

Física para Ciências Biológicas – 4310190 – 2022

Lista de casa - 8 - GABARITO

1. $N(\%) = 100 e^{-\mu x}$

$$N = 70 = 100 e^{-\mu^2} \Rightarrow \mu = 0,17$$

$$N = 50 = 100 e^{-\mu^4} \Rightarrow \mu = 0,17$$

$$N = 35 = 100 e^{-\mu^6} \Rightarrow \mu = 0,18$$

$$\text{Média} = 0,17 \text{ cm}^{-1}$$

2. $c = \lambda f \Rightarrow \lambda_1 = 5,0 \cdot 10^{-6} \text{ m} = 5,0 \cdot 10^{15} \text{ nm} \Rightarrow E_1 = hf = 3,97 \cdot 10^{-32} \text{ J}$

$$c = \lambda f \Rightarrow \lambda_2 = 11 \text{ m} = 1,1 \cdot 10^{10} \text{ nm} \Rightarrow E_2 = hf = 1,79 \cdot 10^{-26} \text{ J}$$

$$c = \lambda f \Rightarrow \lambda_3 = 0,33 \text{ m} = 0,33 \cdot 10^9 \text{ nm} \Rightarrow E_3 = hf = 5,96 \cdot 10^{-25} \text{ J}$$

$$c = \lambda f \Rightarrow \lambda_4 = 1,22 \cdot 10^{-1} \text{ m} = 1,22 \cdot 10^8 \text{ nm} \Rightarrow E_4 = hf = 1,62 \cdot 10^{-24} \text{ J}$$