

1. Week 9-10(all material in slides except slide no 24 to 29)

Delievery

Direct Versus Indirect Delivery

Forwarding

Forwarding Techniques

- Next-Hop Method versus Root Method
- Network-Specific Method Vs Host-Specific Method
- Default Method

Forwarding Process

Routing Table

- Static Routing Table
- Dynamic Routing Table
- Format of the Routing Table
- Flags

Unicast Routing Protocols

- Optimization
- Intra- and Interdomain Routing
- Distance Vector Routing and RIP
- Path Vector Routing and BGP

2. week 11-12(till slide no 37)

Adressing Mapping

- Mapping Logical to Physical Address
- Mapping Physical to Logical Address
- ARP Packet Fields

How ARP works?

Four cases using ARP

Mapping Physical to Logical

RARP (Reverse Address Resolution Protocol)

DHCP (Dynamic Host Configuration Protocol)

ICMP

Types of Messages

- Destination Unreachable
- Source Quench
- Time Exceeded
- Parameter Problem
- Redirection

3. week 13 (Process-to-Process Delivery: UDP, TCP) till slide no 55 PROCESS-TO-PROCESS DELIVERY

Chapter 23

- Client/Server Paradigm
- Multiplexing and Demultiplexing
- Connectionless Versus Connection-Oriented Service
- Reliable Versus Unreliable
- Three Protocols

USER DATAGRAM PROTOCOL (UDP)

- Well-Known Ports for UDP
- User Datagram
- Checksum
- UDP Operation
- Use of UDP

TCP

- TCP Services
- TCP Features
- Segment
- A TCP Connection
- Flow Control
- Error Control

4. WEEK 14

Chapter 24

**(Congestion Control and
Quality of Service)till slide 52**

DATA TRAFFIC

Traffic Descriptor

Traffic Profiles

CONGESTION

CONGESTION CONTROL

- Open-Loop Congestion Control
- Closed-Loop Congestion Control

TWO EXAMPLES

- Congestion Control in TCP
- Slow start: Exponential Increase
- Congestion Avoidance
- Congestion Detection: Multiplicative decrease
- Two Reactions
- Congestion Control in Frame Relay

QUALITY OF SERVICE

TECHNIQUES TO IMPROVE QoS

- Scheduling
- Traffic Shaping
- leaky bucket algorithm
- Token Bucket
- Resource reservation
- Admission Control

INTEGRATED SERVICES

- Signaling

Flow Specification

- Admission
- Service Classes
- RSVP
- Problems with Integrated Services

5. WEEK 15

Domain Name System

NAME SPACE

Flat Name Space

Hierarchical Name Space

DOMAIN NAME SPACE

Label

Domain Name

Domain

DISTRIBUTION OF NAME SPACE

- Hierarchy of Name Servers
- Zone
- Root Server
- Primary and Secondary Servers

DNS IN THE INTERNET

- Generic Domains
- Country Domains
- Inverse Domain

RESOLUTION

- Resolver
- Mapping Names to Addresses
- Mapping Addresses to Names

Recursive Resolution

Caching

ELECTRONIC MAIL

FILE TRANSFER

- File Transfer Protocol (FTP)
- Anonymous FTP

6. WEEK 16

Application Layer

Application layer: overview (from slide 17 to 26)

Web and HTTP

HTTP overview

- HTTP connections: two types
 - Non-persistent HTTP: example
 - Persistent HTTP
- HTTP request message

Other HTTP request messages(from slide 28 to 30)

- POST method
- HEAD method
- GET method
- PUT method

HTTP response status codes

HTTP cookies: comments(from slide 35 to 40)