

Cosmology: Our Universe's Story

Cosmology · Answer Key · 12 Questions

1. What is the dominant theory describing the origin and evolution of the universe?

- A) The Steady State Theory
- B) The Big Bang Theory**
- C) The Oscillating Universe Theory
- D) The Multiverse Theory

2. What is the name given to the faint, uniform glow of radiation that permeates all of space and is considered evidence for the Big Bang?

- A) Cosmic Microwave Background Radiation**
- B) Starlight
- C) Gravitational Waves
- D) Dark Energy

3. What force is primarily responsible for the formation of stars and galaxies?

- A) Electromagnetism
- B) The Strong Nuclear Force
- C) Gravity**
- D) The Weak Nuclear Force

4. Approximately how old is the universe, according to current cosmological models?

- A) 1 billion years
- B) 4.5 billion years
- C) 13.8 billion years**
- D) 100 billion years

5. What is a galaxy?

- A) A single, large star
- B) A large system of stars, gas, dust, and dark matter bound together by gravity**
- C) A type of black hole
- D) A small planet orbiting a distant star

6. Our solar system is located in which galaxy?

- A) Andromeda Galaxy
- B) Triangulum Galaxy
- C) Milky Way Galaxy**
- D) Whirlpool Galaxy

7. What is dark matter?

- A) A type of luminous gas in space
- B) Matter that does not emit, absorb, or reflect light, but has gravitational effects**
- C) The core of a dying star
- D) A theoretical particle responsible for dark energy

8. What is the primary component of stars?

- A) Iron and Nickel
- B) Oxygen and Carbon
- C) Hydrogen and Helium**
- D) Water and Ammonia

9. What is the name of the phenomenon where galaxies are moving away from each other, indicating that the universe is expanding?

- A) Gravitational Collapse
- B) Cosmic Redshift**
- C) Orbital Motion
- D) Supernova Explosion

10. What is the term for the theoretical point of infinite density and temperature from which the universe is thought to have originated?

- A) Black Hole
- B) Event Horizon
- C) Singularity**
- D) Nebula

11. What is dark energy believed to be responsible for?

- A) The formation of stars
- B) The attraction between galaxies
- C) The accelerated expansion of the universe**
- D) The cooling of the universe

12. What is the estimated composition of the universe, in terms of percentages?

- A) 70% normal matter, 30% dark matter
- B) 5% normal matter, 25% dark matter, 70% dark energy**
- C) 50% normal matter, 50% dark matter
- D) 90% normal matter, 10% dark energy