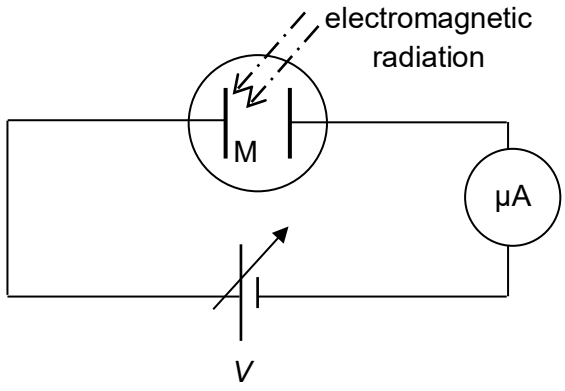
**27** A 0.31 mW beam of electromagnetic radiation is incident on a clean metal plate M. Each photon of the electromagnetic radiation has energy 3.11 eV.

The potential difference $V$ in the circuit is varied until the microammeter gives a maximum reading of 2.0 μA.




What is the ratio $\frac{\text{number of electrons emitted per unit time}}{\text{number of photons incident per unit time}}$ ?

**A** $3.2 \times 10^{-21}$ **B** $2.0 \times 10^{-2}$ **C** 1.0 **D** $1.3 \times 10^{17}$