18. We use $N_0 = N(E)P(E) = CE^{1/2}\left[e^{(E-E_{\mathrm{F}})/kT}+1\right]^{-1}$, where C is given in problem 7(a). At $E = 4.00\,\mathrm{eV}$,

$$\begin{aligned} n_0 &= \frac{\left(6.8\times10^{27}\,\mathrm{m}^{-3}\cdot(\mathrm{eV})^{-3/2}\right)(4.00\,\mathrm{eV})^{1/2}}{e^{(4.00\,\mathrm{eV}-7.00\,\mathrm{eV})/[(8.62\times10^{-5}\,\mathrm{eV/K})(1000\,\mathrm{K})]}+1} \\ &= 1.36\times10^{28}\ \mathrm{m}^{-3}\cdot\mathrm{eV}^{-1}\ , \end{aligned}$$

and at $E = 6.75\,\mathrm{eV}$,

$$\begin{aligned} n_0 &= \frac{\left(6.8\times10^{27}\,\mathrm{m}^{-3}\cdot(\mathrm{eV})^{-3/2}\right)(6.75\,\mathrm{eV})^{1/2}}{e^{(6.75\,\mathrm{eV}-7.00\,\mathrm{eV})/[(8.62\times10^{-5}\,\mathrm{eV/K})(1000\,\mathrm{K})]}+1} \\ &= 1.67\times10^{28}\ \mathrm{m}^{-3}\cdot\mathrm{eV}^{-1}\ . \end{aligned}$$

Similarly at $E = 7.00$, 7.25 and $9.00\,\mathrm{eV}$, the values of $n_0(E)$ are $9.0\times10^{27}\ \mathrm{m}^{-3}\cdot\mathrm{eV}^{-1}$, $9.5\times10^{26}\ \mathrm{m}^{-3}\cdot\mathrm{eV}^{-1}$ and $1.7\times10^{18}\,\mathrm{m}^{-3}\cdot\mathrm{eV}^{-1}$, respectively. We note that the latter value is effectively zero (relative to the other results).