Electronic Circuits II – Assignment 03

XX

#	Student ID	Student Name	Grade (10)
-			

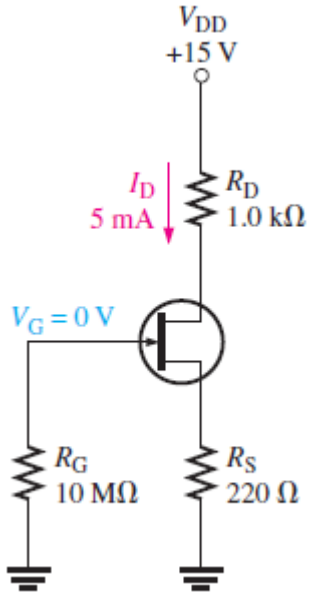
Delivery Date	

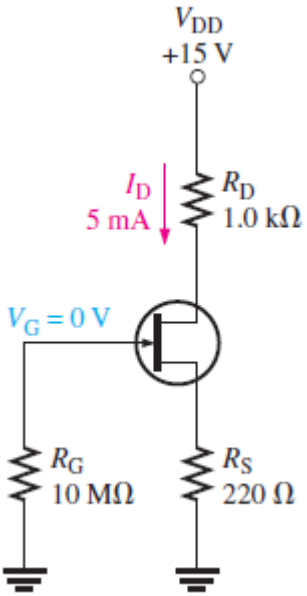
١. يتم تسليم التمرين محلولا في خلال أسبوع من تاريخ التمرين، و يتم حذف درجتين من التمرين عن كل أسبوع تأخير
٢. يتم التسليم لمعيد المقرر مباشرة
٣. تتم أجابه التمرين في نفس ورق الأسئلة

T & F

#		
1	The JFET always operates with a reverse-biased gate-to-source *pn* junction.	T
2	The channel resistance of a JFET is a constant.	F
3	The gate-to-source voltage of an *n*-channel JFET must be negative.	T
4	*I*D becomes zero at the pinch-off voltage.	F
5	*V*GS has no effect on *I*D.	F
6	*V*GS(off) and *V*P are always equal in magnitude but opposite in polarity.	T
7	The JFET is a square-law device because of the mathematical expression of its transfer characteristic curve	T
8	Forward transconductance is the change in drain voltage for a given change in gate voltage.	F

MCQ

#	Question	Answer
1	If the drain current in Figure 8–17 is increased, *V*DS will  **(a)** increase **(b)** decrease **(c)** not change	

2	If the drain current in Figure is increased, V_{GS} will  **(a)** increase **(b)** decrease **(c)** not change	
3	For V_{GS} _ 0 V, the drain current becomes constant when V_{DS} exceeds **(a)** cutoff **(b)** V_{DD} **(c)** V_P **(d)** 0 V	a
4	The constant-current region of a FET lies between **(a)** cutoff and saturation **(b)** cutoff and pinch-off **(c)** 0 and I_{DSS} **(d)** pinch-off and breakdown	c
5	In a certain FET circuit, $V_{GS} = 0$ V, $V_{DD} = 15$ V, $I_{DSS} = 15$ mA, and $R_D = 470\ \Omega$. If R_D is decreased to 330 Ω, I_{DSS} is (a) 19.5 mA (b) 10.5 mA (c) 15 mA (d) 1 mA	c
6	At cutoff, the JFET channel is (a) at its widest point (b) completely closed by the depletion region (c) extremely narrow (d) reverse-biased	b