Hands-on Internet of Things Specialization

IoT Devices Week 1

Question 1:

TCP and UDP operate on which layer of the OSI model?

Transport Layer

Question 2:

Internet Routing uses hierarchical routing

True

Question 3:

What is the purpose of a router? (Select all that apply)

- **To forward packets on towards their destination.**
- **To multiplex traffic together from different sources.**

Question 4:

What delivery model is associated with taking a packet from a particular sender, and transporting copies of it simultaneously to a non-empty subset of destinations in the network?

Multicast

Question 5:

What is the name of the technology that allows a single physical LAN to be virtually segmented into multiple logical LANs?

VLANs

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Question 6:

My laptop has the same MAC address when its connected to IllinoisNet and my home WiFi network.

True

Question 7:

Switching relies on broadcasts.

True

Question 8:

MAC addresses are used on what layer?

Layer 2

Question 9:

What protocol or system resolves an address like "www.cs.illinois.edu" to an IP address?

DNS

Question 10:

Why are networking protocols typically implemented as layers?

To simplify implementation, as many internet protocols often use each other in a hierarchical way.

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Question 11:

Bluetooth Low Energy is an example of a:

Protocol Stack

Question 12:

Which routing protocol is run *between* ISPs in the internet?

BGP

Question 13:

Is Layer-3 routing reactive or proactive?

Proactive

Question 14:

What are some example sensors that would logically be found on a tracking device mounted on a migratory bird? Choose all that apply

- **Biometric sensor**
- **Gyroscope**
- **Compass**
- **GPS sensor**

Question 15:

Which sequence of headers appears in a packet encapsulated with the TCP/IP stack?

Physical(Data-link(Network(Transport(Data))))