UNIT-4

21. Which IEEE standard is specifically designed for short-range communication within 10 meters in IoT applications?

A. IEEE 802.15.4e

B. IEEE 802.11ah

C. IEEE 802.15.4

D. IEEE 802.11

Answer: C) IEEE 802.15.4

Explanation:

IEEE 802.15.4 is designed for short-range communication within 10 meters, making it suitable for IoT applications like smart home devices and wearable technology.

22. Which feature is added by IEEE 802.15.4e to enhance communication reliability and security in IoT networks?

A. Long-range communication

B. Time-slotted channel access (TSCH)

C. Low data rate

D. Support for multiple topologies

Answer: B) Time-slotted channel access (TSCH)

Explanation:

IEEE 802.15.4e introduces TSCH, allowing devices to coordinate transmissions to avoid collisions and improve reliability, enhancing communication in industrial automation and smart city applications.

23. What programming language does Arduino IDE primarily use?

A. Python

B. JavaScript

C. C++

D. Java

Answer: C) C++

Explanation:

Arduino IDE primarily uses C++ for programming microcontrollers. C++ is a widely used programming language known for its versatility and efficiency, making it suitable for embedded systems like those used in Arduino boards.

24. The IoT contribute to energy management in residential areas by ____.

A. Increasing energy costs

B. Monitoring and optimising device usage

C. Randomly switching on/off lights

D. Ignoring energy consumption patterns

Answer: B) Monitoring and optimising device usage

Explanation:

IoT helps in optimising energy use in homes by monitoring devices and systems. This allows for better control and reduction of energy costs.

25. What is the primary benefit of implementing IoT in commercial energy management?

A. Increasing energy wastage

B. Lowering production costs

C. Ignoring energy consumption

D. Maintaining high energy costs

Answer: B) Lowering production costs

Explanation:

IoT enables monitoring and optimizing energy consumption in businesses, which leads to lower production costs and improved efficiency.

26. How does IoT ensure reliability in energy systems?

A. By causing equipment damage

B. By increasing downtime

C. By detecting and addressing system threats

D. By ignoring system performance issues

Answer: C) By detecting and addressing system threats

Explanation:

IoT technology detects threats to system performance, such as equipment damage or downtime, and takes action to mitigate these risk

27. What defines a smart object in the context of IoT?

A. Passive, analog, and standalone

B. Energy-efficient, static, and non-configurable

C. Non-digital, offline, and non-communicative

D. Digital, networked, and autonomous

Answer: D) Digital, networked, and autonomous

Explanation:

The physical objects that are digital, networked and autonomous are termed as smart objects in IoT.

28. Security and privacy are of big concern for smart object-based loT systems?

A. True

B. False

C. Can't say anything

D. None of the above

Answer: A) True

Explanation:

Yes. Security and privacy are of big concern for smart object-based loT systems.

29. Which of the following are smart objects?

A. Smartwatch

B. Smart light bulbs

C. Smart bed

D. All of the above

Answer: D) All of the above

Explanation:

A smart object is something that not only interacts with people but also with other smart things.

30. Which one of the following is not a top IoT Trend in 2024?

A. IoT Powered with 5G Technology

B. Metaverse

C. Digital Twins

D. Smartphones

Answer: D) Smartphones

Explanation:

Smartphones, while crucial in our daily lives, aren't highlighted as a top IoT trend in 2024, unlike IoT powered by 5G, the Metaverse, and Digital Twins.

1. The two greatest technologies that enable users to detach themselves from desktops and go mobile are _____ and _____.

2. Global Sensor Network is built for _____.

3. The huge number of devices connected to the Internet of Things has to communicate automatically, not via humans known as _____.

4. The number of elements in the Open IoT Architecture are _____.

5. The sensor used to measures gases or liquid is known as _____