St.Joseph's College of Arts and Science (Autonomous)

PG & Research Department of Computer Science

Subject: Data Communication Networks **Subject Code: CS613**

Class: III CSD A (SH-I) **Staff Name:** J.Antony Daniel Rex

UNIT_I

Five Mark Questions

1. What is a Network?
2. Define Protocol and Standard.
3. What is a protocol? What does it define? What are its key elements?
4. Summarize the functionality of various networking and internetworking devices.
5. What are the key elements of protocol? Why are standards needed?
6. List the types of line configuration and define three transmission modes.
7. What are the different categories of networks
8. Discuss various types of transmission modes.
9. Define Line configuration.

Ten Mark Questions

1. Discuss various types of topologies with diagrams.
2. Discuss any two types of networking and internetworking devices.
3. With a sketch, explain the various network topologies in detail.
4. Write a short notes on Network topology & Network Application

Unit-II

Five Mark Questions

1.What is modem?
2.List out and explain the various addresses handled by the layers of the OSI.
3.Discuss the TCP/IP protocol suite.
4.Define OSI.
5.Differentiate analog signal and digital signal.

Ten Mark Questions

1.Explain the functions of the layers.
2.Explain various types of signals with diagrams.
3.Summarize the duties of the various layers of an OSI Model.
4.Write an essay on analog signals.
5.Discuss in detail about the functions of OSI layers.
6.Explain the functions of the layers of OSI model.

7.Explain various types of signals with diagrams.
8.Describe the functions of the layers with a diagram.
9.Explain the significant role of TCP/IP protocol suite in networking.

Unit-III

Five Mark Questions

1. How for the fiber optic cable is better than the other mediums
2. List down the steps involved in creating a checksum
3. What is meant by Check sum?
4. What are the factors involved in media comparison?
5. How cyclic Redundancy check works?
6. State the five factors of media comparison
7. Mention the types of impairment in transmission.
8. Write a short note on a) FDM b) TDM c) WDM
9. What are the factors involved in media comparison?
10. Explain Time Division Multiplexing.

TEN Mark Questions

1. Explain the role of TDM in communication.
2. Explain the various types of transmission media.
3. Write short notes on transmission impairments
4. Discuss the significance of error detection and error correction with its methods.
5. Discuss any two types of networking and internetworking devices.
6. Mention the basic techniques used in multiplexing in detail.
7. Write a note on a) VRC b) LRC c) CRC

Unit-IV

Five Mark Questions

1. Summarize the functionality of various networking and internetworking devices
2. What is the use of switch?
3. Define Router.
4. Describe the functions of gateways.
5. Write a short note on packet switching.
6. What is the use of gateway in networks?

TEN Mark Questions

1. Elaborately discuss the approaches used in packet switching.
2. Elaborate the circuit switching.
3. Briefly write about the following i) Repeaters ii) Bridges iii) Routers
4. Compare circuit switching and packet switching.
5. Explain the working of circuit switching network.
6. Discuss about bridges and its various types.
7. Describe any two types of switching techniques.

Unit-V

Five Mark Questions

1. List out the key points of distance vector routing.
2. Present a short note on the categories of flow control
3. Explain the line discipline factor.
4. What is meant by routing?

TEN Mark Questions

1. With an example, explain the Link State Routing.
2. Explain link stage routing with a diagram.
3. Explain Distance Vector routing algorithm.

4. Describe the concept of flow control in data link.
5. Discuss the link stage routing with examples.
6. Explain the working of link state routing algorithm with an example.
7. Define flow control. Discuss about the various methods of flow control in data communication.

DATA COMMUNICATION AND NETWORKS

CS613 **M.VALLI- IIICSEB**

1. What is meant by Data Communication and Explain its Characteristics?
2. What are the components of Data Communication?
3. Explain different data flow directions.
4. What is Network and explain Characteristics of networks?
5. Write about different types of connections
6. Explain different types of topologies.
7. Explain different types of networks.
8. Write about protocol and standards.
9. Explain different layers in OSI model.
10. Explain the layers of TCP/IP model.
11. Write about Peer-to-peer processing.
12. Fundamentals of Data and signals.
13. Write about Digital Signals.
14. Write about composite Signals.
15. Different method for digital signal transmission.
16. Write about transmission Impairments.
17. Different Criteria for the performance of Networks.
18. Write about line coding and its characteristics.
19. Write about different Line Coding Techniques.
20. Write about different Block Coding Techniques.
21. Write about different Scrambling Techniques.
22. Explain Analog to Digital Conversion Techniques.
23. Different digital to analog conversion techniques.
24. Explain analog to analog conversion techniques.
25. What is Multiplexing and Explain different types of multiplexing?
26. Write about frequency division Multiplexing.

27. Write about wavelength division Multiplexing
28. Write about time Division multiplexing.
29. What are the different spread spectrum techniques?
30. What is transmission medium? What are the different types of transmission medium?
31. Write about Guided medium.
32. Write about Unguided medium.
33. What is Switching and what are the different types of switching techniques?
34. Write about circuit switched Network?
35. Write about Datagram Network.
36. Write about Virtual Circuit Network.
37. Explain different types of errors in data transmission.
38. Write about Redundancy, Detection Versus Correction, Forward Error Correction versus Retransmisssion and Coding.
39. Write about Block coding and Explain how the errors are detected and corrected using Block Coding?
40. What is Hamming distance and write about minimum Hamming Distance?
41. What is meant by Linear Block Code and Explain Simple Parity-check Code?
42. Write about Hamming codes.
43. What is cyclic code and explain cyclic Redundancy check(CRC) code?
44. Explain about checksum.
45. What is framing band Explain different framing algorithms?
46. Write about flow control and Error control.
47. Write about Simplest protocol.
48. Write about stop and wait with ARQ protocol.
49. Write about Go-Back-N ARQ Protocol.
50. Write About Selective repeat ARQ Protocol.
51. Write about Piggybacking protocol.
52. Explain about HDLC configurations, transfer modes and different types of frames.
53. Explain about control fields of HDLC frames.
54. Define Random Access and list three protocols in this category.
55. Write about ALOHA protocols.
56. Write about CSMA protocols.
57. Write about CSMA/CA Protocols.
58. Write about CSMA/CA protocols.
59. Define controlled access and list three protocols in this category.
60. Define Channelization and list three protocols in this category.
61. Write About different connecting devices.
62. Write about loop problem in transparent bridges.
63. Write about Bus Backbone Network.
64. Write about connecting Remote lans.

65. Explain process-to-process Delevery.
66. Explain about UDP.
67. Write about TCP Services.
68. Write about TCP segment?
69. Write about different steps to create a TCP Connection.
70. Write about Flow control in TCP.
71. Write about Error control in TCP.
72. What are the different services of SCTP?
73. What are the different features of SCTP?
74. Write about packet Format in SCTP?
75. How to create an SCTP Association?
76. Write about flow Control in SCTP?
77. Write about Error control in SCTP?