ITS 323 – QUIZ 7 (ITA ANSWERS)

First name: _____ Last name: _____

ID: _____ Total Marks: _____
out of 10

Question 1 [2 marks]

Match the address/identifier types to their correct meaning (write either the letter or the full name). You can select from the following address/identifier types:

a. Port number

b. Hardware address

c. Protocol number

d. Domain name

e. IP address

_____ User-friendly identifiers for IP interfaces

_____ Logical addresses identifying a network interface

_____ Physical addresses specific to a LAN or WAN technology

_____ Identify application protocols

Answers

Port number: Identify application protocols

Hardware address: Physical addresses specific to a LAN or WAN technology

Protocol number: Identify the transport protocol

Domain name: User-friendly identifiers for IP interfaces

IP address: Logical addresses identifying a network interface

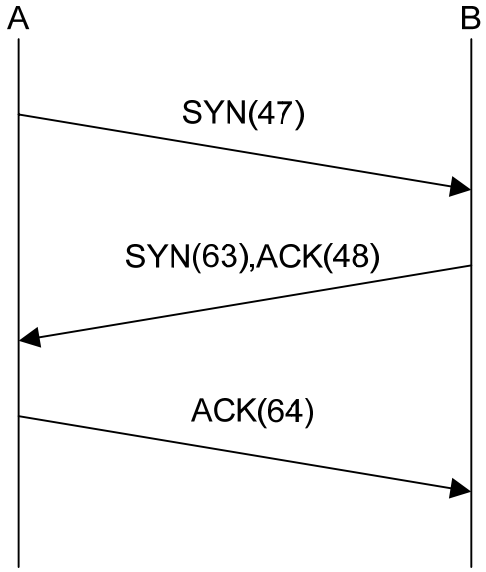
Question 2 [3 marks]

a) Draw a diagram to illustrate the TCP connection setup process between A and B. You must include the segment types as well as any other important information carried in the segments. Assume A chooses an initial sequence number of 47, and B chooses 63.

b) After the connection is setup, if the first data sent from B to A is a segment containing 1000 bytes of data, then what is the acknowledgement number sent from A to B in response?

Answers

a.



b. 1064

Question 3 [3 marks]

True or false:

a) UDP provides a full duplex connection. T / F

b) A single TCP segment may contain data, as well as an acknowledgment T / F

c) DNS maps IP addresses to hardware addresses T / F

Answers

False – UDP does not have a connection

True – A segment carrying data can also have the ACK flag set to indicate an acknowledgement

False – DNS maps domain names to hardware addresses

Question 4 [2 marks]

List the four addresses that identify a unique TCP connection:

1. _____
2. _____
3. _____
4. _____

Answer

Source port number

Destination port number

Source IP address

Destination IP address

Bonus Questions (marks from these questions are added to your overall quiz score from the five best quizzes; each part is worth 1 mark)

a) What is the broadcast address for the classless IP address 160.14.12.8/25?

Broadcast address: _____

b) What subnet mask should be used to create a network with a maximum of 62 hosts?

Subnet mask: _____

c) An IP router will change the IP address in an IP datagram before forwarding to the next router. T / F

d) The following hexadecimal address is an example of an Ethernet (or MAC) address: 00:17:31:E5:89 T / F

e) What is the network address for the classful IP address 190.3.254.16?

Network address: _____

Answers

a. 160.14.12.127

b. 6 bits gives 2^6 possible values, minus two special addresses gives 62 hosts. Hence the network portion of the address must be 26 bits and the host portion 6 bits. The subnet mask is /26.

c. False –the destination IP address in the datagram is always the final host destination – it remains the same as routers forward the datagram.

d. False – An Ethernet address has 48 bits – this is a 10 digit hexadecimal address which translates to 40 bits.

e. Class B address, hence network address is 190.3.0.0