Universidade do Algarve | Basics on Security | 2024

Lab #5

Nome | PL1 | Número de Aluno

Completely fill the circles as shown: ○○●○

Rúbrica de Avaliação	Pontos
Correct answer selected	2
Incorrect answer selected	-1

Q1 You listen to a presentation about a new network protocol for online banking. After the talk, there is a lot of discussion going on. **Check all the remarks** that are relevant under the **Dolev-Yao** model.

- ○ The bank runs Windows on their servers. This will be insecure.
- ○ It looks nice, the NSA (National Security Agency) will break the encryption function and use this to spy on us.
- ○ What happens if someone breaks into the bank's data center? They should use a blockchain instead!
- ● I don't think they properly protect against transaction replay.

Q2 For each network capability, which goal is **directly** violated? **Only check one goal** - the most directly violated one per capability.

Attacker Capability	Confidentiality	Integrity	Availability
Observe packets	●	○	○
Modify packets	○	●	○
Drop packets	○	○	●
Delay packets	○	○	●
Forge packets	●	○	○
Replay packets	○	○	●

Q3 Check all statements that are true about BGPs.

- ○ The confidentiality of our communications can be asserted by physically protecting all fiber cables (in the world) on the default path.

- ● Securing BGP communications **today** is mostly an **afterthought** due to the fact that threat models have changed from the old Arpanet to the modern Internet.
- ○ When leaving a spouse (home), one should reconfigure their BGP routes to protect her against stalking.

Q4 Your device has joined a new network that uses DHCP to assign you an IP address. What is the first thing that happens to get your new IP address? **Check all the statements that are true**.

- ○ Your device asks for an IP address directly fron the DHCP server.
- ● Your device broadcasts a DHCP request to all the clients on the network.
- ○ The DHCP server sends an announcement and your client responds.
- ○ Santa gets your request, checks his list and grants an address depending on whether your devices has been bad or good.

Q5 Which statements are true about DHCP spoofing? **Check all the statements that are true**.

- ○ a client fools the DHCP server into giving it an IP address when it is unauthorised.
- ● an imposter DHCP server fools the client into thinking it is the real DHCP server.