

AH Quantum Mechanics

Resources: Notes and video (flash learning AH CfE Virtual Physics)

Read the notes, watch the video and answer the questions below, in a way that makes them form a good note about the subject.

1. What three pieces of key evidence didn't fit with classical physics?
2. In 1911 Rutherford put forward his model of the atom,
 - a. State the important features of this model
 - b. What provides the centripetal force for the electrons in this model?
3. Describe black body radiation.
4. State two changes with the black body radiation curve as temperature increases.
5. Describe the UV catastrophe.
6. Who helped solve the UV catastrophe and in what ways?
7. Which piece of the photoelectric effect experiment demonstrates that energy is not transferred as waves?
8. From the photoelectric effect state the link between the energy of the photon and
 - a. The frequency of the radiation
 - b. The wavelength
9. What did Bohr postulate about angular momentum?
10. State the formula for angular momentum in Bohr's model of the atom, (define each term)
11. State the limits for the Bohr model of the atom
12. Explain the observation made by GP Thomson in 1920 which led to further debate on the issue.
13. What did de Broglie imply was the link between electrons as waves and particles?
14. Explain the confusion caused when looking at the double slit experiment with single particles.
15. What happens when you observe an electron passing through the slit?
16. What two quantities cannot be measured together with much certainty and why?