Problem 21

Assuming one nerve impulse must end before another can begin, what is the maximum firing rate of a nerve in impulses per second?

Solution

According to Figure 1.4 on page 10,

$$\text{duration of a nerve impulse} = 10^{-3} \text{ s.}$$

Invert this result to get the frequency in cycles (impulses) per second.

$$\text{Firing Frequency} \approx \frac{1}{10^{-3} \text{ s}} = 10^3 \frac{\text{impulses}}{\text{second}}$$