PART - A

Answer ALL questions. **(10 x 2 = 20 marks)**

1. Distinguish between broadcast and point-to-point links.
2. List the basic service primitives.
3. Bring out the significance of the 'apocalypse of two elephants' in reference models.
4. Give an example each for connection-oriented and connectionless services.
5. Describe physically a twisted pair.
6. What do you understand by 'virtual' and 'actual' communication?
7. Briefly explain the concept of 'piggy backing'.
8. What is the difference between single and burst errors?
9. What is overprovisioning?
10. Expand (i) ANS (ii) URL (iii) NSFNET and (iv) ANSI.

PART - B

Answer ANY FOUR questions. **(4 x 7.5 = 30 marks)**

11. Discuss the origin of the ARPANET.
12. Write short notes on (i) MAN and (ii) WAN. (3 + 4.5)
13. Explain the 'client-server' model in data communication.
14. Elucidate the features of the TCP/IP Model.
15. Enlist the various services offered by the data-link layer.
16. Explain the leaky bucket algorithm for achieving good quality of service.

PART - C

Answer ANY FOUR questions. **(4 x 12.5 = 50 marks)**

17. Give an overview of the 'Guided Transmission Media' commonly used.
18. Describe the basic characteristics and frame structure of High-level data link control (HDLC) protocol.
19. Explain the three basic encoding techniques for transforming digital data into analog signals.
20. Explain the architectural overview of World Wide Web with examples of your own.
21. Examine the various transmission impairments and comment on their effect on the information-carrying capacity of a communication link.
22. Enlist and explain the various techniques of 'framing' with neat diagrams.

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