

Subject Title: Computer Networks

Prepared by: P. Sravani

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Unit - I:

1. Explain the term data communication and list its characteristics.
2. What are the five major components of data communications system?
3. Explain about various line configurations.
4. What are the various types of topologies? Explain in detail.
5. List and explain modes of data transmission.
6. Categorize the network based on their sizes.
7. Explain about various OSI reference model layers.
8. Responsibilities of all layers of OSI reference model.
9. Explain TCP/IP reference model.
10. Explain in detail about various types of guided & unguided transmission media.
11. Define multiplexing. Explain types of multiplexing.
12. Distinguish between synchronous and statistical TDM.

Unit - II:

13. Define error detection and list the various error detection techniques.
14. Explain VRC, LRC, CRC methods of error detection with the help of example.
15. Explain checksum method of error detection.
16. Define error. What are the two types of errors? Explain them.
17. Explain about error correction using Hamming
18. Explain the three data-link protocol functions.
19. Write short notes on LAN and IEEE 802.
20. Explain in detail different implementations of Token Ring.
21. Define switching and explain its types.
22. Write short note on Ethernet and implementations of Ethernet.

23. What is sliding window protocol? Explain the working of sliding window protocol.
24. Explain frame format of IEEE802.3?
25. Briefly discuss about Error control.

Unit - III:

26. What are repeaters? Explain the operations of repeaters.
27. Write about distance vector routing algorithm. What are the features of it.
28. Discuss about dijkstra algorithm for shortest path routing.
29. Explain about the services provided by transport layer protocols.
30. What are the functions of presentation layer?
31. Explain in detail about application layer.
32. What is shortest path routing algorithm?
33. Write short note on minor synchronization point.
34. What is encryption and decryption?
35. What are Bridges? Explain the types of bridges.
36. Discuss about the concept of Routers and switches.
37. Discuss in detail about conventional encryption methods.
38. Discuss in detail about DES encryption and Decryption.
39. Explain the working of digital signature.
40. Write about FTAM protocol.