**DEPARTMENT OF COMPUTER SCIENCE AND SCIENCE**

**COMPUTER NETWORKS LAB TEST QUESTIONS**

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|  | **PROGRAM LIST** |
|  | Configure the TCP/IP standard that uses a central server to manage IP addresses and other configuration details for an entire network for the below topology. |
|  | Assume that the systems within lab 1 of CSE department are connected to a LAN through a switch. Also the systems of lab 1 of Maths department are connected to a LAN through a switch. Lab 1 of CSE department has a router R1 which is connected to router R2 of Lab 1 of Maths department. The systems in both the labs are not configured with IP address statically. Provide the IP address dynamically by considering a server at one of the labs. Consider minimum of 4 machines at both labs. |
|  | Configure a dynamic routing protocol which uses hop count as a routing metric to find the best path between the source and the destination network for the below topology. |
|  | Consider XYZ Bank’s Hanumanthanagar branch and Jayanagar branch. At both branches the systems are connected using LAN. Both the branches have a default gateway configured and the information sent from Hanumanthanagar branch systems to Jayanagar branch systems travels through an intermediate router. The routers used have dynamic routing protocol installed. This dynamic routing protocol works in such a way that the routers first identify the entire topology using advertisement packets and then the data is transmitted. Identify the protocol and simulate the same for the environment described above. The number of systems at Hanumanthanagar branch is 5 and at Jayanagar branch is 4. |
|  | Design a network to show how interior gateway protocol works which in turn uses Link state routing approach. Assume 6 nodes, with minimum four area boundaries defined. |
|  | Consider ABC Bank’s Hanumanthnagar branch and Gandhibazar branch. At both branches the systems are connected using LAN. Both the branches have a default gateway configured and the information sent from Hanumanthnagar branch systems to Gandhibazar branch systems travels through two intermediate routers. The routers used have dynamic routing protocol installed. The protocol works based on hop count measure. Identify the protocol and simulate the same for the environment described above. The number of systems at Hanumanthnagar branch is 5 and at Gandhibazar branch is 4. |
|  | Create a simple topology of four nodes (Node1, Node2, Node3, Node4) separated by a point-to-point link. Setup a UdpClient on Node1 and a UdpServer on Node2. Let the data rate be set 8 Mbps and the delay be 3ms. Now Setup another UdpClient on Node4 and a server instance on Node3. Let the data rate be set 7 Mbps and the delay be 1 ms. Set the parameters for the clients. Run the simulation and observe the results. |
|  | Create a simple topology of four nodes (Node1, Node2, Node3, Node4) separated by a point-to-point link. Setup a UdpClient on Node1 and a UdpServer on Node2. Let the data rate be set 5 Mbps and the delay be 2 ms. Now Setup another UdpClient on Node3 & Node 4 and a server instance on Node2. Let the data rate be set 7 Mbps and the delay be 1 ms. Set the parameters for the clients. Run the simulation and observe the results. |
|  | Create a topology as given below  10.1.1.0 30.1.3.0  m0--------- m1 -------------- n1 n2 n3 n4 -------------- n5--------n6  point-to-point | | | | point-to-point  =============  LAN 20.1.2.0  Choose a node from point-to-point network as a client and one from the LAN as server. Run the simulation and observe the results. |
|  | Create a topology as given below  20.1.1.0  m0--------m1 ------------- n1 n2 n3 n4  point-to-point | | | |  ==============  LAN 30.1.2.0 |