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

1. Arrange the wireless technologies ZigBee (2400 Hz), ZigBee (868 Hz), Z-Wave, EnOcean, Bluetooth according the transmission speed (1 – the lowest, 5 - the highest).
2. **ZigBee (868Hz)**
3. **Z-Wave**
4. **EnOcean**
5. **ZigBee (2400Hz)**
6. **Bluetooth**
7. 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. |

1. Arrange the wireless technologies ZigBee, EnOcean Z-Wave, Bluetooth according to the energy needed (1 - the lowest, 5 – the highest)
2. EnOcean
3. ZigBee
4. Z-Wave
5. Bluetooth
6. 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 .

LON stands for Local Operating Network, originally introduced as a solution .

LON architecture uses management.

Under the controller is meant a that acts as a "brain" in the whole home automation system.

1. List four used ways of knowing location.

a) Radio-frequency identification

b) GPS

c) Mobile network

d) Bluetooth

1. List entities defined in ZigBee technology.

a) network coordinators

b) FFD (full-function device)

c) RFD *(*reduced-function device)