جامعة الأهرام الكندية
AHRAM CANADIAN UNIVERSITY
Faculty of Computer Science & IT

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

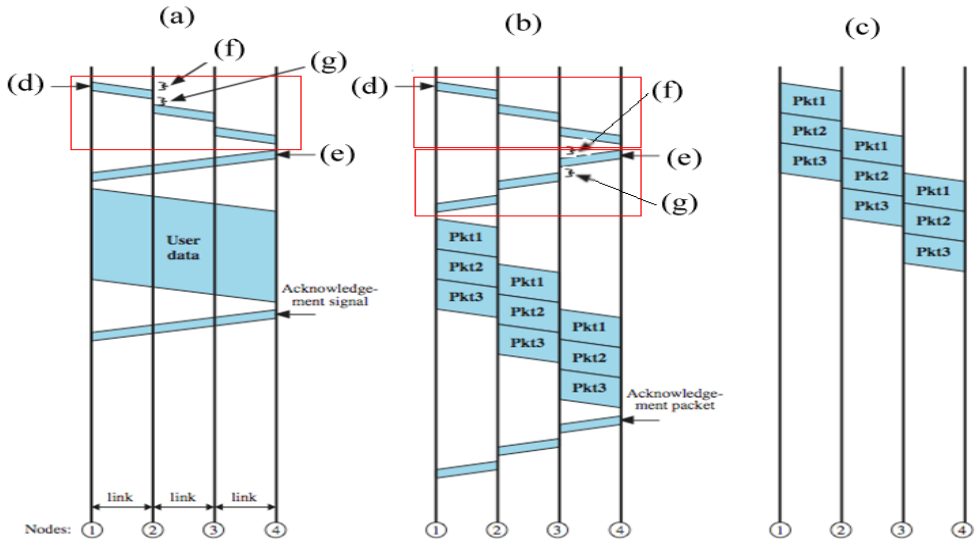
Exam number: Midterm II – Model Answer
Exam Date: 21/11/2011
Time Allowed: 90 minutes

Name: _____
ID: _____

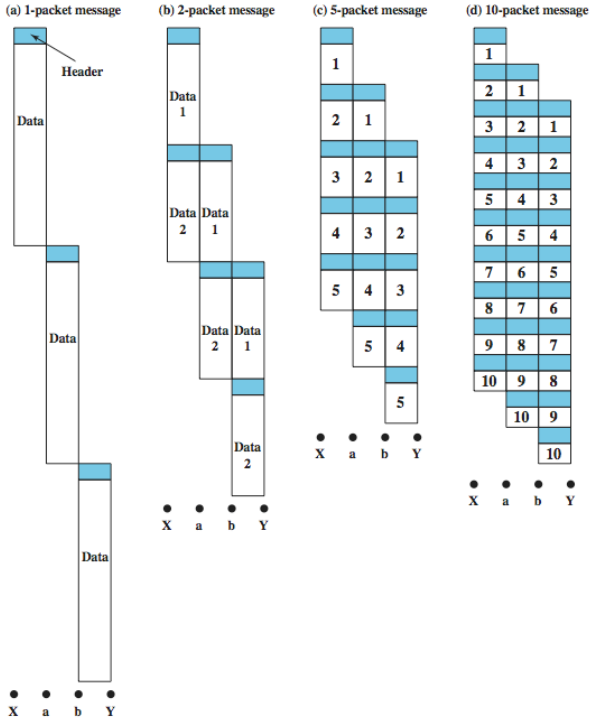
********** write your answer in the right column **********

Total
/30

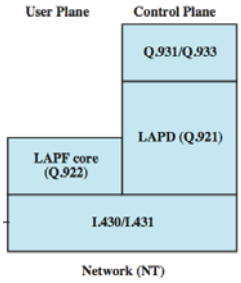
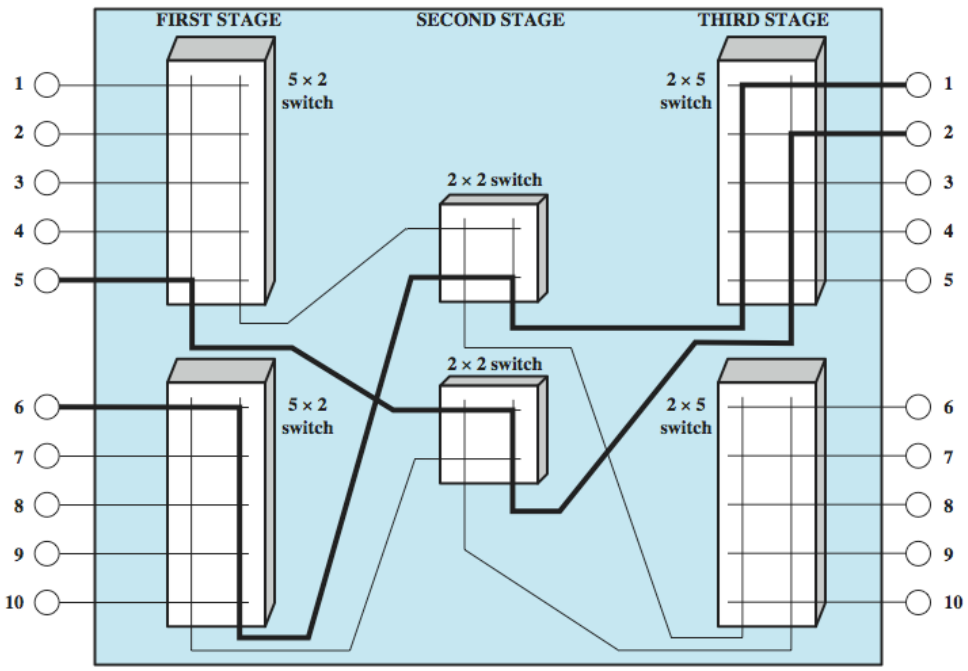
1	A switching devices whose purpose is to provide communication a. terminal b. node c. connector d. station	b
2	Which of the following process are not valid for circuit switching process (2) a. circuit disconnect b. circuit connection c. data transfer d. connection maintenance e. call establishment	c, e
3	Circuit switching almost maintain 100% utilization of network resources a. true b. false Why? Circuit switching links are fully dedicated to single connection during the whole call, so it can't achieve 100% utilization	b

4	Circuit switching originally developed for both data & voice transfer between terminals a. true b. false Why your answer? Circuit switching originally developed for voice exchanging between terminals, as links are fully dedicated for short period for single call	b
5	Trunks are multiplexed links that can connect user terminals to exchanges. a. true b. false Why your answer? Trunks are multiplexed links between exchanges to carry multiple calls between these switches. So they can't connect subscribers.	b
	The following figure shows three different approaches of switching 	
7	Sub figure (a) refers to a. frame relay b. Asynchronous Transfere Mode c. circuit cwitching d. data grame packet switching e. Virtual cirucit packet switching	c
8	Sub figure (b) refers to a. frame relay b. Assyncronus Transfere Mode c. Virtual cirucit packet switching	c

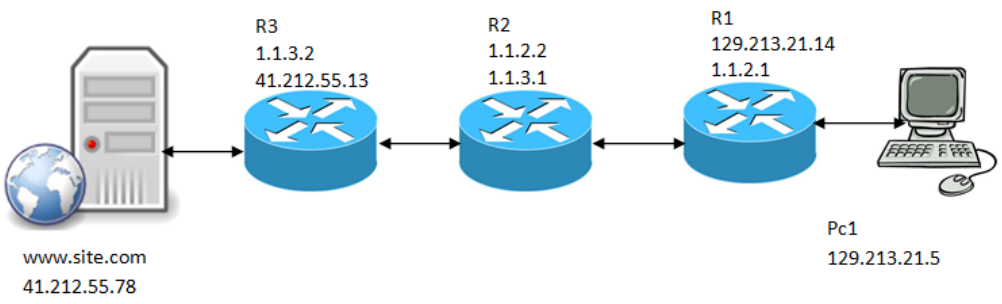
	d. data grame packet switching e. circuit cwitching	
9	Sub figure (c) refers to a. frame relay b. Assyncronus Transfere Mode c. Virtual cirucit packet switching d. circuit cwitching e. data grame packet switching	e
10	Process (d) called a. routing preparation process b. path clearance process c. call establishment process d. end to end path establishment process	c
11	Process (e) called a. Sequencing b. recovery c. acknowledgment d. responce	c
12	Delay (f) called a. node delay b. Tranmission delay c. Propagation delay d. transition delay	b
13	Delay (g) called a. node delay b. transition delay c. assembling delay d. transition delay	a

	The following figure describes the packet sizing effects on overall transmission speed.  The message consists of 30 octets; node adds 4 octets of control information at the beginning of each packet in the header, and data rate 1 octet/us, Ignoring switching time.	
14	In 1 packet message, total transmission time equals to =3x(30+4)=102 usec	102
15	In 2 packets message, total transmission time equals to =4x(15+4)=76 usec	76

16	In 5 packets message, total transmission time equals to =7x(6+4)=70usec	70
17	In 10 packets message, total transmission time equals to =12x(3+4)=84 usec	84
18	The optimum packet size is Smallest transmission time = 76 us	15 octet, 5 packets, 6 data + 4 control
19	X.25 protocol is not a reliable protocol which was solved in frame relay protocol a. true b. false Why X.25 is a reliable protocol unlike frame relay, as it sends acknowledgement for each packet sent	b
20	data link connection identifier (DLCI) is to identify a. virtual circuit in virtual circuit packet switching approach b. virtual path in Asynchronous Transfere Mode c. logical link in frame relay switching approach d. virtual channel in Asynchronous Transfere Mode	c

21	The following figure shows frame relay protocol architecture for network terminals. User plane contains only two layers while control plane contains 3 layers.  a. packet is fixed size, so no need to implement packet layer in nodes. b. data is not transmitted between nodes as packets. c. data packets share the same protocol (3rd layer) defined for control packets. d. sequencing is used for control packets and not used for data packets.	d
22	In the following multiple-stage switches, which of the following connection can be established (3)  a. 1L → 7R b. 4L → 4R c. 7L → 6R d. 9L → 3R e. 4L → 8R	a, c, e

23	For the previous multi stage switch, if the intermediate switches replaced with one 4x4 switch. Number of simultaneous blocking probability will a. remains the same b. half c. squared d. doubled	a
24	The most effective delay in packet switching technique, data gram approach is a. transmission delay b. node delay c. transition delay Why? Nodes take routing decision per packet	b
25	The most effective delay in packet switching technique, virtual circuit approach a. node delay b. transition delay c. Transmission delay Why? Packets use the same path during the call, no routing decision in each node	c
26	Virtual circuits approaches in packet switching techniques overall transmission speed ….. transmission speed of circuit switching technique a. equals to b. less than c. more than d. can't be judged Why? VC divide data into packets, each node has to buffer the packets before forwarding these packets to the second node.	c
27	TCP layer is reponsible of (3) a. packet data error checking b. packet data error recovery c. peer hosts connectivity d. peer applications connectivity e. communication session rialability	a, d, e

<table>
<tr><td>28</td><td>The tranmission delay equals to (2)
a. link speed/packet size
b. link length/wave propagation speed
c. node buffer length/packet length
d. node swithing speed.</td><td>A,
b</td></tr>
<tr><td></td><td> 
</td><td></td></tr>
<tr><td>29</td><td>Consider PC1 sending request to www.site.com, packet sent by R2 will contains
a.
<table>
<tr><td></td><td>Data link layer header</td><td>IP header</td><td>TCP header</td><td rowspan="3">Data</td><td rowspan="3">Tale</td></tr>
<tr><td>Source</td><td>R2</td><td>1.1.2.2</td><td>1588</td></tr>
<tr><td>Destination</td><td>R3</td><td>1.1.3.2</td><td>80</td></tr>
</table>
b.
<table>
<tr><td></td><td>Data link layer header</td><td>IP header</td><td>TCP header</td><td rowspan="3">Data</td><td rowspan="3">Tale</td></tr>
<tr><td>Source</td><td>R2</td><td>129.213.21.5</td><td>1588</td></tr>
<tr><td>Destination</td><td>R3</td><td>41.212.55.78</td><td>80</td></tr>
</table>
c.
<table>
<tr><td></td><td>Data link layer header</td><td>IP header</td><td>TCP header</td><td rowspan="3">Data</td><td rowspan="3">Tale</td></tr>
<tr><td>Source</td><td>R2</td><td>1.1.3.1</td><td>1588</td></tr>
<tr><td>Destination</td><td>R3</td><td>1.1.3.2</td><td>80</td></tr>
</table>
d.
<table>
<tr><td></td><td>Data link layer header</td><td>IP header</td><td>TCP header</td><td rowspan="3">Data</td><td rowspan="3">Tale</td></tr>
<tr><td>Source</td><td>1.1.3.1</td><td>129.213.21.5</td><td>1588</td></tr>
<tr><td>Destination</td><td>1.1.3.2</td><td>41.212.55.78</td><td>80</td></tr>
</table>
e.
<table>
<tr><td></td><td>Data link layer header</td><td>IP header</td><td>TCP header</td><td rowspan="3">Data</td><td rowspan="3">Tale</td></tr>
<tr><td>Source</td><td>1.1.3.1</td><td>1.1.2.2</td><td>1588</td></tr>
<tr><td>Destination</td><td>1.1.3.2</td><td>1.1.3.2</td><td>80</td></tr>
</table></td><td>b</td></tr>
</table>

30 Consider www.site.com is replying PC1, packet sent by R2 will contains

c

a.

	Data link layer header	IP header	TCP header	Data	Tale
Source	41.212.55.78	1.1.2.2	80		
Destination	129.213.21.5	1.1.2.1	1588		

b.

	Data link layer header	IP header	TCP header	Data	Tale
Source	1.1.3.1	41.212.55.78	80		
Destination	1.1.2.1	129.213.21.5	1588		

c.

	Data link layer header	IP header	TCP header	Data	Tale
Source	R2	41.212.55.78	80		
Destination	R1	129.213.21.5	1588		

d.

	Data link layer header	IP header	TCP header	Data	Tale
Source	R2	1.1.3.1	80		
Destination	R1	1.1.2.1	1588		

e.

	Data link layer header	IP header	TCP header	Data	Tale
Source	1.1.3.2	41.212.55.78	80		
Destination	1.1.3.1	129.213.21.5	1588		