

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 atomic spectra.
2. State Bohr's postulates for the atomic model.
3. What is the principal quantum number in the quantum mechanical model of the atom?
4. What is the significance of the quantization of energy levels in an atom?
5. Explain the concept of atomic orbitals.

Learning Level 2

6. Calculate the energy of an electron in the $n = 3$ energy level of a hydrogen atom.
7. An electron in a hydrogen atom undergoes a transition from the $n = 4$ to the $n = 2$ energy level. Calculate the energy of the emitted photon.
8. If the wavelength of a photon emitted during a transition in a hydrogen atom is 486.1 nm, determine the energy difference between the two energy levels involved.

9. Explain the limitations of Bohr's atomic model in explaining the spectra of atoms with more than one electron.
10. Compare and contrast the Bohr's atomic model and the quantum mechanical model of the atom.

Learning Level 3

11. Evaluate the statement: "The energy of an electron in an atom is continuous and can take any value."
12. Design an experiment to demonstrate the quantization of energy levels in an atom.
13. Critically analyze the development of the atomic model from Bohr's model to the quantum mechanical model.
14. Assess the significance of atomic spectra in understanding the electronic structure of atoms.
15. Create a diagram illustrating the energy levels and orbitals in the quantum mechanical model of the hydrogen atom.

Learning Level 2
Learning Level 3

