

Pioneers and Milestones in Advanced Chemistry

Advanced Chemistry · Practice Test · 15 Questions

1. Which alchemist is credited with the first isolation of phosphorus, a discovery that occurred around 1669?

- A) Isaac Newton
- B) Robert Boyle
- C) Hennig Brand
- D) Antoine Lavoisier

2. The development of the periodic table is largely attributed to which Russian chemist, who published his table in 1869?

- A) Dmitri Mendeleev
- B) Lothar Meyer
- C) John Dalton
- D) Amedeo Avogadro

3. In what year did Marie Curie and Pierre Curie announce the discovery of radium?

- A) 1895
- B) 1898
- C) 1902
- D) 1911

4. Who formulated the famous equation $E=mc^2$, linking mass and energy, a cornerstone of modern physics and chemistry?

- A) Max Planck
- B) Niels Bohr
- C) Albert Einstein
- D) Werner Heisenberg

5. The synthesis of urea from inorganic compounds in 1828, a key event in organic chemistry, was achieved by which chemist?

- A) Friedrich Wöhler
- B) August Kekulé
- C) Justus von Liebig
- D) Emil Fischer

6. Which chemist is widely recognized for his foundational work on the structure of the atom, including the discovery of the nucleus in 1911?

- A) J.J. Thomson
- B) Ernest Rutherford
- C) James Chadwick
- D) John Dalton

7. The groundbreaking discovery of the electron was made by which physicist in 1897?

- A) Henri Becquerel
- B) J.J. Thomson
- C) Robert Millikan
- D) Ernest Rutherford

8. What year saw the publication of Linus Pauling's seminal work 'The Nature of the Chemical Bond'?

- A) 1921
- B) 1931
- C) 1941
- D) 1951

9. The first Nobel Prize in Chemistry was awarded in 1901 to Jacobus Henricus van 't Hoff for his work on which area?

- A) Chemical kinetics
- B) Thermodynamics
- C) Physical chemistry and the laws of chemical dynamics
- D) Quantum chemistry

10. Who is credited with developing the concept of isotopes, which he announced in 1913?

- A) Ernest Rutherford
- B) Frederick Soddy
- C) Niels Bohr
- D) Otto Hahn

11. The first successful synthesis of ammonia on an industrial scale, crucial for fertilizers, was achieved through which process, developed in the early 20th century?

- A) Contact Process
- B) Haber-Bosch Process
- C) Solvay Process
- D) Ostwald Process

12. Which chemist's experimental work in the late 19th century provided strong evidence for the existence of a positively charged nucleus within the atom?

- A) J.J. Thomson
- B) Marie Curie
- C) Ernest Rutherford
- D) William Crookes

13. The discovery of the neutron by James Chadwick occurred in which year?

- A) 1919
- B) 1927
- C) 1932
- D) 1935

14. What significant chemical process, developed by Carl Bosch and Fritz Haber, enabled the large-scale production of ammonia from nitrogen and hydrogen?

- A) The Castner Process
- B) The Haber-Bosch Process
- C) The Downs Process
- D) The Solvay Process

15. The discovery of the first synthetic plastic, Bakelite, by Leo Baekeland marked a significant milestone in the history of which field?

- A) Organic Chemistry
- B) Polymer Chemistry
- C) Physical Chemistry
- D) Inorganic Chemistry