For PN Junction Diode, Voltage across the diode decreses with increase in temperature

Temp	Vd (in mV)
80	562
70	579
60	595
50	611
40	626
30	644
20	659

Temperature Coefficient = -1.5mV/0C

For Zener Diode, Voltage across the diode in reverse bias decreases with increase in temperature

Temperature Coefficient = -0.9mV/0C

For Q1(b), Zener breakdown is 17.5V so, assume R1 = 1k which implies R2 = 7k and for current 0.05mA through zener, Rs = 250k