

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

Randomization of transmitted sequence of data results brings $\left(\begin{smallmatrix} \text{lower} \\ \text{higher} \end{smallmatrix} \right)$ demands on the required frequency bandwidth of the transmission path.

Scrambling at the transmitting side (and descrambling at the receiving side) is intended $\left(\begin{smallmatrix} \text{to eliminate} \\ \text{to insert} \end{smallmatrix} \right)$ a periodic sequence $\left(\begin{smallmatrix} \text{from} \\ \text{into} \end{smallmatrix} \right)$ transmitted data stream.

2. Which internal circuits of VDSL2 modem is implemented for security of end user stream before its transmission in access networks?

1. _____
 2. _____
 3. _____
 4. _____
-

3. There are two basic methods used for the separation of traffic directions at xDSL. Which of these two methods is used entirely at VDSL2 connections?

- ☐ Frequency Division Duplex FDD
 - ☐ Echo Cancellation EC
-

4. Which type of crosstalk is reduced due to the method of frequency division?

- ☐ Near End Cross Talk NEXT
 - ☐ Far End Cross Talk FEXT
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5. What are the three parts which in general divide the network architecture of VDSL2 connection?

1. _____
2. _____
3. _____

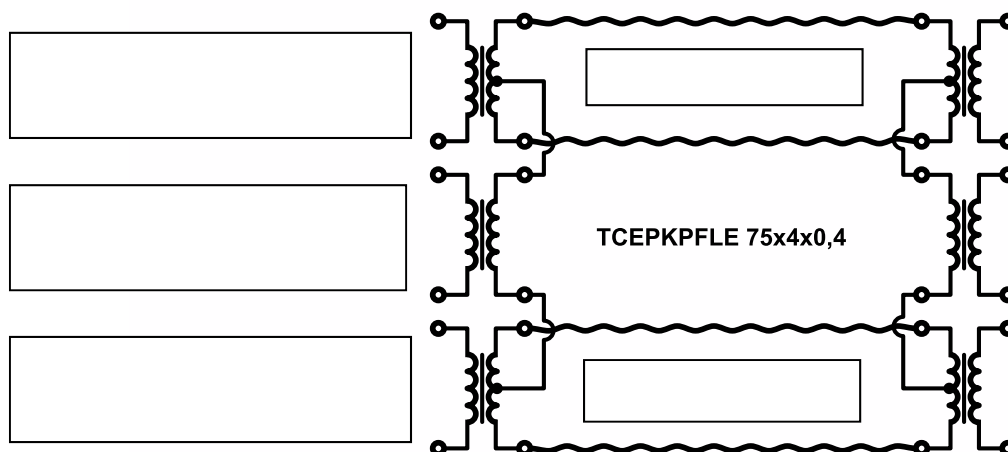
6. Modify the following texts so that the statements will be true.

The standard G.fast is called as the $\left(\begin{smallmatrix} 4\text{th generation} \\ 3\text{rd generation} \end{smallmatrix} \right)$ of xDSL systems.

The standard G.fast could be reach $\left(\begin{smallmatrix} \text{higher} \\ \text{lower} \end{smallmatrix} \right)$ transfer rates than existing xDSL connections.

The standard G.fast could be utilize $\left(\begin{smallmatrix} \text{short} \\ \text{long} \end{smallmatrix} \right)$ lengths of subscriber lines.

There is implemented on G.fast standard the $\left(\begin{smallmatrix} \text{inverse power} \\ \text{bus power} \end{smallmatrix} \right)$.

7. Transmission capacity can be increased at the G.fast connections by the help of phantom circuits. Fill in the following figure the correct labels:**8. Vectored DMT modulation is used at G.fast connections G.fast. What are its dominant advantages and disadvantages? Select it from the following options.**

- ☐ elimination of crosstalks and achieving higher transfer rate
- ☐ achieving higher transfer rate
- ☐ high computational complexity of coordination at receiving circuits
- ☐ high computational complexity of coordination at transmitting circuits
- ☐ low computational complexity of coordination at transmitting circuits
- ☐ elimination of crosstalks

