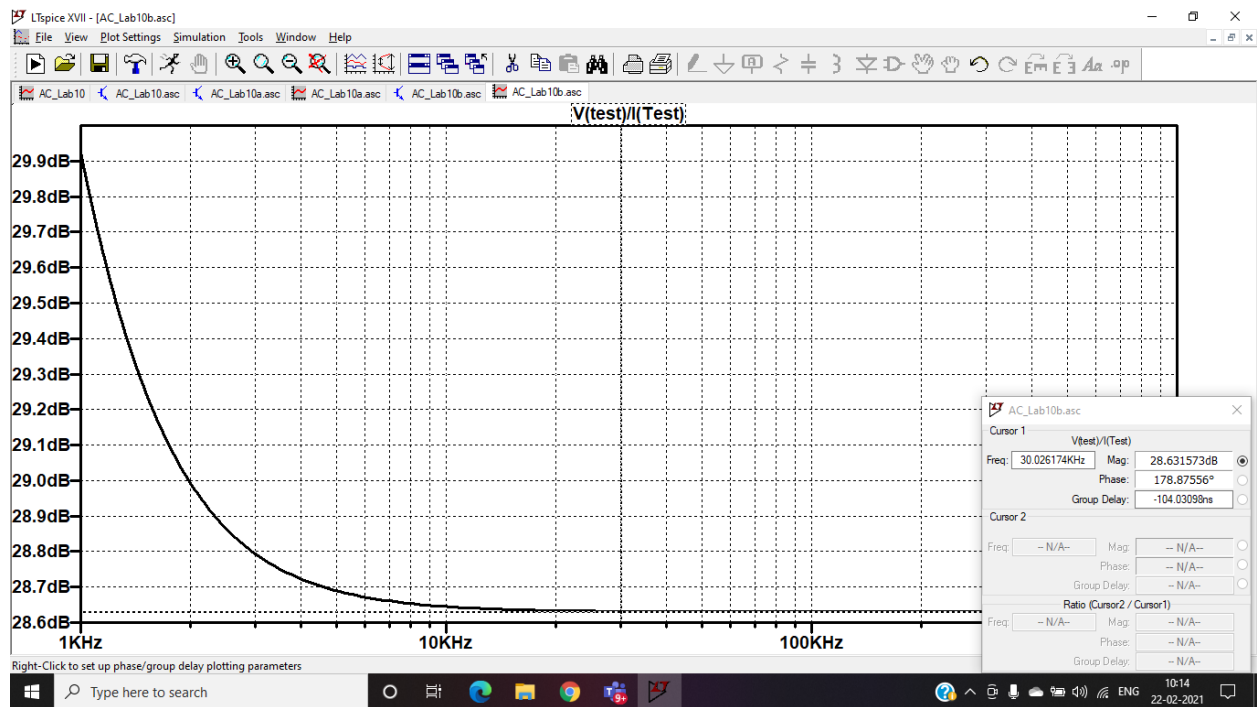




Zin



33.21719KOhm  
Zout



28.631573dB

Zin	33.217k ohm
Zout	27.01 ohm



Avmid	0.9737
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All currents IB1 IB2 IC1 IC2 increased as RE was reduced to 910. Gain was reduced by a slight bit.

**Suggestions: Add inference's for exercise and add observation table Kindly upload your work in MS teams incorporating suggestions**

**AC LAB 10 is partially approved with suggestions: Inderjit Singh Dhanjal**