

The Quantum Atom

Question Paper

Level	Pre U
Subject	Physics
Exam Board	Cambridge International Examinations
Topic	The Quantum Atom
Booklet	Question Paper

Time Allowed: 3 minutes

Score: /2

Percentage: /100

Grade Boundaries:

- 1 A line in an atomic line spectrum is caused by an electron falling from a level of energy E_n to a level of energy E_m .

What is the wavelength of the radiation that produces this line?

A $\frac{(E_n - E_m)}{h}$

B $\frac{h}{(E_n - E_m)}$

C $\frac{(E_n - E_m)}{hc}$

D $\frac{hc}{(E_n - E_m)}$

- 2 How much energy, in electron volts, is needed to excite an electron in a hydrogen atom from the lowest energy state (ground state) to the next lowest energy state (first excited state)?

A 3.40 eV

B 4.53 eV

C 10.2 eV

D 13.6 eV

Space for working