Electronic Devices

Final Term Assignment (Submission Deadline: 16 April 2021, Friday by 10:00 PM)

Submission Type: Online using Microsoft teams

Instructions:

1. **If your question says ID+12 then use last two digits of your ID before the hyphen and then add 12. For example, If ID: 18-78253-2, then use 53 and add 12. In this case, ID+12 = 53+12 = 65.**
2. **If your question says ID+0.6 then use last two digits of your ID before the hyphen and then add 0.6. For example, If ID: 18-78253-2, then use 53 and add 0.6. In this case, ID+0.6 = 53+0.6 = 53.6.**
3. **Answer of all the answer is compulsory.**
4. **Copied/identical submissions will be graded as 0.**
5. **Special Instructions are provided in the 3rd page of this assignment questions.**

1. For the given circuit of Fig. 1, Find out the following: r_e, Z_i, Z_o, Av with r_o = ID+10 kΩ. **[4]**

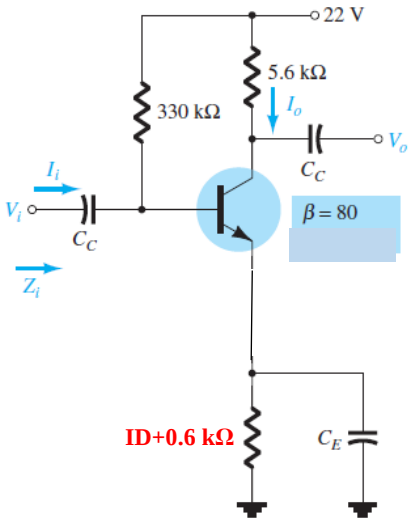


Figure for Question 1

2. Given the measurement V_S = 1.7 V for the network of Fig. 2, determine: I_{DQ}, V_{GSQ}, I_{DSS}, V_D, V_{DS}. **[4]**
3. Determine V_{GSQ}, I_{DQ}, V_{DS} for the given circuit of Fig. 3. **[4]**

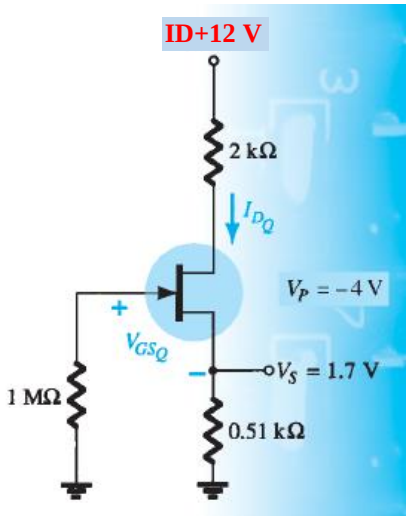


Figure for Question 2

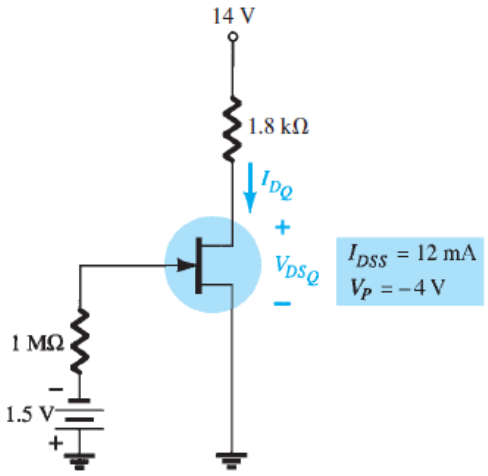


Figure for Question 3

4. For the D-MOSFET self-bias network of Fig. 4, the level of I_{DQ} is specified. Assuming $R_D = 3R_S$, now determine the required values of $\boldsymbol{R_D}$ and $\boldsymbol{R_S}$. **[4]**
5. Determine $\mathbf{I_{DQ}}$, $\mathbf{V_{GSQ}}$, $\mathbf{V_{DS}}$, $\mathbf{V_D}$, $\mathbf{V_S}$ and $\mathbf{V_G}$ for the E-MOSFET voltage divider configuration given in Fig. 5. **[4]**

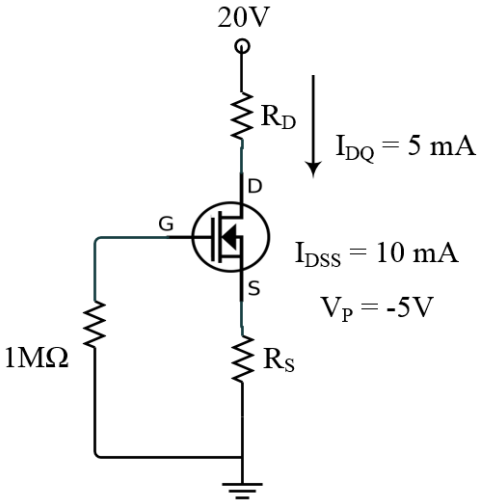


Figure for Question 4

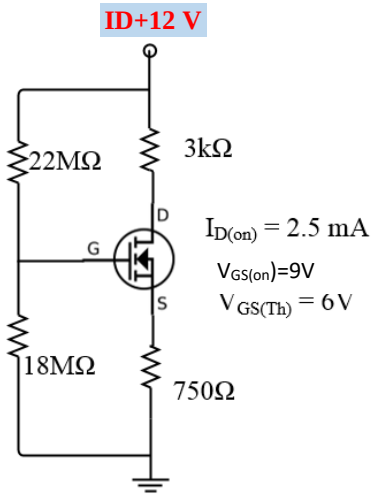


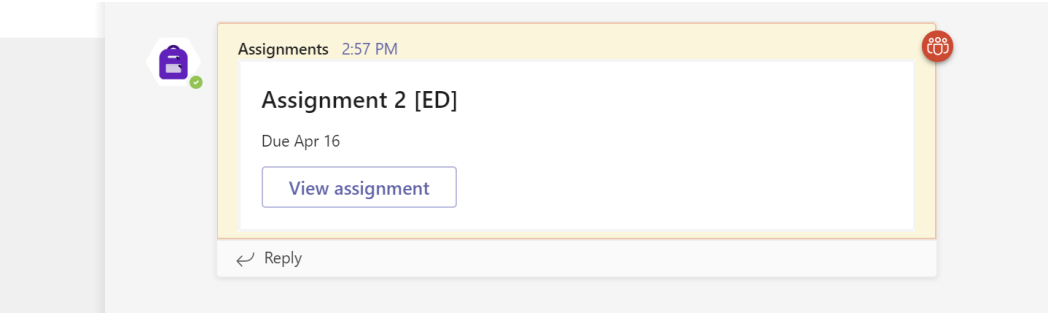
Figure for Question 5

Special Instructions of Assignment

1. After finishing your assignment, please scan it using suitable apps using your mobile phone and make it pdf file. The 1st page will be cover page (follow step 3).
2. The assignment file name should be your NAME.
3. Your cover page should contain Student Name, Student ID, Course Name, Course teacher name (it can be handwritten).

Online Submission Guidelines:

1. **Click on the view assignment** in Microsoft teams as shown below. You will get it in our class in Microsoft teams.



2. After that, click on the **Add work.** Here you can upload your assignment.
3. After upload, click on the **Turn in option (laptop view)** or click **Hand In option (mobile view).**

If you have any confusions feel free to contact with me.