EL 5373 Pop Quiz Nine

Name: _____ Student ID: _____

I. Answer True or False to the following questions:

1. In a TCP connection, the window size *cwnd* at each end system is predetermined and does not get changed over time.
   a) True b) False
2. In TCP Slow Start phase, the window size *cwnd* is increased by 1 in each RTT.
   a) True b) False
3. If the IP header checksum calculated at the destination does not match the IP header checksum sent by the source host, then that IP datagram is dropped silently.
   a) True b) False
4. If the IP header of an arriving datagram has TTL = 1 identified by a router, then the router drops this IP datagram silently.
   a) True b) False

II. Select ALL correct answers in each of the following multiple choice questions.

1. The _____ message confirms the client to use an offerred IP address.
   a) DHCPOFFER
   b) DHCPACK
   c) DHCPREQUEST
   d) DHCPRELEASE
2. A host in an IP network can be identified by _____. Furthermore, an application running by this host can be identified by _____.
   a) a host MAC address, a well-known port number
   b) an IP address; a host name
   c) an IP address; a port number
   d) a port number; an IP address
3. The value of Message Length in the header of a UDP Packet containing a 1496-byte payload is _____.
   a) 1488
   b) 1496
   c) 1516
   d) none of the above

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4. When a sender of a TCP connection imposes Congestion Control, which parameters below are contributed by the corresponding receiver of this TCP connection?
   a) Maximum Segment Size
   b) Advertised Window Size
   c) Congestion Window Size (*cwnd*)
   d) Slow Start Threshold (*ssthresh*)
5. Consider a TCP connection between host A and host B. Suppose that the TCP segments sent from host A to host B have source port number X and destination port number Y. Then source and destination port numbers for the segments sent from host B to host A are
   a) Y+1 and X+1 respectively.
   b) Y+1 and X respectively.
   c) Y and X respectively.
   d) a port number other than Y and a port number other than X respectively.
6. In TCP timeout retransmission, the Exponential Backoff Algorithm
   a) is used to calculate RTT (Round Trip Time).
   b) is used to calculate RTO (Retransmission TimeOut) if RTT is not available.
   c) should not be enabled due to a retransmission (Karn's Algorithm).
   d) is the random waiting time before attempting a retransmission after a CSMA/CD collision.
7. After a first TCP half close, the data transfer from the Passive Close side
   a) is not allowed since this side has responded with a FIN message.
   b) is allowed with normal data acknowledgement from the Active Close side.
   c) does not require acknowledgement since the other side has no data for sending ACK piggyback.
   d) does not require data acknowledgement since the Active Close side has closed its half of the connection.
8. The least significant 23 bits in a 48-bit Ethernet address unambiguously identify _____.
   a) an IP multicast router
   b) a host
   c) an IP multicast group
   d) none of the above
