



Computer Networks - Quiz 1

1. Give the names of the seven layers of the ISO Reference Model. [2 marks]
2. Which network topology is used in our lab LAN? What is the advantage of this? [3 marks]
3. Considering the ISO reference model, explain the main functions performed by a protocol operating at:
 - (i) The Network layer
 - (ii) The Transport layer [6 marks]
4. Explain in detail how a client and server transmit data using TCP protocol. Mention all the important steps. [6 marks]
5. For each of the following applications determine whether you would use TCP or UDP and explain the reasons for your choice.
 - i. Browser accessing IIT Goa website [2 marks]
 - ii. Video chatting with friend [2 marks]
6. What is packet loss? How can it happen? [3 marks]
7. What is propagation delay? [3 marks]
8. What are port numbers? Why are they used? [3 marks]
9. Explain in detail what happens when you type "www.google.com" in your web browser? Mention all the major steps which ensures that the website is loaded. [6 marks]
10. How long does it take a packet of length 1000 bytes to propagate over a link of distance 2,500km, propagation speed 2.5×10^6 m/s and transmission rate 2 Mbps? Does this delay depend on packet length or transmission rate? [6 marks]
11. What is a socket and what is its functionality? [2 marks]
12. What are the different Denial of Service attacks? Explain each one in 1 or 2 sentence. [5 marks]
13. Explain the difference between persistent and non-persistent HTTP? [3 marks]
14. What is the use of DNS? [2 marks]
15. Explain the distributed hierarchical organisation of DNS? [6 marks]