Module 1: Introduction to Computer Networking

Total points 110/110

The respondent's email (**rnirosh134@cicracampus.net**) was recorded on submission of this form.

✓ What are the two additional layers that we have in IOS/OSI reference model compared to TCP/IP model? *10/10

- ○ Presentation and Network
- ○ Session and Transport
- ○ Network and Transport
- ◉ Session and Presentation ✓

✓ Which of the following statement is correct? * 10/10

- ○ Network layer protocol encapsulates data-link layer messages.
- ○ Transport layer protocol encapsulates network layer messages.
- ○ Application layer protocols encapsulate transport layer messages.
- ◉ Transport layer protocol encapsulates application layer messages. ✓

✓ Wireshark Packet sniffer * 10/10

- captures all application layer messages and cannot used to analyse transport layer data.
- (●) helps to analyse data link, network, transport and application layer protocols. ✓
- captures all message, but cannot use to analyse application layer protocols.

✓ Network layer protocol encapsulates data-link layer segment and create a network-layer datagram *10/10

- True
- (●) False ✓

✓ Suppose users share a 1 Gbps (Gigabits per second) link and each user transmits continuously at 100 Mbps (Megabits per second) when transmitting, but each user transmits only 50% percent at the time. Assume that the network use packet switching. Which of the following statements is correct? *10/10

- If 10 users transmit simultaneously, then there will be a significant queuing delay before the link.
- Since we use packet switching, we can have any number of users and they can transmit packets without a delay.
- (●) If 22 users transmit simultaneously, then there will be a queuing delay just before the link. ✓

✓ In TCP/IP model, each layer can perform all the tasks separately and is not relying on the services provided by the layer below. *10/10

- ○ True
- ◉ False ✓

✓ Suppose multiple users share a 40 Mbps link and each user transmits continuously at 10 Mbps. However, when they are transmitting, each user transmits only 40 % of the time. *10/10

When circuit switching is used, how many users can be supported?

- ○ 1
- ○ 6
- ○ 8
- ○ 2
- ◉ 4 ✓

✓ How long does it take to transmit 1500 Bytes in 100 kbps (kilobits per second link)? *10/10

- ○ 0.015 S
- ○ 0.15 S
- ○ 1.2 S
- ○ 0. 2 S
- ◉ 0.12 S ✓

✓ When a packet is transmitted in a network link (optical/wireless/ copper), it travels through that transmission medium to reach its destination. The time taken for a single bit to propagate from the link to its destination is called "propagation delay" which depends on the distance between the sender and the receiver and the link's propagation speed. *10/10

Propagation Delay = Distance between the sender and receiver/ link speed.

Let's say we are sending packets from Melbourne to Sydney (900 km) via an optical fibre. The propagation speed of the optical fibre is 3×108 m/s. What would be the propagation delay that those packets experienced?

- ◉ 3 ms ✓
- ○ 3 s
- ○ 300 ms
- ○ 0.03 s

✓ Which layer does not belong to the TCP/IP model? * 10/10

- (●) Presentation Layer ✓
- ( ) Transport Layer
- ( ) Data-Link Layer
- ( ) Network Layer
- ( ) Application Layer

✓ Which of the following protocol is not supported by the application layer of TCP/IP module? *10/10

- ( ) HTTP
- ( ) DNS
- ( ) SMTP
- (●) TCP ✓