PVP 20

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

<table>
<tr><td></td><td></td><td>dotted decimal notation.
(i) 10000001 00001011 00001011 11101111
(ii) 11000001 10000011 00011011 11111111</td><td></td><td></td><td></td></tr>
<tr><td></td><td>b)</td><td>Find the subnetwork address for the following.
<table>
<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></td><td>L4</td><td>CO5</td><td>7 M</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td>4</td><td>a)</td><td>State the difference Between IPv4 and IPv6.</td><td>L3</td><td>CO2</td><td>7 M</td></tr>
<tr><td></td><td>b)</td><td>Interpret the packet switching and circuit switching with advantages and disadvantages.</td><td>L3</td><td>CO2</td><td>7 M</td></tr>
<tr><td colspan="6">UNIT-III</td></tr>
<tr><td>5</td><td>a)</td><td>With the help of example describe distance vector routing algorithm.</td><td>L3</td><td>CO2</td><td>7 M</td></tr>
<tr><td></td><td>b)</td><td>What is routing? Give role of routing algorithm in routing. Explain the desirable characteristics.</td><td>L3</td><td>CO2</td><td>7 M</td></tr>
<tr><td colspan="6">OR</td></tr>
<tr><td>6</td><td>a)</td><td>Define Unicast routing and describe the various unicast routing protocols.</td><td>L3</td><td>CO4</td><td>7 M</td></tr>
<tr><td></td><td>b)</td><td>Illustrate the process of formation of Shortest Path Tree using Dijkstra Algorithm.</td><td>L4</td><td>CO5</td><td>7 M</td></tr>
<tr><td colspan="6">UNIT-IV</td></tr>
<tr><td>7</td><td>a)</td><td>Differentiate between TCP and UDP.</td><td>L3</td><td>CO3</td><td>7 M</td></tr>
<tr><td></td><td>b)</td><td>Draw and explain UDP datagram.</td><td>L4</td><td>CO5</td><td>7 M</td></tr>
<tr><td colspan="6">OR</td></tr>
</table>

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