TUTORIAL 1

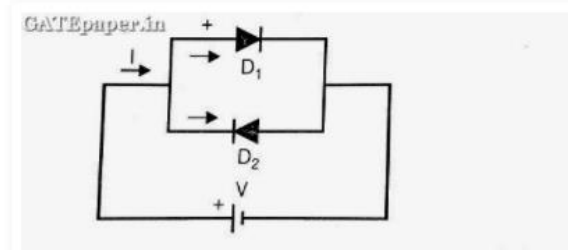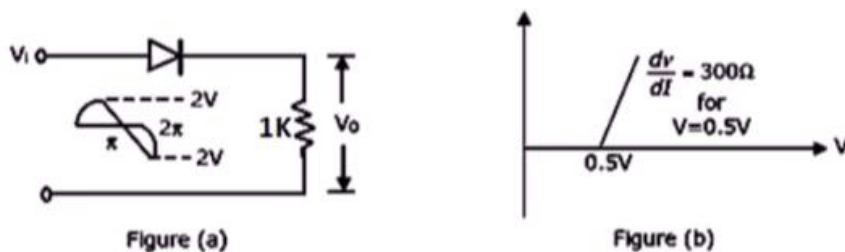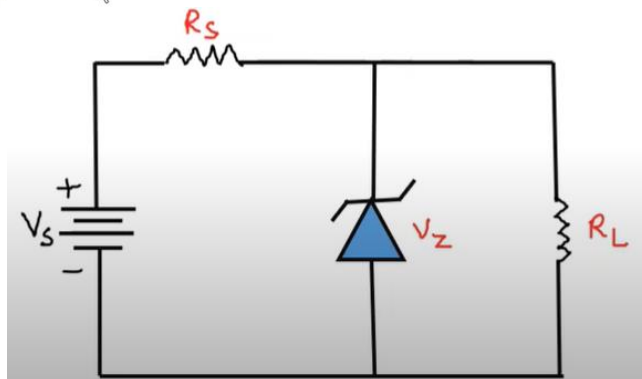|	
1	In the circuit below, the current voltage relationship when D1 and D2 are identical is given by (assume Germanium diodes)
2	A PN junction with a 100 Ω resistor, is forward biased so that a current of 100 mA flows. If the voltage across this combination is instantaneously reversed to 10 volts at t = 0, the reverse current that flows through the diode at t=0 is approximately given by
3	Consider the circuit shown in figure (a). If the diode used here has the V-I characteristic as in figure (b), then the output waveform V_o is Figure (a) Figure (b)
4	For the following Figures, determine the output voltage and sketch its nature
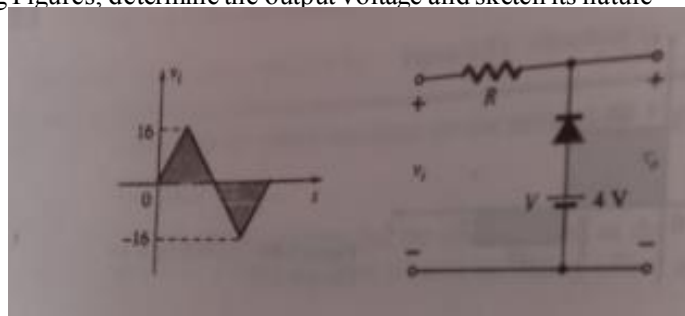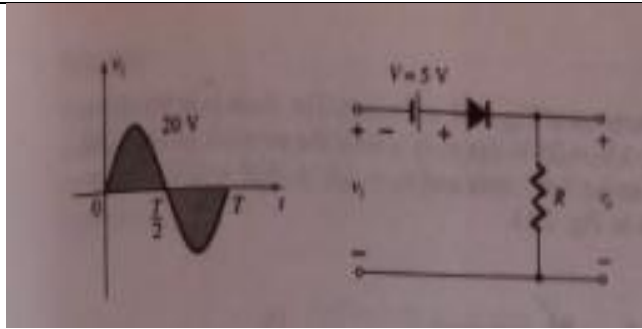
5	**Given R$_s$=240 ohm, V$_s$=30V, V$_z$=12V, R$_L$=500 ohm.** **1.Find the load voltage 2.voltage drop across series resistance 3.current through the zener diode.**
6	**The 6 volts Zener diode shown in figure has zero Zener resistance** **and a knee current of 5 mA. The minimum value of R so that** **the voltage across it does not fall below 6 volts is :**
7	Find the range of load current and resistance that will maintain output voltage fixed at 10V and also calculate maximum power across Zener diode
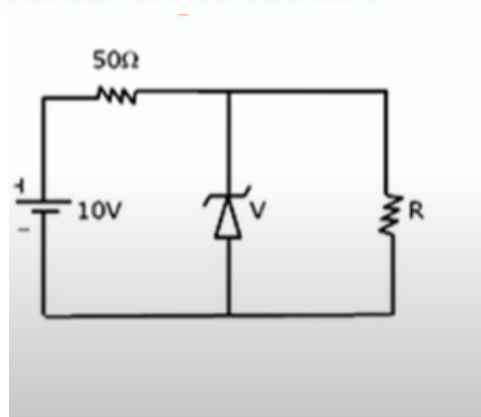
R
I
I_L
$1 K\Omega$
I_2
$V_1 = 50V$
R_L V_0