

(Duration: 3 Hrs)

[Total Marks: 80]

- N.B. 1) Question no. 1 is compulsory
2) Attempt any THREE questions from remaining FIVE questions.
3) Assume suitable data wherever necessary.
4) Figures to the right indicate Full marks.

Q.No.		Marks
Q.1	Attempt any FOUR questions out of the following questions.	
a)	In Go-Back-N ARQ, the size of the send window must be less than 2^m . Justify.	[5 Marks]
b)	Coaxial cable is much less susceptible to interference & cross talk than twisted pair. Why?	[5 Marks]
c)	Define the type of the following destination addresses; i) 4A:30:10:21:10:1A ii) FF:FF:FF:FF:FF:FF iii) 47:20:1B:2F:08:EE	[5 Marks]
d)	What is the difference between congestion control & flow control?	[5 Marks]
e)	What are the propagation time and transmission time for 2.5kbyte message (an e-mail) if the bandwidth of the network is 1 Gbps? Assume that the distance between the sender and the receiver is 12,000 km and that light travels at 2.4×10^8 m/s. Comment on the result.	[5 Marks]
Q.2	a) What is DSL technology? Explain various DSL technologies & compare them.	[10 Marks]
b)	Draw the OSI layer architecture. Explain the function of each layer and show the path of actual & virtual communication between the layers.	[10 Marks]
Q.3	a) Explain CSMA/CD & its use. What part of 802 Project uses CSMA/CD?	[10 Marks]
b)	Identify class of following IP addresses: i) 200.58.20.165 ii) 128.167.23.20 Also perform CIDR Aggregation of following; i) 200.96.87.0 /22 ii) 128.56.24.0 /22	[10 Marks]
Q.4	a) Explain Following protocols with an example: a) OSPF b) BGP	[10 Marks]
b)	Compare the following: i) TCP & UDP ii) SMTP & HTTP	[10 Marks]
Q.5	a) With reference to HDLC protocol, explain the following; i) HDLC frame format ii) Data transfer modes iii) Different HDLC frames iv) Importance of P/F bit v) Balanced & Unbalanced configurations	[10 Marks]
b)	Explain the following network connecting devices- i) Switch ii) Router iii) Gateway iv) Bridge v) Hub	[10 Marks]
Q.6	Write short note on- [Any Four] i) Data flow and Data communication components ii) Design Issues for the layers iii) RIP iv) DNS v) FDDI	[20 Marks]
