

## Prelim 2 Review

CS 519 SP 2003

2: Application Layer 1

## Where we've been

- We've covered 9 slide sets (9-17)
- KR 4,5,7 8
- Stevens 2, 4, 5, 9, 10, 25

2: Application Layer 2

## Slide Sets

- 09\_routingbasics
  - Link state vs Distance Vector
  - Oscillations, Poison reverse, count-to-infinity
- 10\_routingprotocols
  - Routing in the real Internet, CIDR, InterAs vs IntraAs routing
  - RIP, OSPF, BGP
  - Routing from source to destination
- 11\_multicast
  - No detailed question on multicast

2: Application Layer 3

## Slide sets (con't)

- 12\_ipextensions
  - IPV6, NAT, VPN, MobileIP
  - IP encapsulation and tunneling
- 13\_linklayerintro
  - Multiple access protocols: channel partitioning vs random access vs polling/reservation based systems
  - Error detection/correction
- 14\_ethernet\_other
  - CSMA/CD in Ethernet; CSMA/CA in wireless
  - Hubs vs Switches/Bridges
  - Routers vs Switches/Bridges
  - PPP
  - Wide Area technologies as LAN technologies (no details)
  - ARP \*\*\*

2: Application Layer 4

## Slide sets (con't)

- 15\_securitybasics
  - Secret algorithm vs secret key
  - Symmetric/Private Key Crypto vs Asymmetric/Public Key Crypto
  - No details of RSA
  - Using Crypto for more than secrecy - digital signatures, authentication
  - Trusted Intermediaries

2: Application Layer 5

## Slide sets (con't)

- 16\_exploits\_defenses
  - Attacks and defenses on all layers
  - PGP, key rings to avoid trusted intermediaries
  - TCP session stealing and SSL
  - False Dynamic Routing Info, IP Spoofing, IPSec
  - ARP attack
  - Buffer Overflows
  - Denial of Service Attacks
- 17\_networkmanagement

2: Application Layer 6

## Books

- Books are for reference – to support material covered in class
- I won't pull an obscure detail out of the textbooks
- Everything on the exam I have mentioned in class
  - I may ask you to go beyond what we discussed in class to make you think (not to test memorization of details from the book)

2: Application Layer 7

## Exam Details

- 9 main questions; 30 sub questions
- 66 points
  - Approximately 32 for routing, 3 for IP extensions, 18 for link layer, 24 for security
  - Mostly short answer
- Any calculations can be done by hand (bring a calculator if it makes you feel better)
- Similar style to prelim 1

2: Application Layer 8