# 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

# 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

# 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

# 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

# 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

# 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)**