

1. Communication through the supply network uses a modulation for signal transmission in the frequency range?

☐ od 10 Hz do 200 Hz

☐ od 200 Hz do 10 kHz

X od 20 kHz do 100 MHz

☐ od 100 MHz do 200 MHz

2. Arrange the wireless technologies ZigBee (2400 Hz), ZigBee (868 Hz), Z-Wave, EnOcean, Bluetooth according the transmission speed (1 – the lowest, 5 - the highest).

1. **ZigBee (868Hz)**
 2. **Z-Wave**
 3. **EnOcean**
 4. **ZigBee (2400Hz)**
 5. **Bluetooth**
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3. Assign names for the following wireless technologies definitions.

Technology	Definition
Z-Wave	It has been proposed for use in a home automation and also in industrial use. It is a networking standard operating in the called routed mode
ZigBee	This standard is focused primarily on applications for home automation. The communication protocol of this technology routes messages using Source Routing Algorithm (SRA).
WiFi	It is used to connect the IP camera in home automation, to connect any media device in the home, including mobile devices and computers in distance from 50 to 100m.
EnOcean	This technology is used mainly in mobile phones and wireless headsets, tablets and PCs, especially as a replacement for wired peripherals. In home automation it focuses on the eHealth field for sensing the biometric characteristics of the user.
Bluetooth	This standard is mainly used in building automation, logistics and goods transport in industry. It uses the energy from the surroundings to supply sensors.

4. Arrange the wireless technologies ZigBee, EnOcean Z-Wave, Bluetooth according to the energy needed (1 - the lowest, 5 – the highest)

1. **EnOcean**
2. **ZigBee**
3. **Z-Wave**
4. **Bluetooth**
- 5.



5. Modify the following texts so that the statements are true.

KNX is a European (EN50090, 2003) and international (ISO / IEC 14543-3, 2006) standard for
(**home and building automation**)
~~industry automation~~).

LON stands for Local Operating Network, originally introduced as a solution
(**for automation in industrial buildings, airports**)
~~for automation of homes and flats~~).

LON architecture uses (**decentralized**)
~~centralized~~ management.

Under the controller is meant a (**control device**)
~~sensor device~~ that acts as a "brain" in the whole home automation system.

6. List four used ways of knowing location.

- a) **Radio-frequency identification**
 - b) **GPS**
 - c) **Mobile network**
 - d) **Bluetooth**
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7. List entities defined in ZigBee technology.

- a) **network coordinators**
- b) **FFD (full-function device)**
- c) **RFD (reduced-function device)**

