AUDIT COURSE ELECTRONIC CIRCUITS 1:
SIMULATION BASED STUDY

LAB 12

Kindly update your name and roll no, once this document is shared with you
Time slot to complete your work is **40 MINUTES**
Date: 8/9/2020
Kindly upload your schematic & waveform images here, every 10 minutes, indicating your progress and intention to completion of WORK within time slot allotted

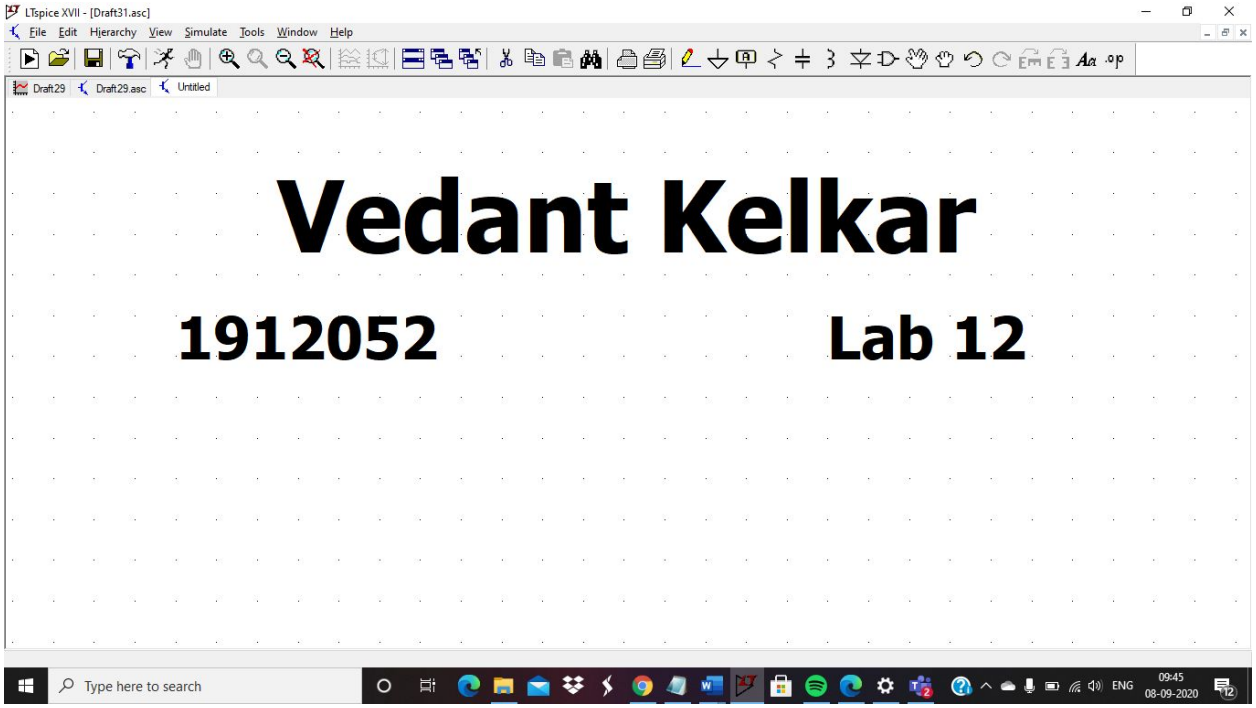
Time slot allotted to you all for the completion of WEEK 6 DAY 2 is 40 MINUTES

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

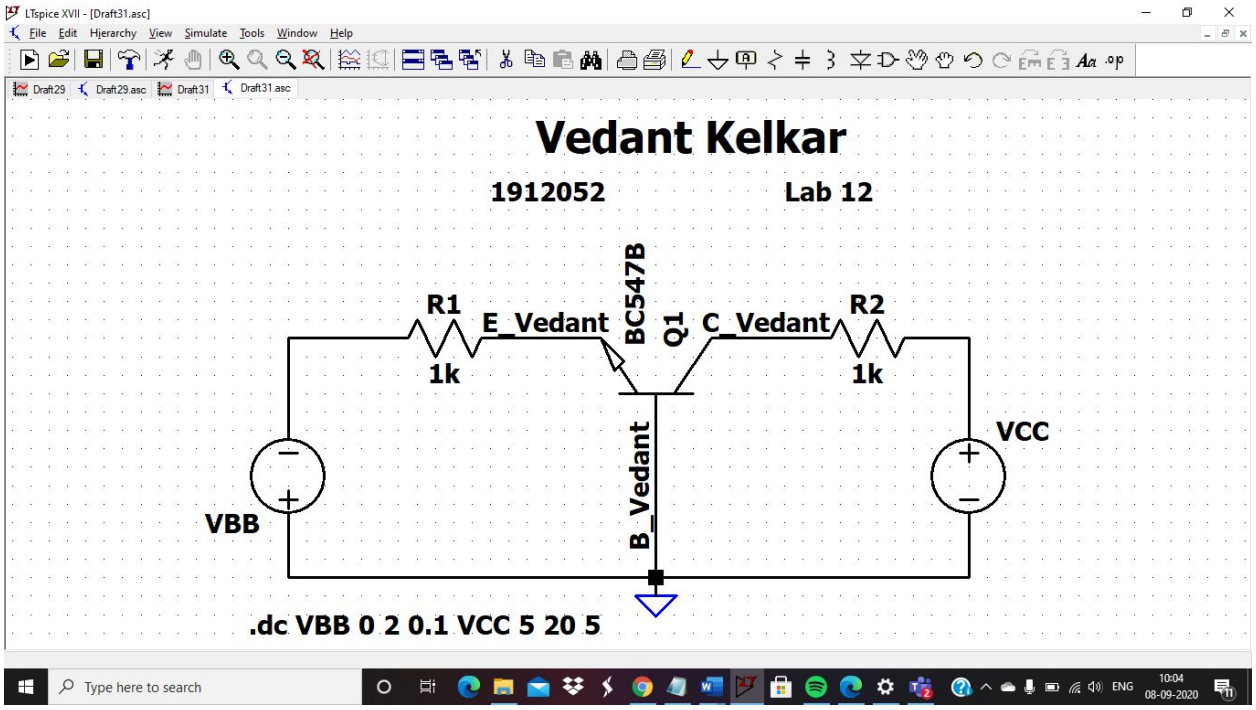
Follow these instruction strictly:
1, Start sharp ON TIME, by posting your name and roll no and **screenshot of your LT spice work screen (time and date MUST BE VISIBLE)**
2. Upload your work every 10 minutes, i.e LT spice work screen
3. This means you will upload LT spice work screen 4 times during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

You are entitled for 1 CREDIT per Lab only if you follow above instruction to the details

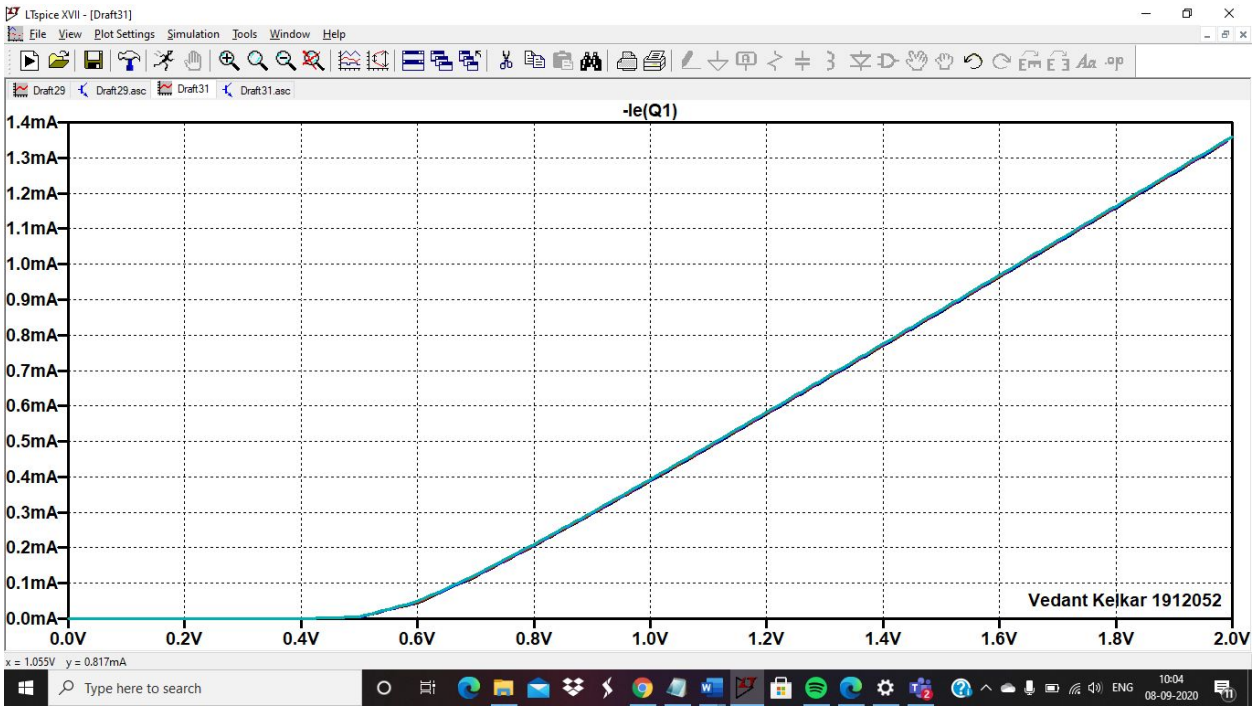
STUDENTS WORK AREA STARTS HERE



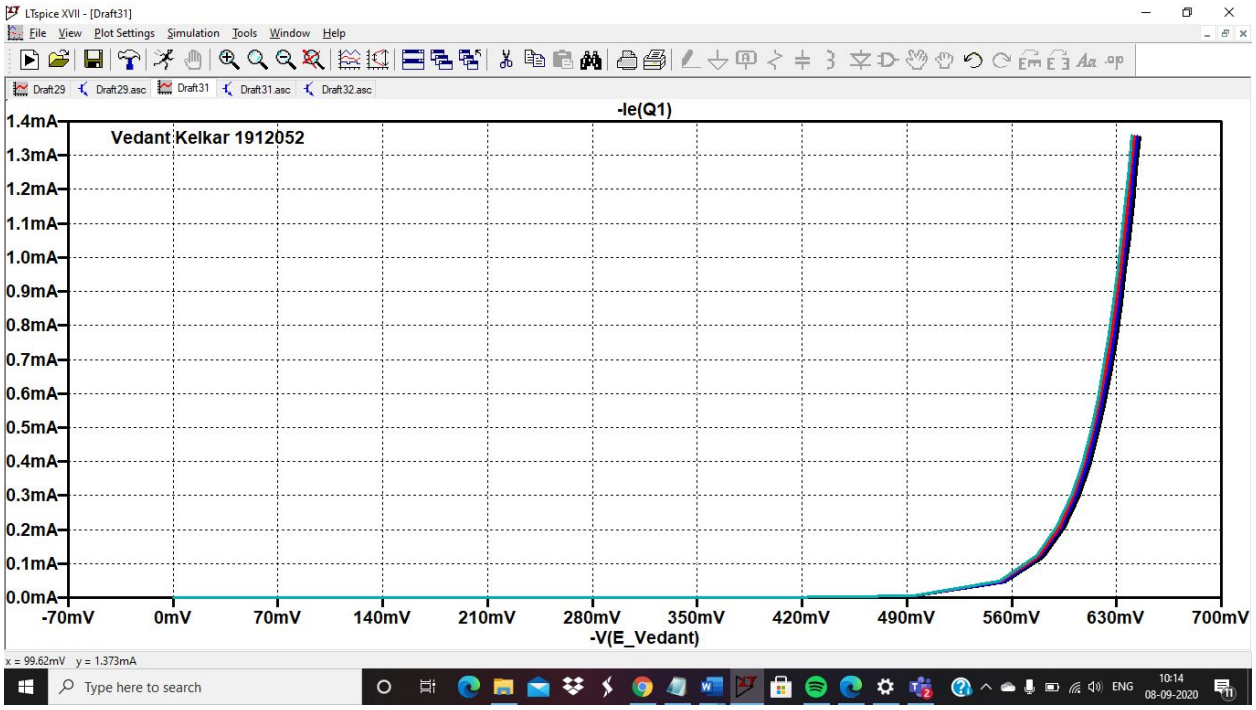
NPN BJT INPUT CHARACTERISTICS common base



VBB vs Ie



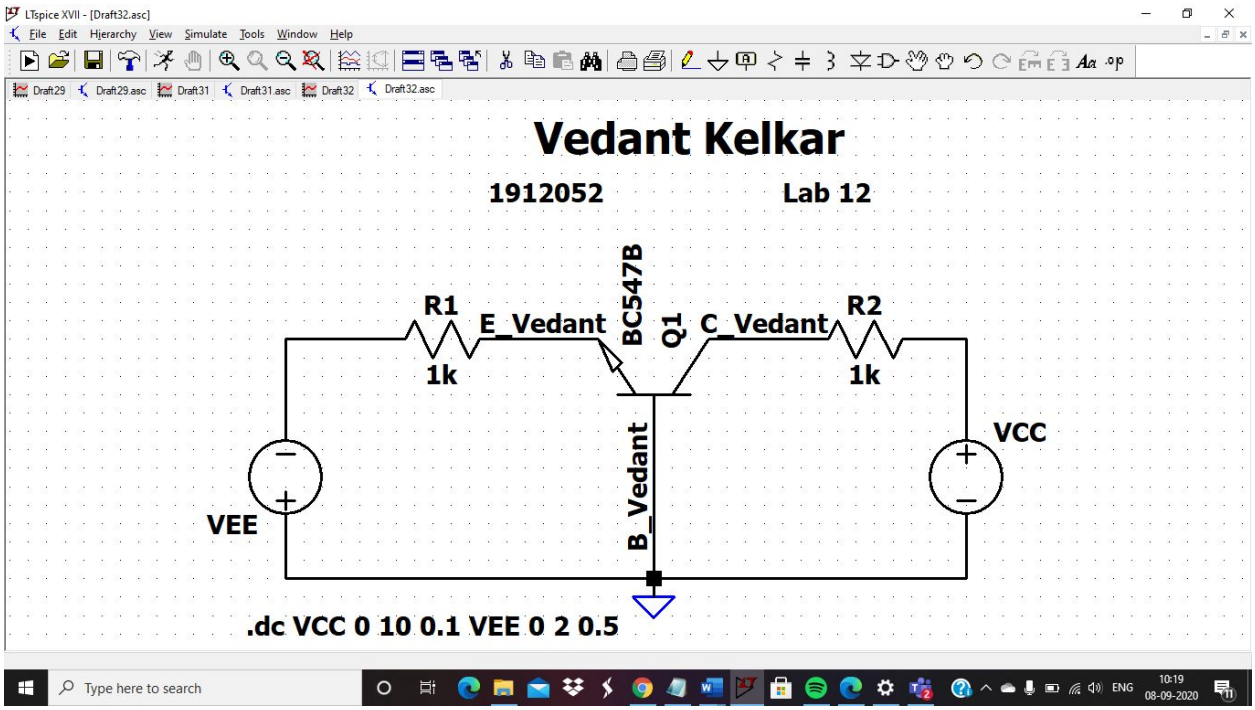
VBE vs Ie



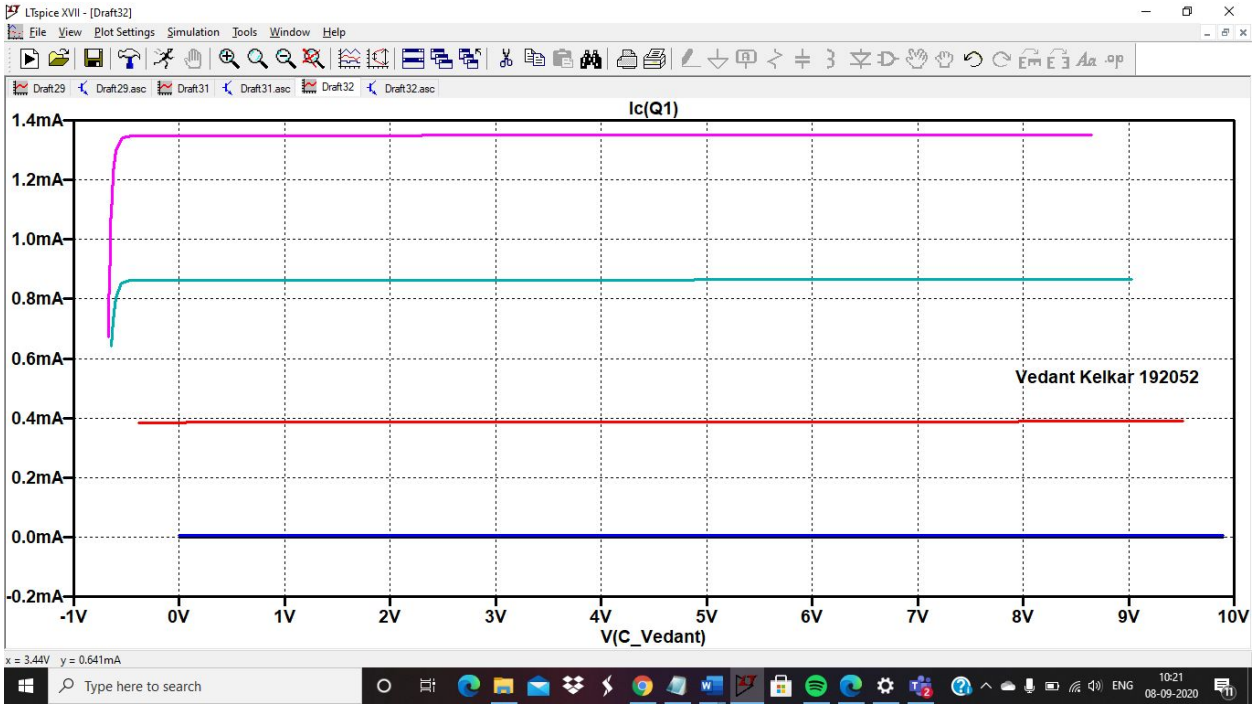
VBE	IE

0	0
200mV	60.106pA
400mV	160.400nA
500mV	7.790uA
550mV	40.595uA
580mV	117.602uA
600mV	252.560uA
620mV	528.620uA

BJT NPN OUTPUT CHARACTERISTICS common base

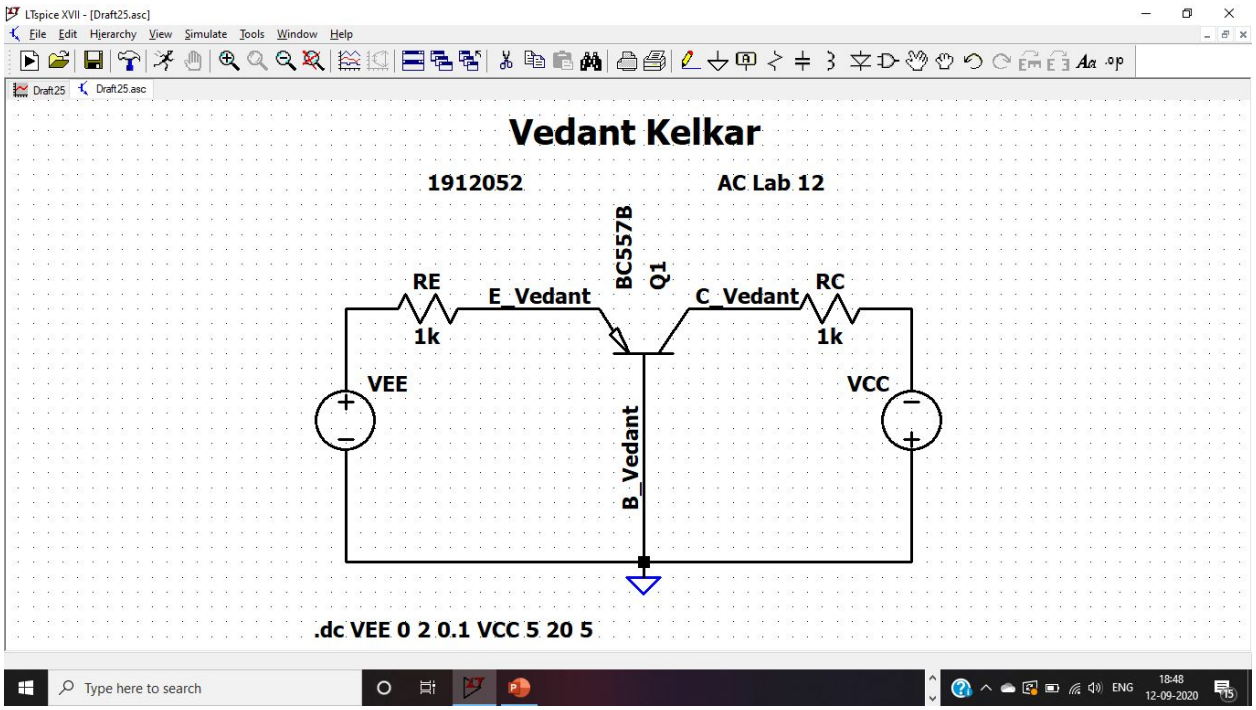


VCB vs Ic

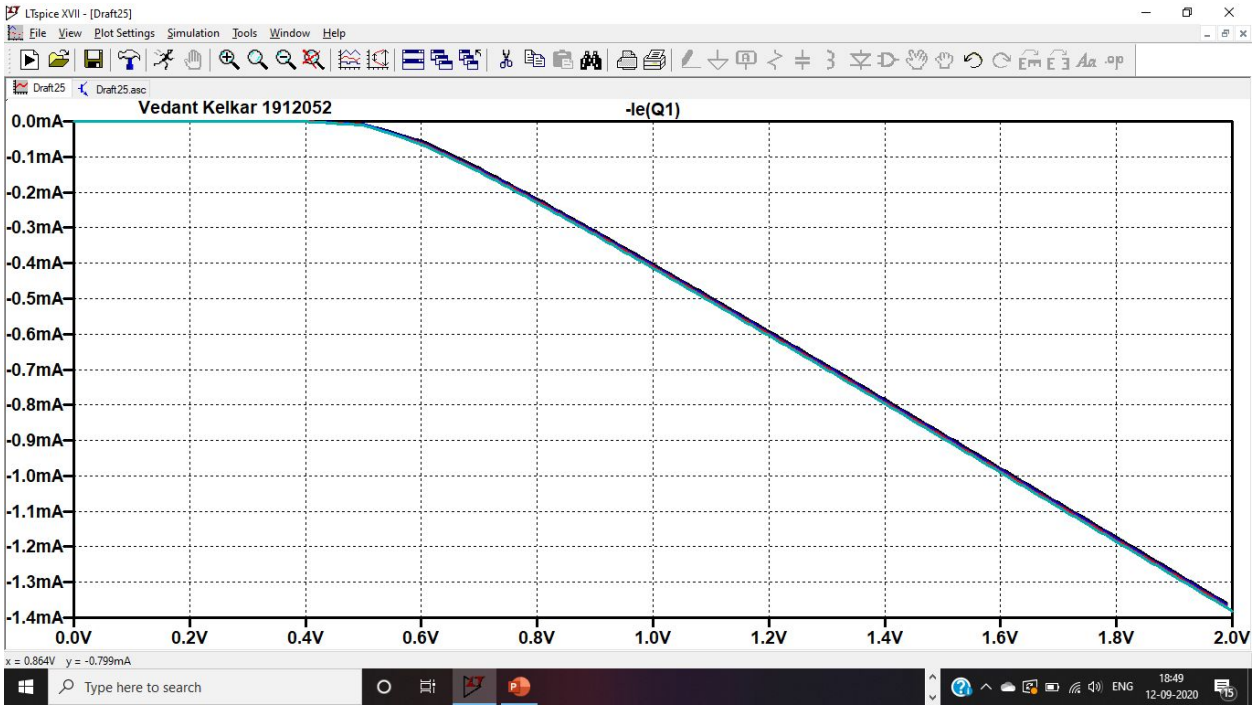


VCB	IC
-500mV	0.856mA
-300mV	0.867mA
-100mV	0.865mA
0V	0.862mA
1V	0.862mA
3V	0.862mA
5V	0.862mA
8V	0.862mA

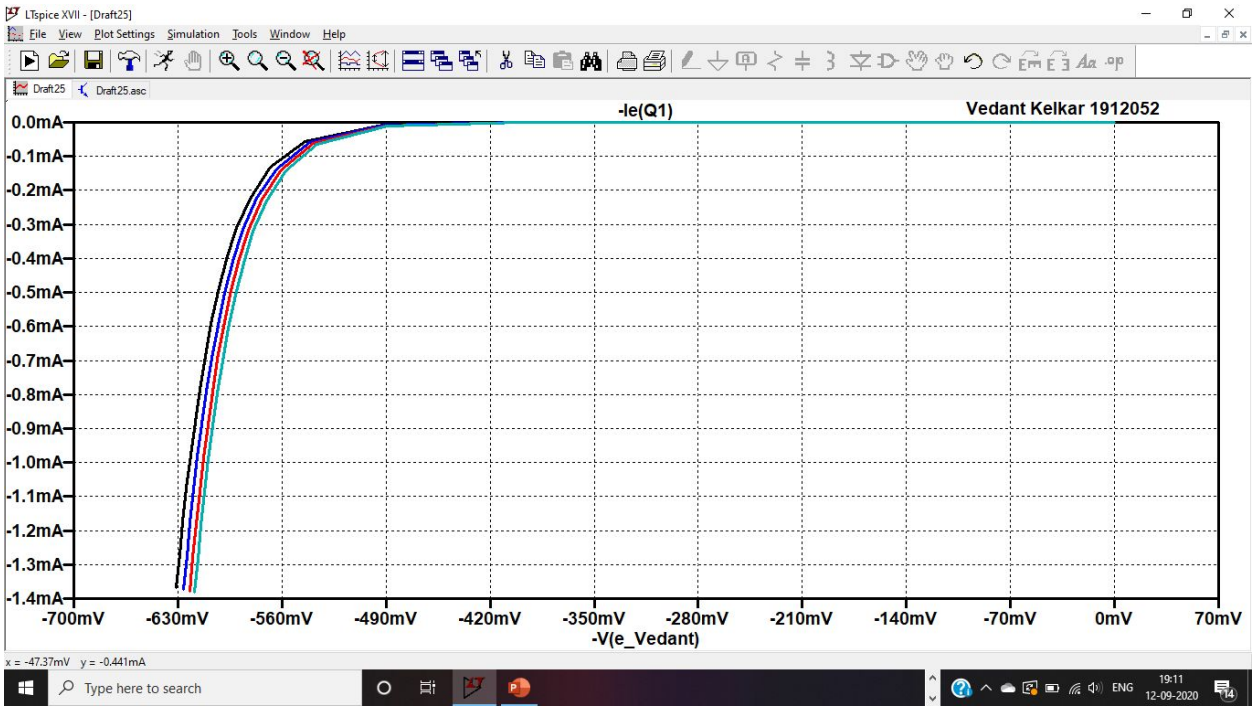
BJT PNP INPUT CHARACTERISTICS common base



VEE vs Ie

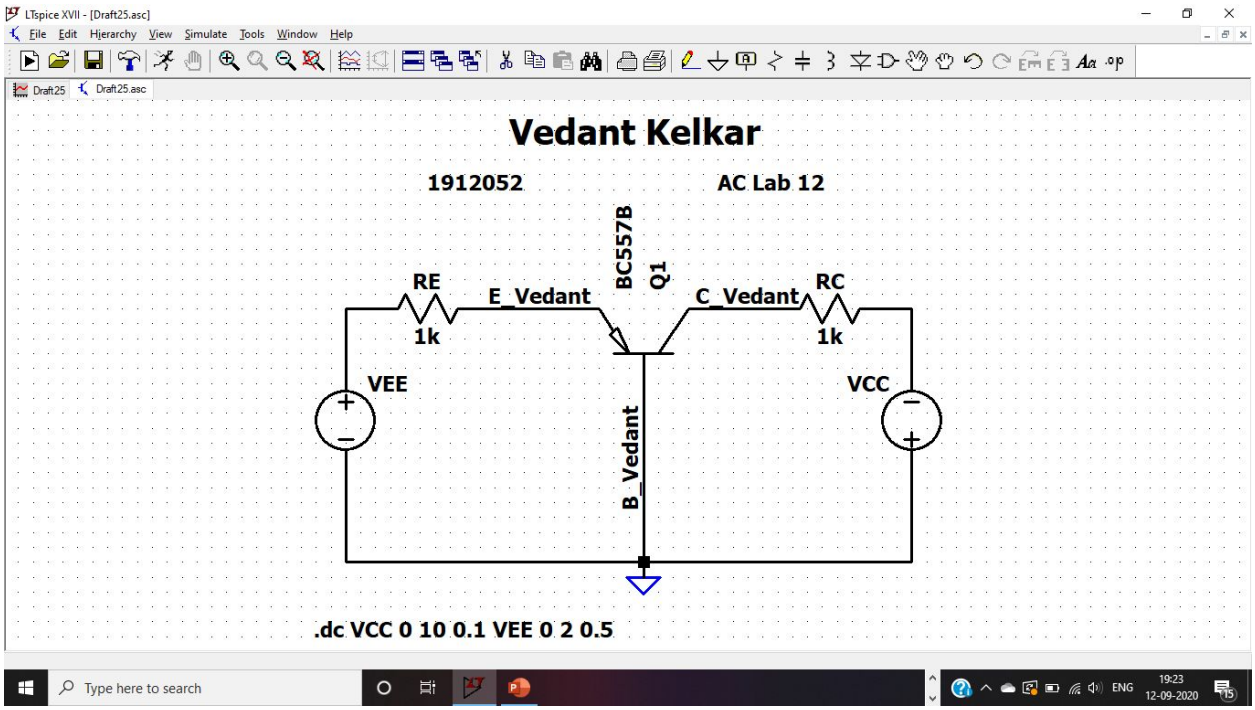


VBE vs Ie

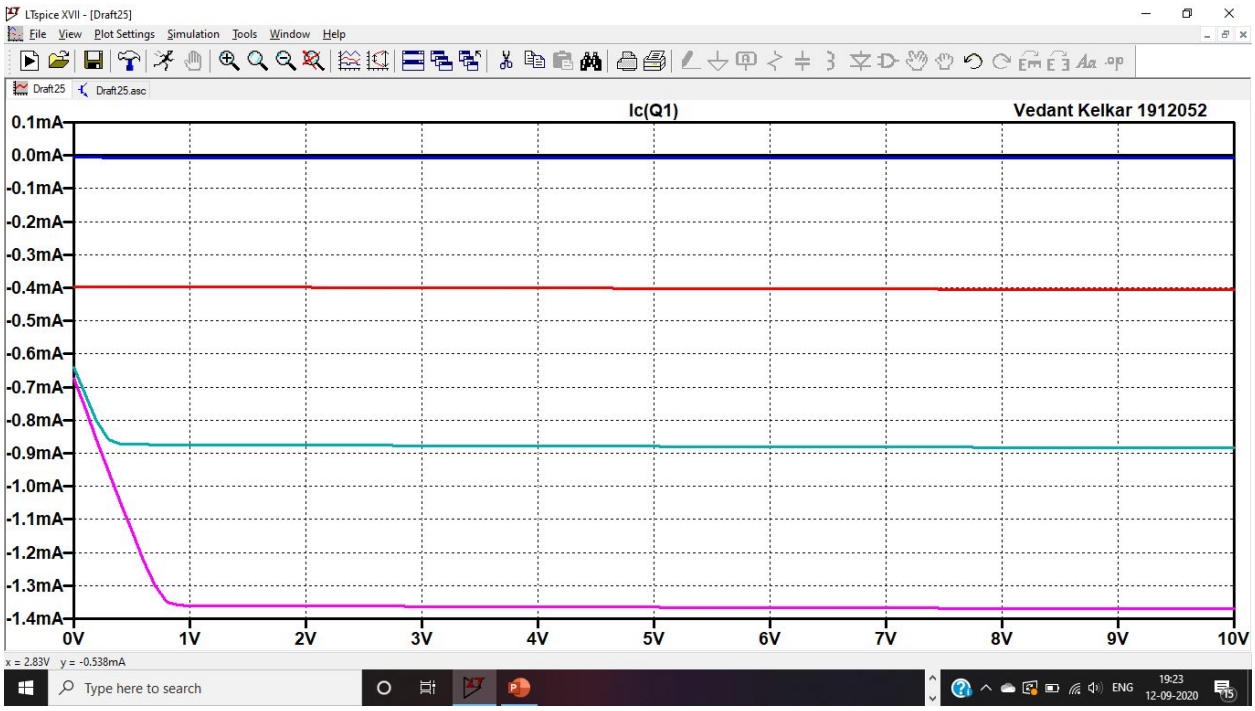


Vbe	Ie
0	0
-200mV	-121.47551pA
-400mV	-240.53726nA
-500mV	-15.177303µA
-550mV	-77.307713µA
-580mV	-217.68856µA
-600mV	-455.58432µA
-620mV	-953.58151µA

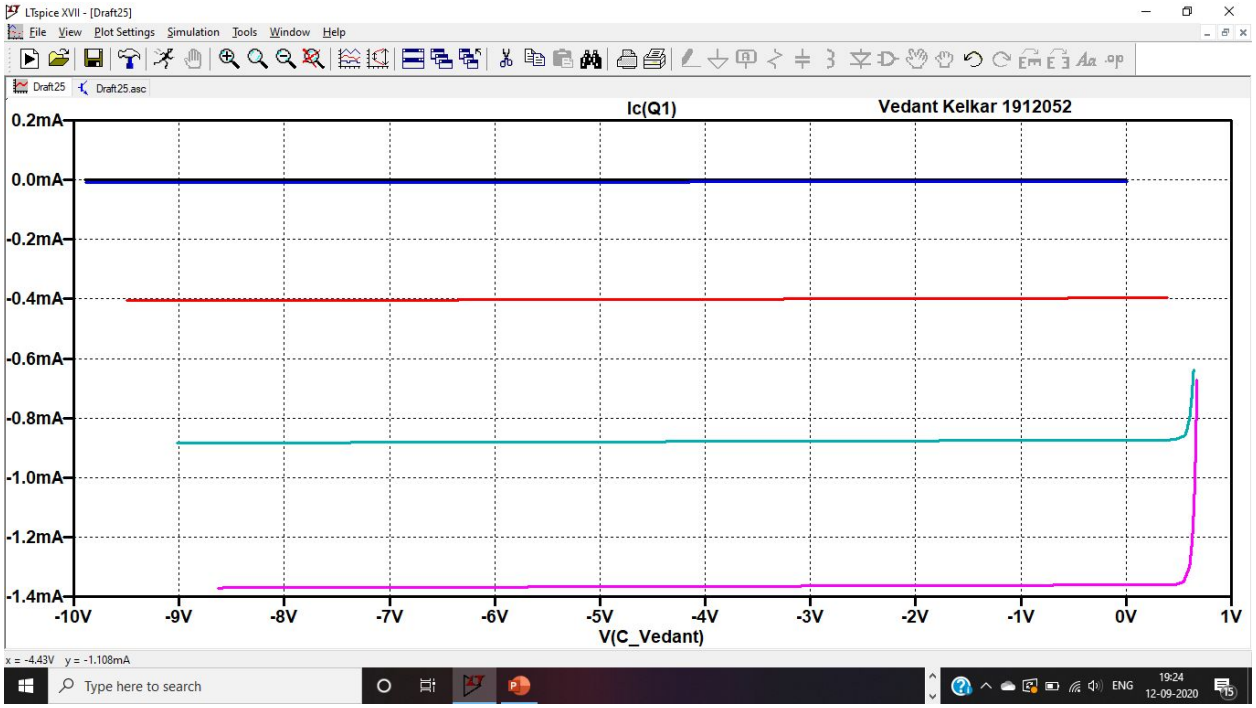
BJT PNP OUTPUT CHARACTERISTICS common base


LTspice XVII - [Draft25.asc]
File Edit Hierarchy View Simulate Tools Window Help
Draft25 Draft25.asc
Vedant Kelkar
1912052
AC Lab 12
BC557B
Q1
RE
1k
E_Vedant
C_Vedant
RC
1k
VEE
VCC
B_Vedant
.dc VCC 0 10 0.1 VEE 0 2 0.5
Type here to search
ENG
19:23
12-09-2020

Ic vs VCC


LTspice XVII - [Draft25]
File View Plot Settings Simulation Tools Window Help
Draft25 Draft25.asc
Ic(Q1)
Vedant Kelkar 1912052
0.1mA
0.0mA
-0.1mA
-0.2mA
-0.3mA
-0.4mA
-0.5mA
-0.6mA
-0.7mA
-0.8mA
-0.9mA
-1.0mA
-1.1mA
-1.2mA
-1.3mA
-1.4mA
0V
1V
2V
3V
4V
5V
6V
7V
8V
9V
10V
x = 2.83V y = -0.538mA
Type here to search
ENG
19:23
12-09-2020

Ic vs VCB



Vcb	Ic
500mV	-0.399mA
300mV	-0.399mA
100mV	-0.399mA
0V	-0.399mA
-1V	-0.399mA
-3V	-0.399mA
-5V	-0.402mA
-8V	-0.411mA

I HAVE MADE THE SUGGESTED CHANGES

Suggestions: Mention which characteristics and which configurations for above printscreens:

AC LAB 12 is approved with suggestions: Inderjit SIngh Dhanjal