

# Quantum Physics Trivia

Quantum Physics · Practice Test · 25 Questions

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**1. In what year did Max Planck introduce the idea that energy is radiated in discrete units called quanta?**

- A) 1895
- B) 1900
- C) 1905
- D) 1912

**2. Which scientist was awarded the 1921 Nobel Prize in Physics specifically for his explanation of the photoelectric effect?**

- A) Niels Bohr
- B) Werner Heisenberg
- C) Albert Einstein
- D) Erwin Schrödinger

**3. What is the approximate value of Planck's constant ( $h$ ) in joule-seconds?**

- A)  $6.626 \times 10^{-34}$
- B)  $1.602 \times 10^{-19}$
- C)  $9.109 \times 10^{-31}$
- D)  $3.00 \times 10^8$

**4. In 1927, who formulated the principle stating that one cannot simultaneously know the exact position and momentum of a particle?**

- A) Wolfgang Pauli
- B) Max Born
- C) Werner Heisenberg
- D) Louis de Broglie

**5. How many fundamental forces of nature are recognized in the Standard Model of particle physics?**

- A) 2
- B) 4
- C) 6
- D) 8

**6. Which Danish physicist proposed a model of the atom in 1913 where electrons travel in discrete orbits around the nucleus?**

- A) Niels Bohr
- B) Enrico Fermi
- C) Richard Feynman
- D) John Bell

**7. The Pauli Exclusion Principle, formulated in 1925, states that two fermions cannot occupy the same what?**

- A) Mass state
- B) Energy state
- C) Quantum state
- D) Velocity state

**8. What subatomic particle was discovered by James Chadwick in 1932?**

- A) Proton
- B) Electron
- C) Neutron
- D) Positron

**9. In 1924, who proposed the hypothesis that matter particles like electrons also exhibit wave-like properties?**

- A) Louis de Broglie
- B) Paul Dirac
- C) Max Planck
- D) Walter Nernst

**10. The Schrödinger equation, which describes how the quantum state of a physical system changes with time, was published in what year?**

- A) 1921
- B) 1926
- C) 1930
- D) 1935

**11. What is the charge of a standard electron in coulombs, approximately?**

- A)  $-1.602 \times 10^{-19}$
- B)  $+1.602 \times 10^{-19}$
- C) 0
- D)  $9.109 \times 10^{-31}$

**12. Who received the Nobel Prize in Physics in 1933 for the 'discovery of new productive forms of atomic theory'?**

- A) Erwin Schrödinger and Paul Dirac
- B) Albert Einstein and Niels Bohr
- C) Max Born and Werner Heisenberg
- D) Louis de Broglie and Max Planck

**13. How many quarks are required to form a single proton?**

- A) 1
- B) 2
- C) 3
- D) 4

**14. The 'Copenhagen Interpretation' of quantum mechanics is largely associated with the work of which physicist during the 1920s?**

- A) Niels Bohr
- B) Richard Feynman
- C) Stephen Hawking
- D) Murray Gell-Mann

**15. In 1928, who predicted the existence of antimatter by deriving an equation that combined quantum mechanics and special relativity?**

- A) Paul Dirac
- B) Wolfgang Pauli
- C) Werner Heisenberg
- D) Enrico Fermi

**16. What is the speed of light (c) in a vacuum, roughly measured in meters per second?**

- A) 300,000
- B) 3,000,000
- C) 30,000,000
- D) 300,000,000

**17. Which of these particles is considered a boson, the force-carrying particle in the Standard Model?**

- A) Electron
- B) Proton
- C) Neutron
- D) Photon

**18. The term 'quantum' was first used in the context of physics by Max Planck in the year 1900 to describe what?**

- A) Energy packets
- B) Atomic weight
- C) Magnetic fields
- D) Light speed

**19. What is the approximate mass of an electron in kilograms?**

- A)  $9.11 \times 10^{-31}$
- B)  $1.67 \times 10^{-27}$
- C)  $6.63 \times 10^{-34}$
- D)  $1.60 \times 10^{-19}$

**20. In what year did Richard Feynman receive the Nobel Prize in Physics for his work in quantum electrodynamics?**

- A) 1955
- B) 1965
- C) 1975
- D) 1985

**21. How many quantum numbers are used to completely describe the state of an electron in an atom?**

- A) 1
- B) 2
- C) 3
- D) 4

**22. Who performed the famous Double-Slit experiment in 1801, which later became fundamental to quantum wave-particle duality?**

- A) Thomas Young
- B) Isaac Newton
- C) Michael Faraday
- D) James Clerk Maxwell

**23. The concept of 'spin' in quantum mechanics was introduced in 1925 by which two physicists?**

- A) Uhlenbeck and Goudsmit
- B) Bohr and Einstein
- C) Dirac and Born
- D) Heisenberg and Pauli

**24. Which scientist is credited with the discovery of the positron in 1932?**

- A) Carl Anderson
- B) J.J. Thomson
- C) Ernest Rutherford
- D) Marie Curie

**25. In 1945, which physicist developed the theory of quantum electrodynamics (QED) alongside Tomonaga and Schwinger?**

- A) Richard Feynman
- B) Niels Bohr
- C) Albert Einstein
- D) Werner Heisenberg