[Time: Three Hours]   **[Marks:80]**

Note:

1) **Q.1 is compulsory**
2) **Answer any 3 from Q2-Q6**

Q.1. Answer the following (5M each)

a) Consider five source symbols of a discrete memory less source their probabilities as shown. Follow the Huffman's algorithm to find the codewords for each message:

m1	m2	m3	m4	m5
0.4	0.2	0.2	0.1	0.1

b) Compare Bus and Star topology
c) Compare Message Switching and Circuit Switching
d) Compare LAN,MAN,WAN

Q.2. a) Draw and explain the OSI Reference Model.   (**10**)

Q.2. b) Generate the CRC code for a dataword 110010101.The divisor 10101. Check whether there are errors in the received codeword.   (**10**)

Q.3. a) Explain ALOHA and Slotted ALOHA.   (**10**)

Q.3. b) Compare wired and wireless media.   (**10**)

Q.4. a) Explain the IPV4 header format.   (**10**)

Q.4. b) Compare TCP and UDP.   (**10**)

Q.5. a) What is routing? Explain DVR with an example.   (**10**)

Q.5. b) Explain sliding window protocol.   (**10**)

Q.6. Write short notes on any four: (5M each)

a) Speech Compression
b) DNS
c) Congestion Control
d) TCP Timers
e) WWW

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