

Question 33439 Thermal dependence of resistance with respect to temperature in metals is $R = R_0(1 + \alpha T)$, where $\alpha = \frac{1}{273}$, T is the temperature in Kelvin. Knowing the resistance at 20 degrees, obtain $6 = R_0(1 + \frac{293}{273})$, from where $R_0 = 2.89$ ohm. Hence, knowing R_0 , for temperature $T = 34$ deg, $R = 2.89(1 + \frac{307}{273}) = 6.14$ ohm.