

Course name: Network I
 Course Code: CNE 304
 Lecturer: Dr. Ahmed ElShafee

Exam number: Midterm – Model Answer
 Exam Date: 08/05/2011
 Time Allowed: 90 minutes

Name: _____
 ID: _____

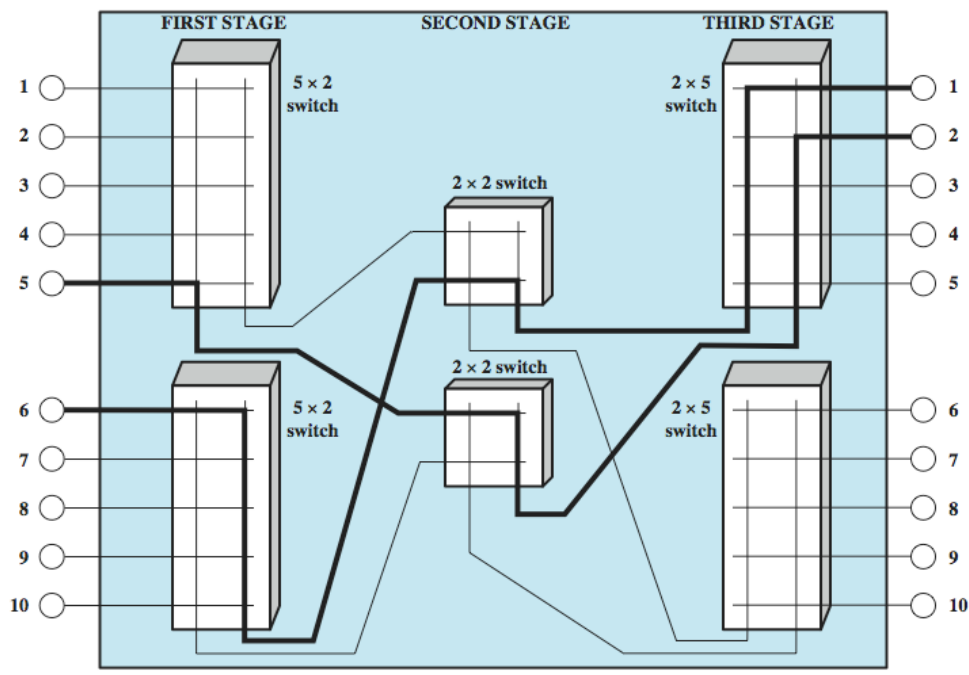
[1]-[20]	[21]-[25]	Total
/20	/10	/30

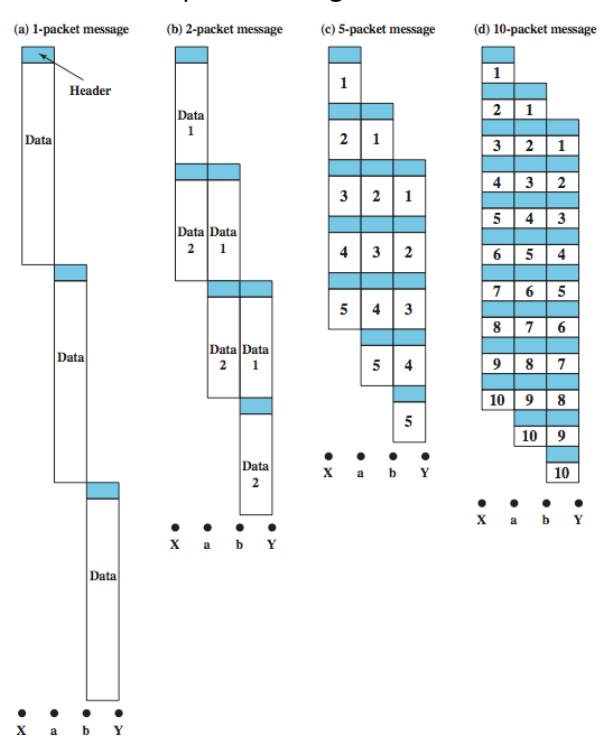
1	Which of the following protocols are examples of TCP/IP transport layer protocols? (2) a. Ethernet b. HTTP c. IP d. UDP e. SMTP f. TCP g. PPP	D , F
2	Which of the following protocols are examples of TCP/IP network interface layer protocols? (2) a. Ethernet b. HTTP c. IP d. UDP e. SMTP f. TCP g. PPP	A , G
3	3. Which TCP/IP layer defines the functions of logical network-wide addressing and routing? a. Application b. Transport c. Internetwork layer d. Network interface layer	C
4	Which TCP/IP layer defines the standards for cabling and connectors? a. Application b. Transport c. Internetwork layer d. Network interface layer	d

5	<p>Which TCP/IP layer defines the standards for data formats and encryption?</p> <p>a. Application b. Transport c. Internetwork layer d. Network interface layer</p>	a
6	<p>Which of the following terms are not valid terms for the names of the seven OSI layers? (2)</p> <p>a. Application b. Data link c. Transmission d. Presentation e. Internetwork f. Session</p>	C , E
7	<p>The process of HTTP asking TCP to send some data and make sure that it is received correctly is an example of what?</p> <p>a. Same-layer interaction b. Adjacent-layer interaction c. The OSI model d. All of the above e. None of the above</p>	B
8	<p>The process of TCP on one computer marking a segment as segment 1, and the receiving computer then acknowledging the receipt of segment 1, is an example of what?</p> <p>a. Data encapsulation b. Same-layer interaction c. Adjacent-layer interaction d. The OSI model e. None of the above</p>	B
9	<p>The process of a web server adding a TCP header to a web page, followed by adding a TCP header, then an IP header, and then data link header and trailer is an example of what?</p> <p>a. Data encapsulation b. Same-layer interaction c. The OSI model d. All of the above e. None of the above</p>	A



10	Which of the following terms is used specifically to identify the entity that is created when encapsulating data inside data-link headers and trailers? a. Data b. Chunk c. Segment d. Frame e. packet f. None—there is no encapsulation by the data link layer	D
11	A switching devices whose purpose is to provide communication a. terminal b. station c. node d. switch	c
12	Which of the following process are not valid for circuit switching process a. circuit connection (2) b. data transfer c. connection maintenance d. circuit disconnect e. call routing	C, e
13	Circuit switching can maintain 100% utilization of network resources a. true b. false Why? Circuit switching links are fully dedicated to single connection during the whole call	b
14	Circuit switching originally developed for data transfer between terminals a. true b. false Justify your answer? Circuit switching originally developed for voice exchanging between terminals, as links are fully dedicated for short period for single call	b
15	Trunks can connect subscribers as well as exchanges a. true b. false Justify your answer? Trunks are multiplexed links between exchanges to carry multiple calls between these switches. So they can't connect subscribers.	b

<p>16</p>	<p>In the following multiple-stage switches, which of the following connection will be blocked (3)</p>  <p>a. 1L → 7R b. 4L → 4R c. 7L → 6R d. 9L → 3R e. 4L → 8R</p>	<p>B,d</p>
<p>17</p>	<p>For the previous multi stage switch, if the intermediate switches replaced with one 4x4 switch. Number of simultaneous blocking probability will</p> <p>a. doubled b. remains the same c. half d. squared</p>	<p>b</p>
<p>18</p>	<p>The most effective delay in packet switching technique, data gram approach is</p> <p>a. propagation delay b. node delay c. transmission delay</p> <p>Justify?</p> <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>... Nodes take routing decision per packet</p> </div>	<p>b</p>

19	<p>The most effective delay in packet switching technique, virtual circuit approach</p> <p>a. propagation delay b. node delay c. transmission delay</p> <p>Justify?</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>Packets use the same path during the call, no routing decision in each node</p> </div>	c
20	<p>Virtual circuits approaches in packet switching techniques overall transmission speed transmission speed of circuit switching technique</p> <p>a. equals to b. less than c. more than d. can't be judged</p> <p>justification?</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p>VC divide data into packets, each node has to buffer the packets before forwarding these packets to the second node.</p> </div>	c
<p>The following figure describes the packet sizing effects on overall transmission speed.</p> <div style="text-align: center;">  </div> <p>The message consists of 40 octets; node adds 3 octets of control information at the beginning of each packet in the header, and data rate 1 octet/us, Ignoring switching time.</p>		

21	<p>In 1 packet message, total transmission time equals to</p> <p>a. 43 usec b. 129 usec c. 172 usec d. 49 usec</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $=3 \times (40+3) = 129 \text{ usec}$ </div>	B
22	<p>In 2 packets message, total transmission time equals to</p> <p>a. 138 usec b. 46 usec c. 92 usec d. 43 usec</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $=4 \times (20+3) = 92 \text{ usec}$ </div>	C
23	<p>In 5 packets message, total transmission time equals to</p> <p>a. 43 usec b. 165 usec c. 59 usec d. 77 usec</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $=7 \times (8+3) = 77 \text{ usec}$ </div>	d
24	<p>In 10 packets message, total transmission time equals to</p> <p>a. 84 usec b. 43 usec c. 51 usec d. 70 usec</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> $=12 \times (4+3) = 84 \text{ usec}$ </div>	a
25	<p>The optimum packet size is</p> <p>a. 40 octet b. 20 octet c. 8 octet d. 4 octet</p> <p>justify?</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> Smallest transmission time </div>	c