NATIONAL UNIVERSITY OF MODERN LANGUAGES
DEPARTMENT OF SOFTWARE ENGINEERING

SEMESTER 5 SESSION Spring 2023

Assignment No. 3. CLO-3

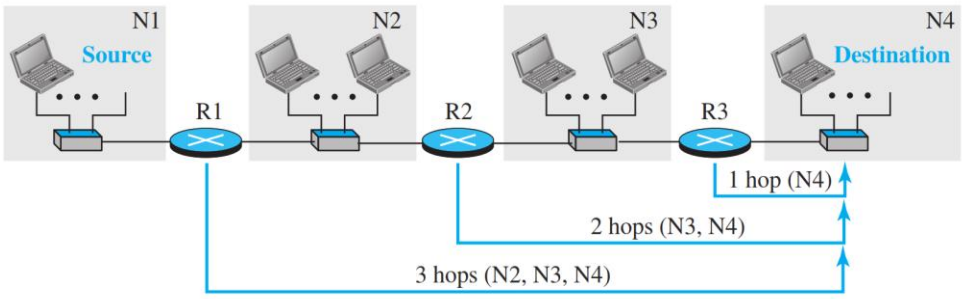
Marks 10

Computer Networks

1. How is a repeater different from an amplifier?
2. What do we mean when we say that a switch can filter traffic? Why is filtering important?
3. How is a hub related to a repeater?
4. What is the difference between a forwarding port and a blocking port?
5. How does a VLAN save a company time and money?
6. How does a VLAN provide extra security for a network?

7. Rewrite the following IP addresses using binary notation:
   a. 110.11.5.88
   b. 12.74.16.18
   c. 201.24.44.32
8. P18-3. Rewrite the following IP addresses using dotted-decimal notation:
   a. 01011110 10110000 01110101 00010101
   b. 10001001 10001110 11010000 00110001
   c. 01010111 10000100 00110111 00001111

9. Explain the concept of hop count in RIP. Can you explain why no hop is counted between N1 and R1 in Figure 1?



10. Assume that the shortest distance between nodes a, b, c, and d to node y and the costs from node x to nodes a, b, c, and d are given below:
    $D_{ay} = 5$, $D_{by} = 6$, $D_{cy} = 4$, $D_{dy} = 3$, $C_{xa} = 2$, $C_{xb} = 1$, $C_{xc} = 3$ $C_{xd} = 1$
    What is the shortest distance between node x and node y, Dxy, according to the Bellman-Ford equation?

Note: submission date **31 May 2023** submit within the due date else 50% make will be graded for late submission and late work will not be accepted after that once exams start. All submissions shall be made to the CR who will submit them to the class teacher.