(3 Hours)   **(Total Marks: 80)**

N.B.: **(1) Question No.1 is compulsory.**
(2) Attempt any three questions from the remaining five questions.
(3) Make suitable assumptions wherever necessary but justify your assumptions.

Q.1. a. Explain in detail TCP Timers.	**05**
b. Compare Circuit-Switched Networks and Packet Switching Network.	**05**
c. What is the difference between MAC address and IP address ?	**05**
d. Explain Domain Name System (DNS).	**05**

Q.2.a. Explain in detail Link state routing.	**10**
Q.2.b. Explain the OSI model of Computer Network with a neat diagram .	**10**

Q.3.a. Explain in detail Classful and Classless IP addresses	**10**
Q.3.b. Explain in detail TCP header with diagram.	**10**

Q.4.a. Draw and explain guided and unguided transmission media.	**10**
Q.4.b. An organization is granted the block 18.0.0.0/8. The administrator wants to create 511 fixed-length subnets. a. Find the subnet mask. b. Find the number of addresses in each subnet.c. Find the first and the last address in the first subnet.	**10**

Q.5.a. Explain in detail Go-Back-N protocol.	**10**
Q.5.b. Explain in detail CSMA protocols.	**10**

Q.6.Write short notes on (Any Four)	**20**

a. OSPF
b. SNMP
c. VLAN
d. RPC
e. Image Compression

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