

# Modern Scientific History

History Of Science · Practice Test · 20 Questions

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**1. Which specific isotope was utilized by Lise Meitner and Otto Frisch in 1939 to perform the first physical interpretation of nuclear fission?**

- A) Uranium-235
- B) Uranium-238
- C) Plutonium-239
- D) Thorium-232

**2. In 1952, which experimental setup was used by Alfred Hershey and Martha Chase to confirm that DNA, rather than protein, is the genetic material?**

- A) Tobacco Mosaic Virus
- B) T2 Bacteriophage
- C) Drosophila melanogaster
- D) Neurospora crassa

**3. The 1964 discovery of the Cosmic Microwave Background radiation by Penzias and Wilson provided empirical evidence for which cosmological model?**

- A) Steady State Theory
- B) Big Bang Theory
- C) Plasma Cosmology
- D) Cyclic Model

**4. Which scientist performed the first controlled, self-sustaining nuclear chain reaction at the University of Chicago in 1942?**

- A) J. Robert Oppenheimer
- B) Edward Teller
- C) Enrico Fermi
- D) Leo Szilard

**5. What was the primary chemical component identified by Mario Molina and F. Sherwood Rowland in 1974 as the cause of stratospheric ozone depletion?**

- A) Chlorofluorocarbons
- B) Sulfur Dioxide
- C) Nitrous Oxide
- D) Methane

**6. The 1927 Solvay Conference focused on the interpretation of which foundational physical theory?**

- A) General Relativity
- B) Quantum Mechanics
- C) Thermodynamics
- D) Electromagnetism

**7. Which Nobel laureate discovered the phenomenon of 'transposable elements' (jumping genes) in maize during the 1940s and 1950s?**

- A) Barbara McClintock
- B) Rosalind Franklin
- C) Erwin Chargaff
- D) George Beadle

**8. In 1919, Arthur Eddington's observation of the deflection of starlight during a solar eclipse provided the first empirical confirmation of which theory?**

- A) Special Relativity
- B) Quantum Field Theory
- C) General Relativity
- D) Newtonian Gravity

**9. Which molecular structure was identified by Dorothy Hodgkin using X-ray crystallography in 1956?**

- A) Penicillin
- B) Insulin
- C) Hemoglobin
- D) DNA

**10. The 1995 discovery of the first exoplanet orbiting a sun-like star, 51 Pegasi b, was made using which observational technique?**

- A) Transit Photometry
- B) Radial Velocity
- C) Direct Imaging
- D) Gravitational Microlensing

**11. What is the name of the 1947 mathematical theorem, proposed by Claude Shannon, that established the fundamental limits of data transmission?**

- A) Nyquist-Shannon Sampling Theorem
- B) Noisy-Channel Coding Theorem
- C) Information Entropy Theorem
- D) Source Coding Theorem

**12. Which astronomer formulated the empirical relationship known as the Tully-Fisher relation in 1977, linking galaxy luminosity to rotation speed?**

- A) Edwin Hubble
- B) Vera Rubin
- C) R. Brent Tully
- D) George Gamow

**13. In 1967, Jocelyn Bell Burnell discovered the first pulsar, an object initially designated as what due to its periodic signal?**

- A) LGM-1
- B) quasar-01
- C) nebula-X
- D) dark-matter-1

**14. Which synthetic element, created in 1940 at the University of California, Berkeley, was the first transuranic element to be synthesized?**

- A) Americium
- B) Curium
- C) Neptunium
- D) Plutonium

**15. The 1980 Alvarez hypothesis proposed that an asteroid impact caused the K-Pg extinction; what chemical element was found in high concentrations in the boundary clay?**

- A) Iridium
- B) Osmium
- C) Platinum
- D) Palladium

**16. Which biologist coined the term 'selfish gene' in his 1976 book to describe the gene-centered view of evolution?**

- A) Stephen Jay Gould
- B) Richard Dawkins
- C) E.O. Wilson
- D) Ernst Mayr

**17. In 1928, Alexander Fleming discovered the antibacterial properties of *Penicillium notatum*, but which team later succeeded in mass-producing it in 1940?**

- A) Florey and Chain
- B) Watson and Crick
- C) Banting and Best
- D) Salk and Sabin

**18. The 1932 discovery of the neutron, a subatomic particle with no charge, was made by which physicist?**

- A) Werner Heisenberg
- B) James Chadwick
- C) Ernest Rutherford
- D) Niels Bohr

**19. Which geological theory, accepted in the 1960s after the discovery of seafloor spreading, unified the concept of moving continents?**

- A) Geosyncline Theory
- B) Plate Tectonics
- C) Expanding Earth
- D) Contraction Theory

**20. What breakthrough in 1983 by Kary Mullis allowed for the rapid amplification of specific DNA segments?**

- A) CRISPR-Cas9
- B) Polymerase Chain Reaction
- C) Sanger Sequencing
- D) Southern Blotting