Topics in Networking

Low Levels

- Transmission: ATM, WDM, ~~SDH~~ (all at a very high level only)

- Ethernet: switching, collisions, bridging, broadcasting, VLANs, Link Aggregation

Transports

- IP: addressing, IPv4 and v6 subnets and prefixes, routing, routing protocols (OSPF, RIP, convergence properties), NAT

- UDP: applications, advantages and disadvantages

- TCP: applications, advantages and disadvantages, mechanisms and operation, sequence numbers, receive windows, slow start, window scaling, PAWS, timestamping, multipathing,

Applications

- DNS: concepts, resource records, RR sets, basic operation, recursive and authoritative servers, caching

- Higher layer protocols: Basic operation of HTTP, FTP, SMTP