CN101 Computer Networks

Quiz

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Answer T (for True) or F (for False) for each of the following questions.

Answers:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
T	T	F	F	T	T	F	F	T	F	F	F	T	T	T	T	T	T	F	T

1. Baseband transmission cannot support multiplexing of multiple signals, but Broadband transmission supports multiplexing of multiple signals.

2. A frame originated from one host can reach any other hosts connected to the same **Hub**, but this frame can be blocked from reaching some hosts connected to the same **Bridge**.

3. On an Ethernet with the longest End-to-End delay T, if a host A has not detected collision within 2T since it started transmitting the first bit of its data frame, then A will not encounter any collision till it completes transmission of the entire frame.

4. An IP packet with size of 5000 bytes goes through two routers A and B in order. Suppose the MTU for router A is 1000 bytes, and the MTU for router B is 1500 bytes, then this packet will be segmented twice, once at A, and another time at B, because both routers have MTUs smaller than the packet size.

5. If host A at MUST wants to send an IP packet to host B at UMAC, and if A's ARP cache is empty, then A sends an ARP request in order to determine the IP address of the next hop router.

6. When an IP router between two Ethernet segments forwards an IP packet, it does not modify the destination IP address.

7. The network layer can detect the loss of a packet and retransmits it.

8. If there are some errors in the routing tables at some routers, then, with IPv4, it is possible that a packet loops for ever.

9. Assume host A sends data to host B using TCP. In some cases, it may happen that two blocks of data generated by the application at A are grouped by TCP into one single IP

packet.

10. It is possible for a UDP source A to send data to a destination process P1 on host B1, using source port a and destination port b, and at the same time send (different) data to another destination process P2 on a different host B2, still using the same source port a and destination port b.

11. When an application receives data from UDP, the application knows that the data was sent as one message by the source.

12. Assume host A sends data to host B using UDP. In some cases, it may happen that two blocks of data generated by the application at A are grouped by UDP into one single IP datagram.

13. With a sliding window protocol, the window size is the maximum amount of unacknowledged data that can be sent by the source.

14. A packet may match multiple entries in a routing table of a router.

15. If an interface of router A is connected to an interface of router B, then both interfaces have the same network prefix.

16. In TCP, a packet loss detected by 3 duplicated ACKs can be deemed as more serious congestion than packet loss detected by timeout.

17. Congestion control can be implemented using the sliding window mechanism.

18. A host to be allocated with an IP address dynamically from a DHCP server must know the IP address of the DHCP server beforehand.

19. For iterative DNS query, if the root server is queried by the local server, it will give the final answer to the local server.

20. FTP uses TCP protocol at transport layer, but TFTP uses UDP protocol at transport layer.