

Name _____

Quantum Computing Unveiled: A Journey into the World of Qubits and Quantum Superposition

Multiple Choice Questions

1. What makes a qubit in quantum computing different from a classical bit in traditional computers?
 - a) Qubits can only be 0 or 1.
 - b) Qubits can exist in multiple states simultaneously due to quantum superposition.
 - c) Qubits are smaller in size.
 - d) Qubits are faster than classical bits.

2. What is quantum superposition?
 - a) The ability of qubits to exist in multiple states at once.
 - b) A quantum gate used in computations.
 - c) The process of entangling qubits.
 - d) The measurement of qubits.

3. What is entanglement in quantum computing?
 - a) A process of cooling qubits.
 - b) The state of a qubit when it's measured.
 - c) The process of linking qubits' states so they instantly affect each other.
 - d) A type of quantum algorithm.

4. What do quantum gates do in quantum computing?
 - a) Control the temperature of qubits.
 - b) Manipulate qubits to perform various operations.
 - c) Measure qubits.
 - d) Create new qubits.

5. What are quantum algorithms, and how are they different from classical algorithms?
 - a) Quantum algorithms are used for quantum programming, while classical algorithms are for regular computers.
 - b) Quantum algorithms leverage qubits to solve certain problems exponentially faster than classical computers.
 - c) Quantum algorithms are simpler than classical algorithms.
 - d) Quantum algorithms are used exclusively in cryptography.

