

Quiz 2 Solution

رقم الشعبة: 1

رقم التسجيل:

الاسم:

Instructions: Time **10** minutes. Closed books and notes. No calculators. **No questions are allowed.**

Q1. For the network summarized by the numbers 10.192.2.128/26, complete the following table.

<2.5 marks>

The network address is	10.192.2.128
The 32-bit binary equivalent of this address is	0000 1010 1100 0000 0000 0010 1000 0000
The subnet mask is	255.255.255.192
The broadcast address is	10.192.2.191
The number of usable host addresses is	From .129 to .190 = 62

Q2. Do routers have IP addresses? If so, how many?

<1 mark>

..... **Yes, one IP address per router interface**

Q3. Suppose there are **four** routers between a source host and a destination host.

<2 marks>

(a) Ignoring fragmentation, an IP datagram sent from the source host to the destination host will travel over how many interfaces?

..... **source host + 4 x 2 per router + dest. host = 10**

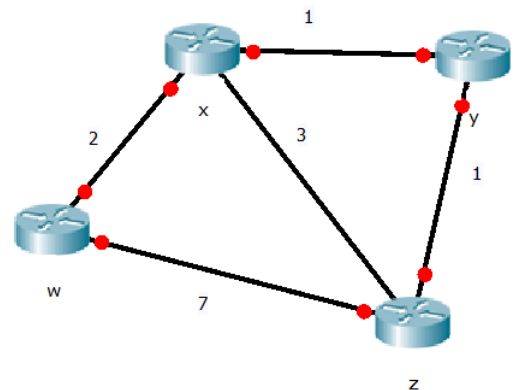
(b) How many forwarding tables will be indexed to move the datagram from the source to the destination?

..... **4 routers => 4**

Q4. A link-state routing algorithm is run on Router w of the network shown below. The network's links have the link costs indicated on each link. Using Dijkstra's algorithm, complete the following table.

<3.5 marks>

Step	N'	D(x), p(x)	D(y), p(y)	D(z), p(z)
1	W	2, w	∞	7, w
2	wx		3, x	5, x
3	wxy			4, y
4	wxyz			



<Good Luck>