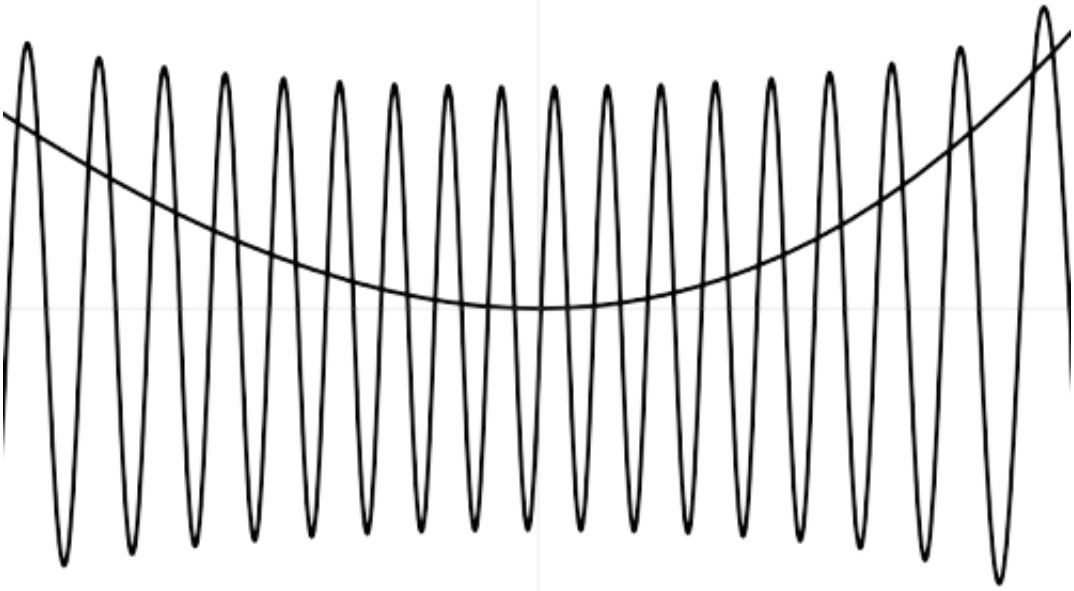
Quantum mechanics Quiz: questions and answers



1. What is quantum mechanics?

- The study of macroscopic, atomic, subatomic, and particulate phenomena in chemical systems
- A fundamental theory in physics which describes nature at the smallest scales of energy levels of atoms and subatomic particles
- The field of physics that studies the nature of astronomical objects

2. When were the foundations of quantum mechanics established?

- Second half of the 20th century
- First half of the 19th century
- First half of the 20th century

3. Who was the founder of the quantum theory?

- Niels Bohr
- Peter Debye
- Max Planck

4. What is the Planck constant h?

- A physical constant which is the value of magnetic permeability in a classical vacuum
- An empirical physical constant involved in the calculation of gravitationaleffects
- A physical constant which relates the energy carried by a photon to its frequency

5. Who offered a quantum-based theory to explain the photoelectric effect?

- Arnold Sommerfield
- Ludwig Boltzmann

- Albert Einstein

6. When did Erwin Schrödinger suggest a partial differential equation for the wave functions of particles like electrons?

- 1928
- 1926
- 1924

7. What is the name of the process of transition from a classical understanding of physical phenomena to a newer understanding known as quantum mechanics?

- Principle of uncertainty
- Quantization
- Quantum entanglement

8. What does the Schrödinger equation describe?

- How electomagnetic waves can physically propagate through space
- How wave functions change in time
- How electrons orbit an atom's nucleus

9. Who proposed the "transformation theory"?

- Paul Dirac
- Niels Bohr
- Werner Heisenberg

10. When did Werner Heisenberg award the Nobel Prize in Physics for the creation of quantum mechanics?

- 1934
- 1936
- 1932

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Right answers

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