



School of Electronics Engineering
Winter Semester 2023-24

Programme : B.Tech (ECE)

CAT-II

Course Code : BECE401L

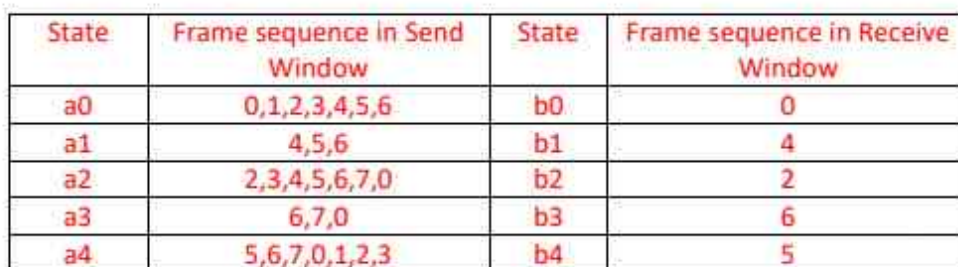
Course Name : Computer Communications and Networks

Slot : D1+TD1

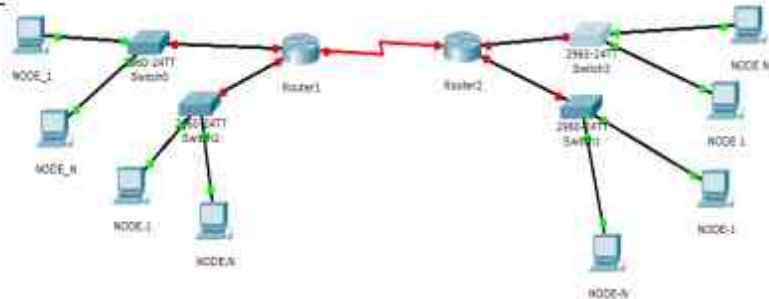
Date of Exam : 04-04-24

Max 50 Marks

Q.No	Question	Max Marks	CO	BL
1	a. Determine which of the following is a FQDN and which is a PQDN. i. xxx PQDN ii. xxx.yyy. FQDN iii. xxx.yyy.net PQDN iv. zzz.yyy.xxx.edu. FQDN b. Find the given domain is either generic or country specific or inverse domain. i. www.vit.ac.in Country ii. yyy.org Generic iii. 142.128.10.11 Inverse iv. zzz.ac.jp Country v. www.gmail.com Generic vi. yyy.mil Generic	4 + 6	CO - VI	BL2
2	Figure corresponds to an HDLC ABM frame exchange. Consider 3 bits to represent the sequence number. Complete the diagram by completing the labelling of the frame exchanges. 1) BI00 2) AI00 3) BI11 4) AI11 5) BI22 6) BI32 7) AI24 8) AI34 9) ASREJ2 10) AI24 11) BI42 12) AI45 13) BI54	10	CO - III	BL3
3	ii). In the data link layer of a computer network, bit-oriented framing and bit stuffing method is applied. Assuming that 10001-bit string is used as the starting and ending delimiter. a). 1 0 0 0 1 0 1 0 0 1 0 0 1 0 0 1 1 1 0 0 1 0 1 1 1 0 0 1 0 0 1 1 0 0 0 1 b). 1 1 0 1 0 1 1 0 0 1 0 0 0 0 1 1 0 0 1 0 0 0 1 1 i) Go back N protocol is used between the data link layers of machines A and B with a suitable window size at both sides. The figure below shows the a0 and b0 states of the sliding windows of machines A and B, respectively. Indicate the frame numbers that should be contained in the sliding windows and buffer memories at the sender and receiver for the states a0, b0, a1, b1, a2, b2, a3, b3, a4, and b4.	4 + 6	CO - III	BL3



- Find the range of Host IDs assigned to each subnet.
 - 171.17.220.65 - 171.17.220.126
 - 171.17.220.129 - 171.17.220.190
 - 171.17.220.193 - 171.17.220.254
 - 171.17.221.1 - 171.17.221.62
 - 171.17.221.65 - 171.17.221.126
- Assign 1st host ID of each subnet as the gateway address.
- Node1 assigned the 2nd host id and node number n assign the last host id.
- Router1 and Router 2 serial port to assign first and last usable address in the 885th subnet.
 - 171.71.221.65 - 171.71.221.126
- Find the broadcast ID of each subnet. 171.71.220.127, 171.71.220.191, 171.71.220.255, 171.71.221.63, 171.71.221.127
- Redraw the network diagram by representing the Host ID, subnetwork ID, gateway address.



5	Number of needed subnets 999 and Network Address 20.0.0.0 Find - Address class A - Default subnet mask 255.0.0.0 - Custom subnet mask 255.255.192.0 - Total number of subnets 1024 - Total number of host addresses 16382 - Number of usable addresses 16380 - Number of bits borrowed 10 - What is the 25th subnet range? 20.6.64.0 - 20.6.127.255 - What is the subnet number for the 499th subnet? 20.124.192.0 - What is the subnet broadcast address for the 501st subnet? 20.125.127.255 - What are the assignable addresses for the 600th subnet? 20.150.0.1 - 20.150.63.254	10	CO - V	BL3
---	---	----	--------	-----