Course structure

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Content of the course

- <u>Course 1.</u>
  - General view on fixed telephone network. Digital networks. General aspects. Definitions.
- <u>Course 2.</u>
  - Fundamental aspects of digital telephony. The primary PCM E1 multiplex. Synchronization of the primary frames, transmission of the primary frames – the concept of “digital carrier”.
- <u>Course 3.</u>
  - The primary E1 multiplex - continuation. Alarms associated to transmission of primary frames. The primary T1 multiplex. Codirectional and contradirectional interfaces.

Content of the course

- Course 4.
  - Signaling techniques and systems used in classical telephone networks Definitions. Characteristics. The signaling system no. 7 (SS7). Architectures, characteristics, protocols.
- Course 5.
  - The SS7 signaling system – continuation.
- Course 6.
  - Enhanced telephone call features.
- Course 7.
  - The echo in telephony. Echo compensation techniques. Digital access technique in telephone network. Narrow band ISDN.

Content of the course

- <u>Course 8.</u>
  - SDSL and ADSL access techniques.
- <u>Course 9.</u>
  - ADSL2+, VDSL, VDSL2+ access techniques.
- <u>Course 10.</u>
  - Multiplexing of digital signals – plesiochronous multiplexing. The PDH multiplexing hierarchy. Frame synchronization.
- <u>Course 11.</u>
  - The digital regenerator. The digital jitter – characterization, generating causes.

Content of the course

- <u>Course 12.</u>
  - Principles of synchronous multiplexing. Synchronous network architectures. The SDH multiplexing hierarchy.
- <u>Course 13.</u>
  - The SDH multiplexing hierarchy – continuation. The overhead information. Pointers and pointer operation in the SDH system.
- <u>Course 14.</u>
  - Mapping procedures of the PDH signals in the SDH transport structures. The SDH processing chain. The reference model of the SDH equipment.

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