

Scientific Perspectives on Antiquity

Ancient History · Answer Key · 8 Questions

1. Stable isotope analysis of carbon and nitrogen in human remains from the Giza plateau laborers' cemetery indicates a diet primarily composed of which protein source?

- A) Wild game venison
- B) Domesticated cattle beef**
- C) Freshwater Nile fish
- D) Marine Mediterranean shellfish

2. Which specific chemical signature is used by dendrochronologists to calibrate radiocarbon dates for wooden artifacts found in ancient Mediterranean shipwrecks?

- A) Suess effect depletion
- B) Atmospheric delta-14C fluctuations**
- C) Strontium isotope ratios
- D) Lead-210 decay chains

3. The 'Great Drought' that contributed to the collapse of the Akkadian Empire is supported by paleoclimate data from which geological proxy?

- A) Ice cores from Greenland
- B) Speleothems in the Golan Heights**
- C) Varved lake sediments in Scandinavia
- D) Tree rings in the British Isles

4. Analysis of the 'Iceman' Ötzi revealed his final meal consisted largely of what, indicating a high-fat intake before his death?

- A) Domesticated wheat and legumes
- B) Ibex meat and einkorn wheat**
- C) Cultivated grapes and honey
- D) Wild boar and lichen

5. Archaeomagnetic dating of baked clay structures relies on the measurement of which physical property?

- A) Thermoremanent magnetization**
- B) Radioactive potassium decay
- C) Electron spin resonance
- D) Magnetic susceptibility gradient

6. What is the primary indicator of anthropogenic soil enrichment ('Terra Preta') found in pre-Columbian Amazonian archaeological sites?

A) High concentrations of charcoal and ceramics

- B) Depletion of nitrogen-fixing bacteria
- C) Presence of imported limestone gravel
- D) Accumulation of volcanic tephra

7. The 2011 re-evaluation of the 'Phaistos Disc' using advanced linguistic statistical methods suggests the text likely functions as what?

A) A mathematical multiplication table

B) A ritual liturgical syllabary

- C) A legal property deed
- D) An astronomical star chart

8. Which geochemical technique is most frequently employed to determine the specific geological provenance of obsidian artifacts in the ancient Near East?

A) X-ray fluorescence (XRF) spectrometry

- B) Gas chromatography-mass spectrometry
- C) Carbon-13 nuclear magnetic resonance
- D) Atomic absorption spectroscopy