

$$⑤ \quad a) \text{pendant} = \frac{\Delta B}{\Delta I} = 0.0081 \frac{\text{mT}}{\text{mA}} = 0.0081 \frac{\text{T}}{\text{A}}$$

$$b) \quad \frac{\Delta B}{\Delta I} = \mu_0 \frac{N}{l} \quad N = \frac{0.19}{4\pi \times 10^{-7}} 0.0081 = 1225 \text{ spires}$$

$$⑥ \quad \begin{array}{lll} \text{oscilloscope} & \tau = 10^{-3} \text{ s} & t = 5 \times 10^{-3} \text{ s} \\ \text{multimeter} & \tau = 10 \times 10^{-3} \text{ s} & t = 50 \times 10^{-3} \text{ s} \\ \text{electrometer} & \tau = 10^5 \text{ s} & t = 5 \times 10^5 \text{ s} \end{array}$$

*l'electrometre differential est preferable*

⑦

$$Q_0 = V_0 C_0 = (12.29 - 6.44) \times 0.442 \times 10^{-9} = 2.586 \text{ nC}$$

$$C' = \frac{Q_0}{V'} = \frac{2.586 \times 10^{-9}}{6.44} = 401.5 \text{ pF}$$

$$C = C' - C_0 = 374.5 \text{ pF}$$