

Latin America & Caribbean Scientific Breakthroughs: Genetics, Astronomy, B

Science · Practice Test · 10 Questions

1. A comprehensive genomic study of Indigenous American populations, encompassing individuals from North America to Patagonia, has revealed significant insights. How many new genomes were sequenced for this study, and what percentage of these were previously unpublished?

- A) 128 genomes, 100% unpublished
- B) 199 genomes, 128 of which were previously unpublished
- C) 75 genomes, 50 of which were previously unpublished
- D) 250 genomes, 150 of which were previously unpublished

2. The Vera C. Rubin Observatory, located in Chile, has made a significant contribution to astronomical discovery. How many previously unknown asteroids has it discovered, and among them, how many are classified as Near Earth Objects?

- A) Over 1,000 asteroids, with 10 Near Earth Objects
- B) Over 5,000 asteroids, with 20 Near Earth Objects
- C) Over 11,000 asteroids, with 33 Near Earth Objects
- D) Over 20,000 asteroids, with 50 Near Earth Objects

3. Research in the southern Caribbean, off the coast of Curaçao, has led to the discovery of numerous new species. Approximately how many new species have been identified by the Deep Reef Observation Project (DROP) in an area of about 0.2 square kilometers?

- A) Around 10 new species
- B) At least 50 new species
- C) Over 100 new species
- D) Exactly 25 new species

4. A recent archaeological discovery in southern Puerto Rico has been described as the best-preserved pre-Columbian site in the Caribbean. What is the estimated timeframe for the artifacts found at this site?

- A) 600 BCE to 1500 BCE
- B) 1000 CE to 1500 CE
- C) 600 CE to 1500 CE
- D) Pre-1000 BCE

5. Genetic studies have shed new light on the early settlement of South America, suggesting a previously undocumented migration. From which region did this third wave of migration originate and approximately when did it occur?

- A) From North America, around 5,000 years ago
- B) From Mesoamerica (modern-day Mexico), around 1,300 years ago
- C) From Australia, around 10,000 years ago
- D) From Europe, around 3,000 years ago

6. AI is increasingly being applied in Latin American agriculture to enhance productivity and resilience. In Chile, researchers developed an AI system using drones and image recognition to assist blueberry farmers. What was a key benefit observed in farms using this AI-guided precision irrigation?

- A) A reduction in water usage by up to 30% and a crop yield increase of up to 20%
- B) A 50% increase in water usage efficiency and a 10% decrease in pest infestation
- C) A 40% reduction in energy costs and a 15% increase in soil nutrient levels
- D) A 25% increase in water consumption and a 30% decrease in crop yield

7. Amazonian plants have long been recognized for their medicinal properties. Which of the following plants, traditionally used for its psychoactive properties, contains alkaloids that have shown potential in improving cognitive function and protecting against neurodegeneration?

- A) *Uncaria tomentosa*
- B) *Cinchona officinalis*
- C) *Anadenanthera colubrina*
- D) *Euterpe oleracea*

8. Renewable energy is a growing focus in Caribbean island nations for climate resilience and energy independence. Which type of solar technology is being considered as a practical alternative for islands with limited land, by utilizing calm reservoirs and protected bays?

- A) Rooftop solar photovoltaic systems
- B) Concentrated solar power (CSP)
- C) Floating solar
- D) Solar thermal collectors

9. Recent genomic research on Indigenous American populations has identified a surprising genetic affinity in some individuals. What is this affinity, and with which external populations does it show a connection?

- A) Affinity with Neanderthals from Europe
- B) Affinity with Denisovans from East Asia
- C) Affinity with populations in Australasia (Australia, New Guinea, Andaman Islands)
- D) Affinity with ancient Egyptian populations

10. The impact of climate change, particularly severe droughts, is a significant concern in the Amazon basin. According to a study, during severe droughts, what percentage of Indigenous villages in the Brazilian Amazon are prone to isolation due to reduced water transport?

- A) Approximately 15%
- B) Approximately 30%
- C) Approximately 54%
- D) Approximately 70%