EEE311
ELECTRONIC CIRCUITS II

ASSIGNMENT 2

1- Assignments must be submitted in hard copy. (Contribution 50%)
2- Each student must demonstrate simulations are properly working at his/her own computer. (Contribution 50%)
3- Submissions after the deadline will not be accepted.
4- Deadline 27.12.2022

Submission Rules:

1. **Printings must be printed to A4 paper in full range.**
2. **Use both side of the A4 paper.**
3. **If simulation back ground uses black color, do not forget to turn it into white.**

Using your responsible circuit in Assignment 1 (Table 1), apply a resistive feedback which type is given in Table 2.

1. **Use 1kΩ resistor(s) in your feedback circuit.**
2. **Calculate the same properties of the circuit that are wanted in Assignment 1**

Group 1: Series–Shunt

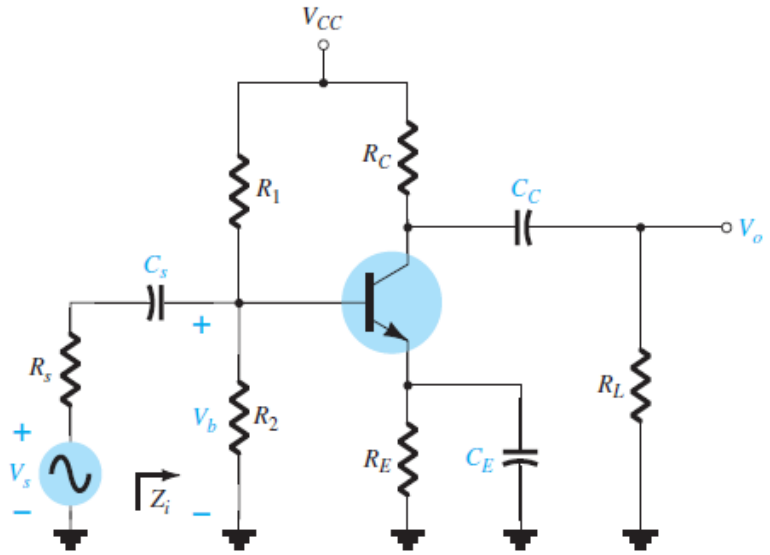
Group 2: Series–Series

Group 3: Shunt–Shunt

Group 4: Shunt–Series

Assignment 1 Groups

Group 1



$C_s = 10$ μF, $C_E = 20$ μF, $C_C = 1$ μF

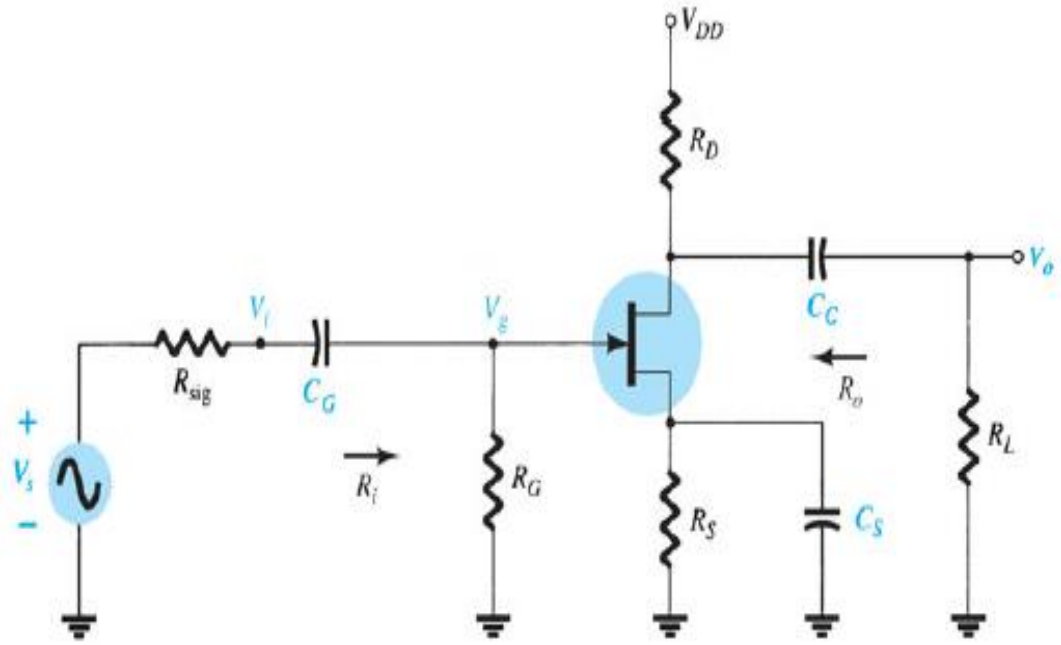
$R_1 = 40$ kΩ, $R_2 = 10$ kΩ, $R_E = 2$ kΩ, $R_C = 4$ kΩ, $R_L = 2.2$ kΩ, $R_s = 1$ kΩ,

$V_{CC} = 20$ V.

Using any electronic circuit simulation program and any model of BJT:

a. Print out magnitude bode plot of the circuit.
b. Print out phase bode plot of the circuit.
c. Determine low cutoff frequency of the circuit.
d. Determine high cutoff frequency of the circuit.
e. Determine the mid band voltage gain.
f. Verify your results with calculations.

Group 2:



$C_G = 0.01$ µF, $C_C = 0.5$ µF, $C_S = 2$ µF,

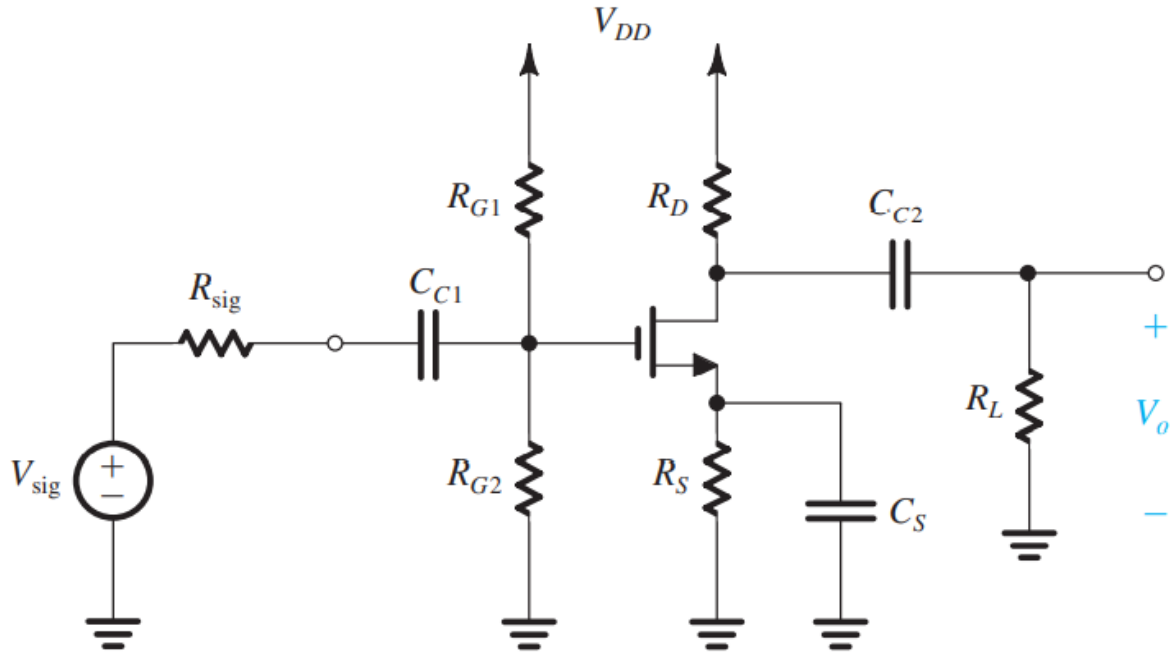
$R_{sig} = 10$ kΩ, $R_G = 1$ MΩ, $R_D = 4.7$ kΩ, $R_S = 1$ kΩ, $R_L = 2.2$ kΩ

$V_{DD} = 20$ V

Using any electronic circuit simulation program and any model of **JFET**:

a. Print out magnitude bode plot of the circuit.
b. Print out phase bode plot of the circuit.
c. Determine low cutoff frequency of the circuit.
d. Determine high cutoff frequency of the circuit.
e. Determine the mid band voltage gain.
f. Verify your results with calculations.

Group 3:



C_{C1} = 100 nF and C_{C2} = 0.5 µF and C_S = 1.75 µF,

R_{G1} = R_{G2} = 9.4 MΩ, R_D = 10 kΩ, R_L = 15 kΩ, R_{sig} = 100 kΩ, R_S = 8 kΩ,

V_{DD} = 20 V

Using any electronic circuit simulation program and any model of **MOSFET**:

a. Print out magnitude bode plot of the circuit.
b. Print out phase bode plot of the circuit.
c. Determine low cutoff frequency of the circuit.
d. Determine high cutoff frequency of the circuit.
e. Determine the mid band voltage gain.
f. Verify your results with calculations.

Table 1:

Responsiblity Table for Assignment 1					
	ID	**Name**	**Group 1**	**Group 2**	**Group 3**
1	200010796	ABDIWELI SAKARIE ISSE	x		
2	200011307	ABDULLAH KÖKER		x	
3	200011045	ABDULLAH İSMAİL ÖZDEMİR			x
4	200016103	ABDURRAHMAN ÇETİN	x		
5	200017746	AHMET ERTUĞ DARENDELİOĞLU		x	
6	200018271	AHMET MÜCAHİT YILMAZ			x
7	200018126	BERKAY ELMACI	x		
8	200019342	BURAK AKBURAK		x	
9	200019121	BURHAN DOĞUHAN LEVENTERLER			x
10	100043308	ENVER KAAN ARIKAN	x		
11	200022442	EREN KAPLAN		x	
12	200017710	FATMA YAZICI			x
13	200018087	HALİT EMRE ÖZDEMİR	x		
14	200017952	HASAN ARDA TURAN		x	
15	200011388	HASAN ŞABAN ÇALIŞKAN			x
16	200023579	KAOUTHER ACHOURI	x		
17	200017790	KARDELEN DEMİREL		x	
18	200018576	KÜBRA İNAZ			x
19	200017686	MEHMET OSMAN KINACI KARA	x		
20	200018400	MUHAMMED ENES ÇELİK		x	
21	200011383	MUHAMMET ENES YALÇIN			x
22	200019483	MURAT ÇATALBAŞ	x		
23	200017727	NAZLI DAWN MACAHİA YALIM		x	
24	200018147	OSMAN ARDA KAYA			x
25	200021610	ÖYKÜ NAZLI ÇİFLİKLİ	x		
26	200017695	PÜRŞAN ASLAN		x	
27	200011072	RAMAZAN GÖKPINAR			x
28	200018632	RAMAZAN GENÇAĞA SOLAK	x		
29	200011772	RÜÇHAN ŞAHKULUBEY		x	
30	200014710	SAID AHMED SAID			x
31	200018268	SAİD EMİRHAN DÖKE	x		
32	200021857	SELÇUK YİĞİT ESEDOĞLU		x	
33	200018482	TUĞBA MELİSSA ÖZTÜRK			x
34	200019123	ZEYNEP SUDE KILINÇ	x		

Table 2:

Responsiblity Table for Assignment 2						
	ID	**Name**	**Group 1**	**Group 2**	**Group 3**	**Group 4**
1	200010796	ABDIWELI SAKARIE ISSE	Series–Shunt			
2	200011307	ABDULLAH KÖKER		Series–Series		
3	200011045	ABDULLAH İSMAİL ÖZDEMİR			Shunt–Shunt	
4	200016103	ABDURRAHMAN ÇETİN				Shunt–Series
5	200017746	AHMET ERTUĞ DARENDELİOĞLU	Series–Shunt			
6	200018271	AHMET MÜCAHİT YILMAZ		Series–Series		
7	200018126	BERKAY ELMACI			Shunt–Shunt	
8	200019342	BURAK AKBURAK				Shunt–Series
9	200019121	BURHAN DOĞUHAN LEVENTERLER	Series–Shunt			
10	100043308	ENVER KAAN ARIKAN		Series–Series		
11	200022442	EREN KAPLAN			Shunt–Shunt	
12	200017710	FATMA YAZICI				Shunt–Series
13	200018087	HALİT EMRE ÖZDEMİR	Series–Shunt			
14	200017952	HASAN ARDA TURAN		Series–Series		
15	200011388	HASAN ŞABAN ÇALIŞKAN			Shunt–Shunt	
16	200023579	KAOUTHER ACHOURI				Shunt–Series
17	200017790	KARDELEN DEMİREL	Series–Shunt			
18	200018576	KÜBRA İNAZ		Series–Series		
19	200017686	MEHMET OSMAN KINACI KARA			Shunt–Shunt	
20	200018400	MUHAMMED ENES ÇELİK				Shunt–Series
21	200011383	MUHAMMET ENES YALÇIN	Series–Shunt			
22	200019483	MURAT ÇATALBAŞ		Series–Series		
23	200017727	NAZLI DAWN MACAHİA YALIM			Shunt–Shunt	
24	200018147	OSMAN ARDA KAYA				Shunt–Series
25	200021610	ÖYKÜ NAZLI ÇİFLİKLİ	Series–Shunt			
26	200017695	PÜRŞAN ASLAN		Series–Series		
27	200011072	RAMAZAN GÖKPINAR			Shunt–Shunt	
28	200018632	RAMAZAN GENÇAĞA SOLAK				Shunt–Series
29	200011772	RÜÇHAN ŞAHKULUBEY	Series–Shunt			
30	200014710	SAID AHMED SAID		Series–Series		
31	200018268	SAİD EMİRHAN DÖKE			Shunt–Shunt	
32	200021857	SELÇUK YİĞİT ESEDOĞLU				Shunt–Series
33	200018482	TUĞBA MELİSSA ÖZTÜRK	Series–Shunt			
34	200019123	ZEYNEP SUDE KILINÇ		Series–Series		