Code: 20CS3503, 20IT3503

III B.Tech - I Semester – Regular / Supplementary Examinations NOVEMBER 2023

COMPUTER NETWORKS
(Common for CSE & IT)

Duration: 3 hours   Max. Marks: 70

Note: 1. This paper contains questions from 5 units of Syllabus. Each unit carries 14 marks and have an internal choice of Questions.
     2. All parts of Question must be answered in one place.

BL – Blooms Level   CO – Course Outcome

			BL	CO	Max. Marks
UNIT-I					
1	a)	Examine the need of layering. Draw the seven layers of OSI model and explain the function of each layer in detail.	L2	CO1	7 M
	b)	A bit stream 1101010100110 is transmitted using the standard CRC method. The generator polynomial is x^5+x+1. What is the actual bit string transmitted? Calculate CRC at the receiver side also, and find out is there any error.	L2	CO2	7 M
OR					
2	a)	Explain guided transmission media in detail.	L2	CO1	7 M
	b)	Explain the operation of ARP with an example.	L2	CO2	7 M

UNIT-II

3	a)	What is packet switching? Explain in detail the datagram approach with the help of diagram.	L2	CO1	7 M
	b)	What parameters are used in measuring the performance of a network? Explain the types of Delays and how they are calculated?	L2	CO1	7 M

OR

4	a)	Both NAT and DHCP can solve the problem of a shortage of addresses in an organization, but by using different strategies. Justify the usage of each of these strategies.	L3	CO5	7 M
	b)	Explain IPv6 header Format. How it is differentiated from IPv4?	L3	CO5	7 M

UNIT-III

5	a)	Describe about Distance Vector Routing with an example. What are its limitations?	L2	CO3	7 M
	b)	Explain the need for fragmentation. Explain how IPv4 support fragmentation with an example.	L2	CO2	7 M

OR

6	a)	Explain BGP Protocol. Describe its routing functionality in detail.	L2	CO3	7 M
	b)	What is Routing? Explain how Link State Routing algorithm works with an example?	L2	CO3	7 M

		UNIT-IV			
7	a)	Write about TCP connection management in detail.	L2	CO5	7 M
	b)	What is Piggybacking? How sliding window protocols improve the performance using it?	L3	CO5	7 M
		OR			
8	a)	Is UDP performs better in Multimedia applications? If YES/NO, Justify.	L3	CO5	7 M
	b)	Discuss the RenoTCP and NewRenoTCP congestion control mechanisms. How the performance can be improved using NewRenoTCP over RenoTCP?	L3	CO5	7 M
		UNIT-V			
9	a)	How does DNS work? Explain with a neat sketch.	L2	CO4	7 M
	b)	What is Electronic mail? Describe in brief about Sending and Receiving e-mail.	L2	CO4	7 M
		OR			
10	a)	Define HTTP. Discuss in brief about HTTP.	L2	CO4	7 M
	b)	Explain the mechanism to transfer the files from one computer to another using FTP protocol.	L2	CO4	7 M