

Final -- closed book section

19 December, 1991

The entire exam is to be turned in at 11:55AM. Work the closed book section first and turn it in before you consult your books and notes to work on the open book section. For the closed book section, write your answers on the exam itself.

Name: _____

There are twenty questions. Each is worth three points. Choose the most appropriate phrase for terminating each sentence. Circle your choice.

Piggybacking occurs when data and acknowledgments are sent in

- A: bacon bits.
- B: adjacent packets.
- C: the same packet.
- D: the same channel.

A bridge operates at

- A: the physical layer.
- B: the data link layer.
- C: the session layer.
- D: the network layer.

If two token rings are joined by a repeater *and* the combined networks are working well, we'd expect the combined networks

- A: to always have at least one free token.
- B: to have no more than one free token.
- C: to have exactly two free tokens.
- D: to isolate inter-departmental traffic.

If a window size of 16 is used in a sliding window protocol, the sender must have adequate buffer space to hold

- A: 8 packets.
- B: 16 packets.
- C: 32 packets.
- D: 32 Ethernet frames.

If a packet must be fragmented to travel from a token ring to an ethernet, the fragmentation occurs in

- A: a repeater.
- B: a bridge.
- C: a gateway or router.
- D: a file server.

Transparent bridges can be connected into cycles, if the bridges support

- A: a collision resolution algorithm.
- B: exponential binary backoff.
- C: ring monitors.
- D: the spanning tree algorithm.

The baud rate of a network using Manchester encoding is

- A: half the bit rate.
- B: equal to the bit rate.
- C: twice the bit rate.
- D: varies with frame size.

If the sequence numbers used in a sliding window protocol range from 0 to 15, the largest *safe* size for the window is

- A: 7.
- B: 8.
- C: 15.
- D: 16.

The MAC (medium access control) protocol is the lower half of the data link protocol. The MAC protocol used in FDDI is based on

- A: CSMA/CD.
- B: the Ethernet MAC protocol.
- C: the token ring MAC protocol.
- D: optical star couplers.

TCP is an abbreviation for the

- A: Transmission and Clutch Protocol.
- B: Transmission Control Protocol.
- C: Transport Control Protocol.
- D: Transport Coax Protocol.

The maximum number of hosts that can be placed on a class C IP network is

- A: about 30.
- B: about 250.
- C: about 15,000.
- D: about 4,000,000,000.

IP (Internet Protocol) addresses are commonly written in a format similar to

- A: ``AA:00:04:00:0A:C0".
- B: ``AA-00-04-00-0A-C0".
- C: ``128.109.185.13".
- D: ``uncavx.unca.edu".

When two ethernet hosts on LANs connected by a bridge start transmitting packets to each other within a one nano-second interval *and* no other hosts on either LAN are transmitting,

- A: packet throughput is halved.
- B: no collisions occur.
- C: one collision occurs.
- D: two collisions occur.

A transparent bridge connecting two LANs knows the location of machines that

- A: have transmitted a message.
- B: have been entered into its database.
- C: have received a message.
- D: have registered via ARP (Address Registration Protocol).

The physical media most often used for networking at UNCA is

- A: token ring.
- B: thin-wire coax.
- C: thick-wire coax.
- D: unshielded twisted pair.

When a Ethernet host transmits through a bridge, the bridge retransmits the packet with the Ethernet source address of

- A: the transmitting Ethernet host.
- B: the bridge interface for the transmitting host.
- C: the bridge interface for the source host.
- D: the network gateway

The CSMA/CD specification of the ethernet belongs to the

- A: network layer.
- B: data link layer.
- C: presentation layer.
- D: transport layer.

The most likely ISO layers to find sliding window protocols are

- A: the physical and network layers.
- B: the data link and network layers.
- C: the data link and transport layers.
- D: the network and transport layers.

If a sliding window protocol uses 4 bits to hold sequence numbers, the sequence numbers range

- A: from 0 to 3.
- B: from 0 to 8.
- C: from 0 to 15.
- D: from 0 to 16.

The bottom layer of chocolate cake should be placed on

- A: broccoli.
- B: a plate.
- C: ISO specifications.
- D: yet more midterm examinations.

RS-232 is a very popular interface between computer and

- A: network.
- B: telephone.
- C: modem.
- D: application.

The application layer of the ISO reference model might be used to specify

- A: connection initiation.
- B: file transfer.
- C: data encoding.
- D: datagram routing.

The token ring is an example of a

- A: baseband network.
- B: broadband network.
- C: FM band network.
- D: AM band network.

A device for transforming a serial bit stream into a modulated signal and *vice versa* is called a

- A: demultiplexer.
- B: modem.
- C: modulator.
- D: transmitter.

In a packet-switched network a message is

- A: sent over the least-cost connection.
- B: sent over telephone circuits.
- C: buffered at intermediate hosts.
- D: broken into separately transmitted fragments.

The transport layer is used to specify mechanisms that provide

- A: token passing within a network.
- B: electronic mail routing.
- C: end-to-end message routing.
- D: reliable message delivery across several networks.

Machines on a token ring may transmit when

- A: they have the free token.
- B: the 802.2 specification is obeyed.
- C: the ring has no carrier.
- D: they are connected in a star.

The U.S. representative to ISO is

- A: ANSI.
- B: NBS.
- C: AT&T.
- D: IEEE.

Today the USENET has thousands of members world-wide, but the first two were located in

- A: Manchester.
- B: Silicon Valley.
- C: ISO headquarters.
- D: North Carolina.

The maximum data transmission rate on the Ethernet is

- A: 56kbps.
- B: 4Mbps.
- C: 10Mbps.
- D: 100Mbps.

The session layer should be used to specify a protocol for connecting

- A: home telephones to an ISDN switch.
- B: programs on different machines.
- C: remote machines reliably.
- D: Ethernet transceivers.

The physical layer should be used to specify

- A: the order in which hosts transmit messages.
- B: how bits are encoded.
- C: how messages are encoded.
- D: how modems are built.

The most widely used data transmission rate on token rings is

- A: 56kbps.
- B: 4Mbps.
- C: 10Mbps.
- D: 16Mbps.

The network layer should be used to specify

- A: how two different operating system may communicate.
- B: how mail messages are formatted for DECnet.
- C: the token ring wiring scheme.
- D: how two different networks can be joined.

The reason most people use coax cable to wire their networks is to

- A: avoid interference from office machinery.
- B: save money.
- C: implement an Ethernet.
- D: take advantage of existing wiring.

The presentation layer of the ISO reference model connects the

- A: network and physical layers.
- B: session and transport layers.
- C: session and application layers.
- D: network and transport layers.

The CSMA/CD specification of the ethernet belongs to the

- A: network layer.
- B: data link layer.
- C: presentation layer.
- D: transport layer.

The data link layer might be used to specify

- A: how messages are delivered.
- B: how messages are acknowledged.
- C: how messages are acknowledged within a physical network.
- D: how messages are delivered across several networks.

The four classes of ISO service primitives are

- A: physical, network, transport, and session.
- B: network, session, application, and presentation.
- C: request, indication, response, and confirmation.
- D: request, refusal, confirmation, and information.

The top layer of chocolate cake should be covered with

- A: broccoli.
- B: creamy icing.
- C: ISO specifications.
- D: midterm examinations.