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練習問題

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1年間無料アップデート

Exam : CWISA-103

**Title : Certified Wireless IoT
Solutions
Administrator(2025 Edition)**

Version : DEMO

1.What part(s) of the OSI network model does the IETF primarily focus on for the development of standards?

- A. Physical Layer and above
- B. All layers
- C. Network Layer and above
- D. Data Link Layer

Answer: C

Explanation:

IETF's Focus: The Internet Engineering Task Force (IETF) primarily develops and standardizes internet protocols operating at the Network Layer (Layer 3) and above in the OSI model. Key Protocols:

Some prominent IETF-developed protocols include:

IP (Internet Protocol): Foundation of internet addressing and routing.

TCP (Transmission Control Protocol): Reliable, connection-oriented data transport.

UDP (User Datagram Protocol): Connectionless, best-effort data transport.

DNS (Domain Name System): Translates domain names into IP addresses.

HTTP (Hypertext Transfer Protocol): Web communication.

Reference

IETF Website: <https://www.ietf.org/>

OSI Model: https://en.wikipedia.org/wiki/OSI_model

2.What organization maintains and publishes the 802.15.4 Standard?

- A. Bluetooth SIG
- B. IEEE
- C. IETF
- D. Zigbee Alliance

Answer: B

Explanation:

IEEE 802.15.4: The IEEE 802.15.4 standard is a fundamental specification for low-rate wireless personal area networks (LR-WPANs). It serves as the basis for many wireless IoT protocols.

IEEE's Role: The Institute of Electrical and Electronics Engineers (IEEE) is the organization responsible for creating, maintaining, and publishing the 802.15.4 standard.

Reference

IEEE 802.15.4 Standard: https://standards.ieee.org/standard/802_15_4-2020.html

IEEE Website: <https://www.ieee.org/>

3.What is the most common difference between a single board computer (SBC) and a controller board?

- A. SBCs typically have connectors for display and input devices while controller boards do not
- B. Controller boards have I/O headers and SBCs do not
- C. SBCs always have connectors for M2 devices and controller boards do not
- D. Controller boards have more powerful processors than most SBCs

Answer: A

Explanation:

SBCs (Single Board Computers): Designed as standalone, small-form-factor computers.

They often include:

Display Interfaces: HDMI, DisplayPort, etc.

Input Connections: USB for keyboards, mice, etc.

General Purpose Functionality: Can run a full operating system for wider applications.

Controller Boards: Focus on controlling specific hardware or systems.

Limited direct I/O: Limited connectors for displays/input devices.

Specialized tasks: Designed for embedded applications within larger systems.

Reference

SBC Examples: <https://www.raspberrypi.org/>, <https://www.beagleboard.org/>

Controller Board Examples: <https://www.arduino.cc/>

4.You are considering the implementation of a lab for testing wireless equipment.

What is the primary benefit of such a lab? (Choose the single best answer.)

- A. Provides for testing to determine how much RF exposure you can tolerate
- B. Provides a failover environment for your production systems
- C. Provides a way to repurpose old hardware that is not ready for final removal
- D. Provides a safe environment in which to develop practical skills and knowledge of a technology and to test the technology

Answer: D

Explanation:

Lab Purpose: Wireless testing labs offer controlled settings to:

Skill Development: Hone practical understanding of wireless technologies without impacting production environments.

Experimentation: Safely test different configurations, compatibility, and potential issues. Troubleshooting: Isolate problems, test solutions, and understand how equipment behaves in various scenarios.

Other Benefits (While not the primary benefit):

Learning Environment: Ideal for structured training and exploration.

Evaluation: Compare hardware performance before deployment.

Reference

Benefits of IT Labs: Can be extended from wireless to broader IT experimentation and learning. (Articles on this topic are readily available)

5.What is the typical range of a wireless body area network (WBAN)?

- A. 1-2 meters
- B. 10 square meters
- C. 10 centimeters
- D. 10 meters

Answer: A

Explanation:

WBAN Range: Wireless Body Area Networks (WBANs) specialize in short-range communication around the human body. Typical ranges fall within 1-2 meters. Purpose: This range is designed to:

Connect sensors monitoring health metrics.

Transmit data to a central coordinator device (e.g., smartphone). Minimize interference potential with other wireless networks.

Reference

WBAN Overview: https://en.wikipedia.org/wiki/Body_area_network

WBAN Research Paper (Check Range Discussion): <https://www.mdpi.com/2224-2708/11/4/67>