BLOOMING

Inclusion and Diversity in STEAM

Reflection Questions
Network Security

1. What inspired Dr. Anca Jurcut to pursue a career in network security?
a) A fascination with network protocols at a young age
b) Participation in mathematics and informatics competitions
c) Encouragement from her university lecturer to apply for a postgraduate scholarship
d) An early interest in ethical hacking

2. What is the primary challenge posed by quantum computing in network security?
a) It makes internet connections faster and less secure
b) Quantum computers can easily break current cryptographic methods
c) It increases the energy consumption of network systems
d) It reduces the need for encryption in communications

3. How does quantum-resistant cryptography address the challenge of quantum computing in network security?
a) By using advanced hardware to prevent attacks
b) By creating encryption algorithms that cannot be broken by quantum computers
c) By detecting potential threats before they happen
d) By speeding up data transmission rates over the network

4. Which of the following is an example of a network attack that Dr. Jurcut's security protocols aim to prevent?
a) A physical break in the network infrastructure
b) Man-in-the-middle attacks, where attackers intercept communications
c) Environmental disruptions like earthquakes
d) Network speed optimizations

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5. How do real-time attack detection systems improve network security?
a) They allow networks to function faster
b) They automatically block all data from untrusted sources
c) They detect and respond to potential security breaches as they happen, preventing damage
d) They reduce the complexity of encryption algorithms

Answers:
1. What inspired Dr. Anca Jurcut to pursue a career in network security?
Answer: c) Encouragement from her university lecturer to apply for a postgraduate scholarship
2. What is the primary challenge posed by quantum computing in network security?
Answer: b) Quantum computers can easily break current cryptographic methods
3. How does quantum-resistant cryptography address the challenge of quantum computing in network security?
Answer: b) By creating encryption algorithms that cannot be broken by quantum computers
4. Which of the following is an example of a network attack that Dr. Jurcut's security protocols aim to prevent?
Answer: b) Man-in-the-middle attacks, where attackers intercept communications
5. How do real-time attack detection systems improve network security?
Answer: c) They detect and respond to potential security breaches as they happen, preventing damage