

Advanced Historical Chemistry

Chemistry · Answer Key · 18 Questions

1. In what year did Marie and Pierre Curie announce the discovery of radium, specifically identifying it as a new element?

- A) 1895
- B) 1898**
- C) 1901
- D) 1903

2. The first synthesis of urea by Friedrich Wöhler, which debunked vitalism, occurred in which year?

- A) 1822
- B) 1828**
- C) 1834
- D) 1840

3. How many elements were included in Dmitri Mendeleev's first published periodic table in 1869?

- A) 56
- B) 63**
- C) 72
- D) 81

4. The Nobel Prize in Chemistry 1908 was awarded to Ernest Rutherford for his investigations into the disintegration of elements and the chemistry of radioactive substances. What was his specific field of study cited?

- A) Alpha particles
- B) Atomic structure
- C) Radioactive substances**
- D) The transmutation of elements

5. What is the exact standard atomic weight of Carbon-12 defined as, in unified atomic mass units (u)?

- A) 10.000
- B) 12.000**
- C) 14.000
- D) 16.000

6. In the 1913 Bohr model of the atom, the energy levels are denoted by the principal quantum number 'n'. What is the energy of the ground state of the hydrogen atom in electronvolts (eV)?

A) -13.6 eV

B) -10.2 eV

C) -3.4 eV

D) -1.5 eV

7. Who is credited with the discovery of the neutron in 1932?

A) Niels Bohr

B) James Chadwick

C) Ernest Rutherford

D) Enrico Fermi

8. The Manhattan Project employed the 'Calutron' to separate isotopes of uranium. What does 'Calutron' stand for?

A) California University Cyclotron

B) Calibrated Uranium Transmitter

C) California University Electromagnetic Separator

D) California Uranium Treatment Reactor

9. How many valence electrons does a neutral atom of Sulfur (atomic number 16) possess?

A) 2

B) 4

C) 6

D) 8

10. In 1774, which scientist isolated oxygen, although he called it 'dephlogisticated air'?

A) Antoine Lavoisier

B) Joseph Priestley

C) Carl Wilhelm Scheele

D) Henry Cavendish

11. The Avogadro constant, representing the number of particles in one mole of a substance, is approximately:

A) 6.022×10^{22}

B) 6.022×10^{23}

C) 6.022×10^{24}

D) 6.022×10^{25}

12. Which element was the first to be synthetically produced in a particle accelerator in 1937?

A) Technetium

B) Promethium

C) Astatine

D) Francium

13. Linus Pauling published 'The Nature of the Chemical Bond' in which year?

A) 1929

B) 1933

C) 1939

D) 1945

14. The Faraday constant represents the magnitude of electric charge per mole of electrons. What is its approximate value in Coulombs per mole?

A) 8.314

B) 96485

C) 101325

D) 602214

15. What is the atomic number of the element Copernicium?

A) 108

B) 110

C) 112

D) 114

16. Gilbert N. Lewis introduced the electron-pair concept of acids and bases in a seminal paper published in which year?

A) 1916

B) 1923

C) 1930

D) 1938

17. How many isotopes of Hydrogen are officially recognized in IUPAC tables?

A) 2

B) 3

C) 5

D) 7

18. The first person to isolate an amino acid, specifically asparagine, in 1806 was:

A) Louis Nicolas Vauquelin

B) Justus von Liebig

C) Emil Fischer

D) John Dalton