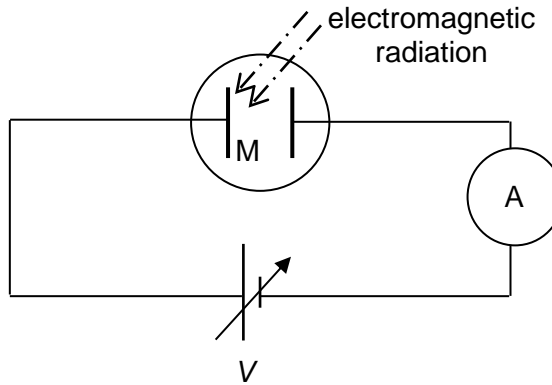


- 27** A 3.1 mW beam of electromagnetic radiation comprising photons each with energy 3.11 eV is incident on a clean metal plate M. The potential difference  $V$  is varied until the ammeter gives a maximum reading of  $2.0\ \mu\text{A}$ .



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

- A**  $3.2 \times 10^{-22}$       **B**  $2.0 \times 10^{-3}$       **C** 1.0      **D**  $1.3 \times 10^{16}$