

**2017-20**

*Time : 4 Hours*

*Full Marks : 80*

*Candidates are required to give their answers in their own words as far as practicable.*

*The questions are of equal value.*

*Answer any five questions.*

1. Explain the various layers present in OSI model and their functionality.
2. What do you mean by network topology? Explain the advantages and disadvantages of Bus, Star, Mesh and Ring topology.
3. What is Multiplexing? Compare and contrast TDM and FDM multiplexing techniques.
4. What is ETHERNET? What is difference between baseband and broadband? Also explain CSMA/CD and its use.

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(1)

(Turn over)

5. What is HDLC? Explain different types of HDLC frame type.
6. Discuss the concept of Switching. What are the three switching methods? Explain the types of switches used in circuit switching.
7. Explain the various protocols used at the network layer of the TCP/IP protocol suit.
8. Explain the working of distance vector routing protocol with an example.
9. What is IP Address? Explain various IP Address classes with suitable example.
10. Write short notes on following :
  - (a) Token Ring
  - (b) Piggybacking
  - (c) Network Operating System (NOS)
  - (d) MODEM