

## Sample 'Computer Networks' Midterm

Each question is worth 5 points. You get 2 points for leaving an answer blank. You get no points for a wrong answer.

1. Define *network*. What are some uses of a typical data network?
2. Explain the terms *source*, *medium*, *sink*, and *protocol*.
3. Distinguish between LANs, MANs, and WANs.
4. Why are fully interconnected mesh networks rarely installed?
5. Why do ring networks often have two rings transmitting data in opposite directions?
6. What is the ISO's OSI reference model? Why is it important for you to learn about it?
7. What are the functions of the OSI physical link, data link, and network layers?
8. What is the function of the internet layer in a TCP/IP-based network?
9. Define the terms *segmentation* and *reassembly* as they apply to communication.
10. Explain the term *protocol stack*.
11. Identify several types of addresses that are required as a message moves from the application layer on one computer to the application layer on another.
12. Explain the term *modulation*. For what is it used?
13. Distinguish between *synchronous* and *asynchronous*.
14. Explain the difference between *time domain* and *frequency domain*. How do we go from one to the other?
15. Describe the function of a router. Explain why is it important for any routing technique to have alternate routes available to send messages.
16. Describe the difference between TCP, UDP, and IP. If you wanted to send a file, which one would you use? If you wanted to send live video, which one would you use?
17. What is the purpose of DNS? Explain how domain names are resolved.
18. Describe how TCP works; how it manages to be reliable over an unreliable network.
19. Explain the purpose of TCP/IP's sub-protocols such as: IP, ICMP, ARP, UDP, and TCP.
20. List all seven ISO's OSI layers, and their purpose.