DATA COMMUNICATIONS AND NETWORKS

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Course Outlines

1. Data Communication Network and Open System Standards
   - ✓ Data communication network
   - ✓ Standards
   - ✓ ISO reference model
   - ✓ Open system standard

Course Outlines

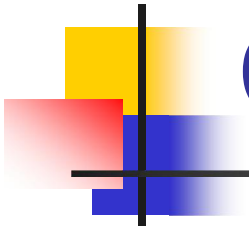
2. The Electrical Interface
   - ✓ Transmission media
   - ✓ Attenuation and distortion source
   - ✓ Signal types
   - ✓ Signal propagation delay
   - ✓ Public carrier circuits
   - ✓ Physical layer interface standards

Course Outlines

3. Data Transmission
   - ✓ Data transmission basics
   - ✓ Asynchronous transmission
   - ✓ Synchronous transmission
   - ✓ Error detection methods
   - ✓ Data compression
   - ✓ Transmission control circuits
   - ✓ Communications control devices

Course Outlines

4. Protocol Basis
   - ✓ Error control
   - ✓ Idle RQ
   - ✓ Continuous RQ
   - ✓ Link management



Course Outlines

5. Link Layer Protocols
   - ✓ Application Environments
   - ✓ Character-oriented protocols
   - ✓ Bit-oriented protocols

Course Outlines

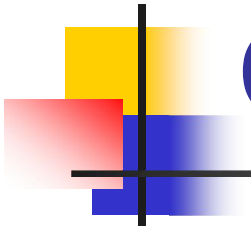
6. Industrial Networks
   - ✓ Introduction
   - ✓ MODBUS, ProfiBus
   - ✓ CAN

Course Outlines

7. Telecommunication Networks
   - ✓ Introduction to PSTN, GSM
   - ✓ Introduction to IP Network
     - ✓ TCP/IP Model
     - ✓ Layer 1: Physical Layer
     - ✓ Layer 2: Link Layer (MAC & LLC)
     - ✓ Layer 3: Network Layer

Reference Books

1. Fred Halsall, “Data Communications, Computer Networks and Open Systems”, Fourth Edition
2. William Stallings, “Data and Computer Communications”, Sixth Edition
3. Andrew S. Tanenbaum, “Computer Networks”, Fourth Edition
4. James F. Kurose, “Computer Networking – Top Down Approach Featuring the Internet”
5. Adolfo Rodriguez, “TCP/IP Tutorial and Technical Overview”



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