

# 计算机网络 复习纲要

(2011-6-5)

注：本文档仅供参考；粗体为重点。

Computer Networks and the Internet (Chap. 1)

**What's a protocol?** packet/circuit switching; loss, **delay**, **throughput**; ISO/OSI reference model, **TCP/IP reference model**, encapsulation, **protocol data unit**.

Application Layer (Chap. 2)

C/S and P2P architectures; socket, process addressing; common Internet applications; **basic principles of Web and HTTP**, SMTP, FTP, and **DNS**; representative P2P applications (e.g. BitTorrent).

Transport Layer (Chap. 3)

Multiplexing/demultiplexing; UDP segment format; **reliable data transfer mechanisms**, pipelined protocols (e.g. go-back-N, selective repeat); **TCP (Section 3.5)**; TCP congestion control principles.

Network Layer (Chap. 4)

Virtual circuit and datagram networks; routers; IP (Section 4.4, including e.g. IP Fragmentation, **IP addressing**, **CIDR/VLSM**, **classful addressing**, **mask**, **network address**, **host address**, DHCP, NAT, etc), ICMP, **IPv6**; **Dijkstra's routing algorithm**, Distance Vector Routing Algorithm; Routing protocols used in the Internet; Broadcast routing algorithms.

Data Link Layer (Chaps. 5 and 6)

**CRC**; CSMA, **CSMA/CD**, CSMA/CA; MAC Address, ARP; Ethernet Frame Structure, Ethernet standards; Properties of switches.

Physical Layer

Hub; Physical media

考试题型：

- 一、单项选择题（每题 2 分，共 20 分）
- 二、填空题（每空 1 分，共 20 分）
- 三、名词解释（每题 2 分，共 10 分；中英文答案均可）
- 四、问答题（每题 5 分，共 30 分）
- 五、综合题（每题 10 分，共 20 分）