CN-HW3

Subject: Alireza Rostami Date

2. The seven layers of OSI are: ~~Presen~~ Application, presentation, session, transport, network, data link, Physical.

Physical: Provides physical interface for transmission of information.
data link: Provides reliable communication over the physical layer interface.
network: Implements routing of packets by defining logical addresses and selecting the optimal Path.
transport: Provides reliable mechanism for exchange of data between processes.
session: Provides mechanism for controlling dialogue between two systems.
presentation: Provides independence from differences in data representation.
Application: Interact with application and Connects network to the application.

3. $\log_2^6 = 2 \Rightarrow$ ۱۴۱.۸۵.۰۰ ۰۰۰۰۰۰.۰ $\Rightarrow$ first ip: ۱۴۱.۸۵.۰.۱

۱۴۱.۸۵.۰۱ ۰۰۰۰۰۰.۰ $\Rightarrow$ " " : ۱۴۱.۸۵.۶۴.۱

۱۴۱.۸۵.۱۰ ۰۰۰۰۰۰.۰ $\Rightarrow$ " " : ۱۴۱.۸۵.۱۲۸.۱

۱۴۱.۸۵.۱۱ ۰۰۰۰۰۰.۰ $\Rightarrow$ " " : ۱۴۱.۸۵.۱۹۲.۱

$\Rightarrow$ new subnet mask: ۲۵۵.۲۵۵.۱۱ ۰۰۰۰۰۰.۰ $\equiv$ ۲۵۵.۲۵۵.۱۹۲.۰

5. Gan and SAN are not of categories of network by size.

6. $d_{nodal} = d_{Proc} + d_{queue} + d_{trans} + d_{Prog}$; d_{Proc}: The time taken by the Processor to Process the data Packet.

d_{queue}: The time spent in the queue, in other words, the time the Packet waited in the Packet queue.

d_{trans}: The time taken to transmit a Packet from Source to dest..

d_{Prog}: The time taken for the last bit of Packet to reach dest..

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7. The third statement is false; Layer 3 is concerned with routers, not switches.

4. The formula is as follows: $\binom{10}{n}(0.1)^n(0.9)^{10-n}$