

**1. Specify two basic elements that are included in a copper cable:**

1. \_\_\_\_\_

2. \_\_\_\_\_

**2. Select from the following list those technologies, which are among the technologies of access networks abbreviated as FTTx:**☐ FTTH☐ FTTdb☐ FTTC☐ FTTO☐ FTTE<sub>x</sub>☐ FTTF☐ FTTP☐ FTTB☐ FTTCab**3. Match the four different abbreviations of xDSL technologies shown on the left column to the corresponding descriptions on the right column.**

ADSL

Very high speed Digital Subscriber Line

HDSL

Single pair High speed Digital Subscriber Line

SHDSL

High speed Digital Subscriber Line

VDSL

Asymmetric Digital Subscriber Line

**4. Which technique is used at VDSL connections for increasing of transfer rate, when we compared it with ADSL connections?**

- ☐ change of modulation type
- ☐ extension of reachable range
- ☐ extension of used frequency band
- ☐ reduction of attenuation of transmission line

**5. Specify all modes of data transfer at VDSL2 connection for subscriber terminal:**

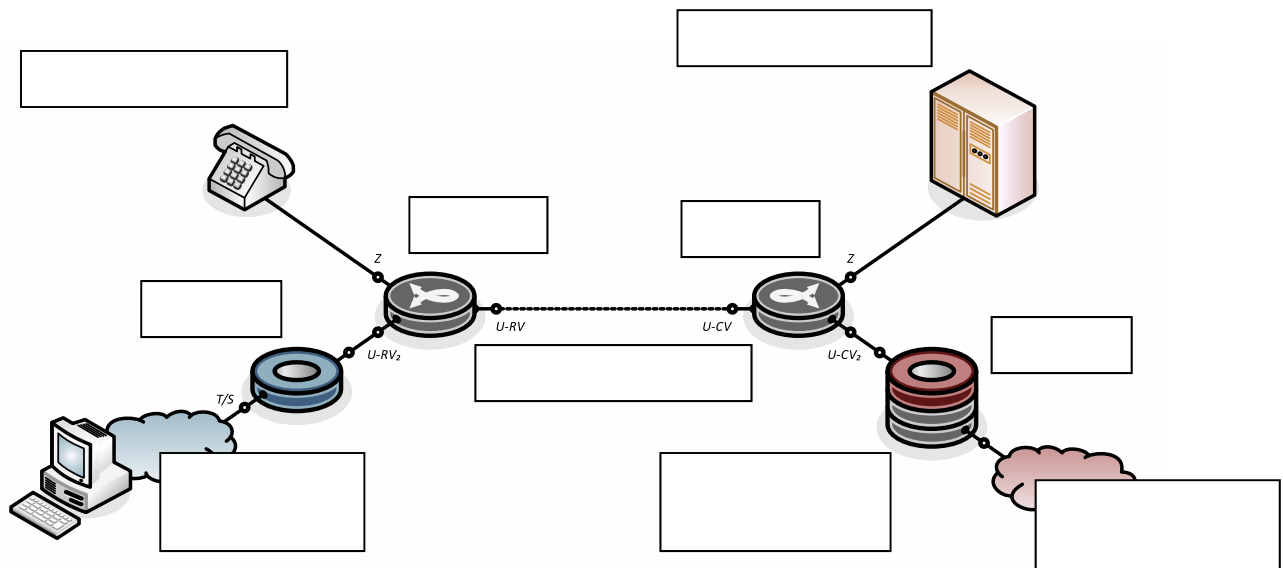
1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_



6. Fill in the following figure the correct labels for individual blocks of VDSL2 connection:



7. Quality of service is a scale how to evaluate the subscriber satisfaction with the service that he pays for, and that it provided by the operator. Evaluation of services is a relatively complicated process. Specify the criteria that are used for example for the evaluation (objective and subjective):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

8. Modify the following texts so that the statements will be true.

Interleaving is a technique that  $\begin{pmatrix} \text{enhance} \\ \text{reduce} \end{pmatrix}$  the ability to detect and correct errors resulting from impulse interference during transmission. Corrupted data is possible in the terminal equipment repair and it  $\begin{pmatrix} \text{is not} \\ \text{is} \end{pmatrix}$  possible to be re-transferred data from the source. This capability leads to  $\begin{pmatrix} \text{increase} \\ \text{decrease} \end{pmatrix}$  the transmission efficiency.

