

Code: 20CS3503, 20IT3503

III B.Tech - I Semester – Regular / Supplementary Examinations
NOVEMBER 2024

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)	Explain the guided and unguided mediums in physical layer.	L2	CO1	7 M
	b)	Apply Cyclic Redundancy Check mechanism for the following: Data word:1001, Divisor: 1011. Check whether the frame is transmitted successfully to a Receiver or not.	L3	CO2	7 M
OR					
2	a)	Give a brief description about OSI/ISO Reference model.	L2	CO1	7 M
	b)	Describe the functions performed by Data Link Layer.	L3	CO2	7 M
UNIT-II					
3	a)	Describe IPv4 addressing and change the following IPv4 addresses from binary notation to	L3	CO2	7 M

		dotted decimal notation. (i) 10000001 00001011 00001011 11101111 (ii) 11000001 10000011 00011011 11111111															
	b)	Find the subnetwork address for the following.	L4	CO5	7 M												
		<table border="1"> <tr> <th>Sr. No.</th><th>IP Address</th><th>Mask</th></tr> <tr> <td>1.</td><td>141.181.14.16</td><td>255.255.225.0</td></tr> <tr> <td>2.</td><td>200.34.22.156</td><td>255.255.255.240</td></tr> <tr> <td>3.</td><td>125.35.12.57</td><td>255.255.0.0</td></tr> </table>	Sr. No.	IP Address	Mask	1.	141.181.14.16	255.255.225.0	2.	200.34.22.156	255.255.255.240	3.	125.35.12.57	255.255.0.0			
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2.	200.34.22.156	255.255.255.240															
3.	125.35.12.57	255.255.0.0															
OR																	
4	a)	State the difference Between IPv4 and IPv6.	L3	CO2	7 M												
	b)	Interpret the packet switching and circuit switching with advantages and disadvantages.	L3	CO2	7 M												
UNIT-III																	
5	a)	With the help of example describe distance vector routing algorithm.	L3	CO2	7 M												
	b)	What is routing? Give role of routing algorithm in routing. Explain the desirable characteristics.	L3	CO2	7 M												
OR																	
6	a)	Define Unicast routing and describe the various unicast routing protocols.	L3	CO4	7 M												
	b)	Illustrate the process of formation of Shortest Path Tree using Dijkstra Algorithm.	L4	CO5	7 M												
UNIT-IV																	
7	a)	Differentiate between TCP and UDP.	L3	CO3	7 M												
	b)	Draw and explain UDP datagram.	L4	CO5	7 M												
OR																	

8	a)	Explain stream delivery service sending and receiving buffer service of TCP.	L2	CO3	7 M
	b)	With the help of diagram describe pushing and pulling in the transport layer.	L3	CO3	7 M

UNIT-V

9	a)	Explain the various application layer services in detail.	L2	CO1	7 M
	b)	Give a brief note on Internet Mail Protocols.	L3	CO3	7 M

OR

10	a)	List the various principal DNS resource record types.	L2	CO1	7 M
	b)	Explain the standard Client -Server protocols with suitable examples.	L3	CO3	7 M