

Cosmic Cryptography Facts

Cryptography · Practice Test · 25 Questions

1. What is the primary method used by NASA to ensure that data sent to deep space probes is not intercepted or altered by unauthorized parties?

- A) Analog radio signals
- B) Public key encryption
- C) Morse code
- D) Smoke signals

2. When communicating with the Voyager probes, what simple form of 'encryption' was used by assigning specific codes to represent binary instructions?

- A) A Caesar cipher
- B) Binary encoding
- C) Hieroglyphics
- D) Pigpen cipher

3. Which planet is home to the 'Great Red Spot', a feature often used as a metaphor for data 'hiding' in plain sight?

- A) Mars
- B) Jupiter
- C) Saturn
- D) Venus

4. What is the term for the 'key' required to decipher the digital signals received from the James Webb Space Telescope?

- A) Decryption key
- B) Master compass
- C) Physical lever
- D) Digital hammer

5. What celestial object serves as the 'universal standard' for setting the clocks used to timestamp secure digital transmissions?

- A) The Moon
- B) The Sun
- C) Pulsars
- D) Asteroids

6. In satellite communication, what is the 'ciphertext' equivalent of a signal that has been encoded for transmission?

- A) Raw audio
- B) Encoded data stream
- C) Clear text
- D) Heat signature

7. Which space agency developed the 'Deep Space Network' to manage secure, encrypted links to interplanetary missions?

- A) ESA
- B) NASA
- C) JAXA
- D) ISRO

8. What do we call the 'scrambling' process that turns readable information into an unreadable format for secure transmission to Mars rovers?

- A) Encryption
- B) Decoding
- C) Printing
- D) Scanning

9. Before modern digital security, what did ancient astronomers use to 'encrypt' their secret charts of the stars?

- A) Mathematical symbols
- B) Fingerprints
- C) Wax seals
- D) Colored ribbons

10. Which galaxy's distance from Earth makes the 'time delay' for data encryption verification over 2.5 million years?

- A) Andromeda
- B) Milky Way
- C) Triangulum
- D) Sombrero

11. What is the 'cleartext' equivalent in space travel, representing the original, unencrypted message sent from mission control?

- A) Plain data
- B) Noise
- C) Radiation
- D) Static

12. What is the role of a 'hash' function in validating the integrity of data sent from a space station?

- A) To destroy the file
- B) To verify data consistency
- C) To slow down speed
- D) To translate languages

13. Which planet has a name that was once 'encoded' in the ancient Roman pantheon, which modern cryptographic systems often reference for naming conventions?

- A) Mercury
- B) Earth
- C) Pluto
- D) Neptune

14. What is the primary concern for cryptographic data transmitted through the 'radiation belts' surrounding Earth?

- A) Data corruption
- B) Theft of hardware
- C) Language barrier
- D) Signal freezing

15. How do we ensure that a command sent to a space telescope is authentic and not a 'replay' of an old command?

- A) Using digital signatures
- B) Handwritten notes
- C) Color-coding
- D) Adding more volume

16. What is the 'alphabet' used by computers on the International Space Station to form the basis of all encrypted communication?

- A) Binary
- B) Latin
- C) Sanskrit
- D) Cuneiform

17. Which moon of Saturn is often cited as a target for life, requiring 'secure' data protocols for future robotic landing missions?

- A) Titan
- B) Phobos
- C) Deimos
- D) Europa

18. What type of 'key' is publicly shared to allow satellites to encrypt outgoing data for ground stations?

- A) Public key
- B) Secret key
- C) House key
- D) Master key

19. What happens to an encrypted signal if it travels through a high-gravity field near a black hole?

- A) It undergoes gravitational redshift
- B) It becomes clear
- C) It disappears instantly
- D) It encrypts itself

20. What is the standard unit of 'information' used to measure the strength of an encryption key in deep space communications?

- A) Bits
- B) Litres
- C) Grams
- D) Metres

21. Which tool is used to 'decrypt' the complex data sent back from the Hubble Space Telescope?

- A) High-powered computers
- B) Telescope lenses
- C) Paper maps
- D) Magnifying glasses

22. What is the 'noise' that often interferes with sensitive encrypted signals in outer space?

- A) Cosmic background radiation
- B) Solar wind
- C) Dark matter
- D) Meteor dust

23. Why is the 'Public Key' system considered vital for communication with distant space probes?

- A) It allows secure contact without sharing private keys
- B) It is faster than light
- C) It requires no power
- D) It uses satellites only

24. What is the primary goal of securing data transmissions from the James Webb Space Telescope?

- A) Protecting scientific discoveries
- B) Blocking alien signals
- C) Saving battery life
- D) Increasing signal speed

25. What simple logic determines if a signal received from a planet is 'valid' or 'garbage'?

- A) Checksum verification
- B) Length guessing
- C) Color matching
- D) Sound checking