

QUIZEN – Atomic Structure (11C02)

Learning Level 1	Learning Level 2	Learning Level 3
Q - Remembering (knowledge-based questions) U - Understanding (comprehension-based questions)	I - Applying (application-based questions) Z - Analyzing (analysis-based questions)	E - Evaluating (evaluation-based questions) N - Creating (creation-based questions)

Learning Level 1

1. Define the term "sub-atomic particles."
2. Name the three sub-atomic particles and mention their respective charges.
3. Who discovered the electron, and what experiment led to its discovery?
4. What is the atomic model proposed by J.J. Thomson?
5. State the main postulates of Rutherford's atomic model.

Learning Level 2

6. Calculate the number of neutrons in an atom of carbon-14 (C-14). (Given: Atomic number of carbon (Z) = 6)
7. An element has 15 protons and 16 neutrons. Determine its atomic number and mass number.
8. Compare the size, charge, and location of electrons, protons, and neutrons in an atom.
9. Explain the significance of the gold foil experiment conducted by Rutherford.

10. Differentiate between Thomson's and Rutherford's atomic models.

Learning Level 3

11. Evaluate the limitations of Rutherford's model of the atom. How did subsequent experiments and discoveries contribute to the refinement of atomic models?
12. Discuss the significance of the photoelectric effect in establishing the particle nature of light. How did this phenomenon challenge the prevailing wave theory of light?
13. Critically analyze the contributions of J.J. Thomson, Ernest Rutherford, and Niels Bohr to our understanding of atomic structure. Which model do you find most influential and why?
14. Evaluate the impact of quantum theory on our understanding of atomic structure. How does it reconcile the particle-wave duality of sub-atomic particles?
15. Create a diagrammatic representation of the Bohr model of the atom, labeling the nucleus, electron shells, and indicating the distribution of protons and neutrons.

