I. $V_{min} = -5\,mV$
$V_{max} = 5\,mV$
$f_e = 500\,Hz$
$\Delta T = 2\,s$
$n = 8b$

1. $\Delta V = \frac{V_{max} - V_{min}}{N} = \frac{5-(-5)}{2^8} = \frac{10}{256}\,(mV) = 0{,}039\,(mV)$
2. $f_e \geq 2 \cdot F_{max} \Rightarrow F_{max} = \frac{f_e}{2} = \frac{500}{2} = 250\,(Hz)$
3. $T_e = \frac{1}{f_e} = \frac{1}{500} = 0{,}002\,(s)$
4. $nr. = \frac{\Delta T}{T_e} = \frac{2}{0{,}002} = 1000$ înreg.
5. $\Delta f = \frac{1}{\Delta T} = \frac{1}{2} = 0{,}5\,(Hz)$

II. $nr. = 1000$
$V_{min} = -10\,mV$
$V_{max} = 10\,mV$
$F_{max} = 250\,Hz$

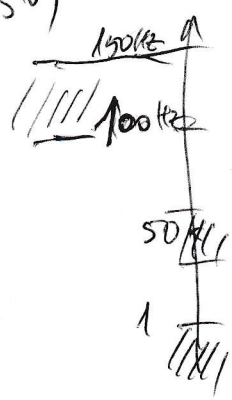
1. $T_e = \frac{1}{f_e}$; $f_e \geq 2F_{max} \Rightarrow T_e \leq \frac{1}{2F_{max}} = \frac{1}{2 \cdot 250} = \frac{1}{500} = 0{,}002\,(s)$

$\Delta T = T_{max} = 1000 \times 0{,}002 = 2\,s$

2. $\Delta V = 50\,\mu V = \frac{V_{max} - V_{min}}{2^n} = \frac{10-(-10)}{2^n} = \frac{20}{2^n}$

$2^n = \frac{20\,(mV)}{50\,(\mu V)} = \frac{2}{5} \cdot 10^3 = \frac{2000}{5} = 400 \Rightarrow n = 8{,}65$
$n \approx 9$

3. $\Delta f = \frac{1}{\Delta T} = \frac{1}{2} = 0{,}5\,(s)$

III. Zgomot = 50Hz → Filtru ac. 50 Hz (oprește banda 50 – 50)
ECG max. 100Hz → face sus 1 Hz

IV. Zgomot până la 150Hz → face jos 100Hz