1. Answer in brief: 
   (a) Give the full form of following abbreviations:
       (1) WAN, FDM
       (2) TCP/IP, TDM
   (b) What is a protocol?
   (c) What is DEMULTIPLEXING?
   (d) What is attenuation?

2. (a) Explain the simplified communications model. 
   (b) With the help of diagrams show the simplified view of a portion of the Internet.

OR

2. (a) Explain the various types of networks. 
   (b) With reference to the Internet explain the following terminologies:
       CO, CPE, ISP, NAP, NSP POP.
3 (a) Discuss briefly the TCP/IP protocol architecture. 10
(b) Diagrammatically compare TCP/IP and OSI protocols. 4

OR

3 (a) Explain the Nyquist Bandwidth and Shannon Capacity formula. 8
(b) Differentiate between guided media and unguided media. 6

4 Write short notes on: (any two) 14
(1) TCP header
(2) OSI layers
(3) Wireless Transmission
(4) Noise