# Primeasia University

*a mission with a vision*

## Department of Computer Science and Engineering (CSE)

Final Examination (Part-1) Fall Semester, 2020

**Course No. : CSE 411** **Full Marks: 25**

**Course Title: Computer Network** **Time: 60 mins**

**Answer all the Questions. Figures in the right-hand margin indicate full marks.**

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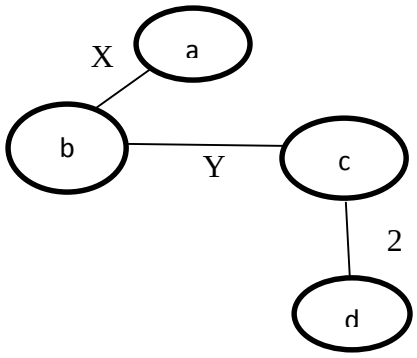
1. Suppose, we have a network which is consists of two layer-2 switch, one layer-3 switch and two end devices. If we want to transfer data from this network to another established network which is consists of router, switch and end devices, can it be possible? Explain. 3

2. Autonomous System (AS) number is used by Routing Protocol Algorithm. In the internet, there are two different AS protocols are used- inter-AS and intra-AS. Explain why we use these two different protocols. 2

3. Consider the following network and assume that each node initially knows the costs to each of its neighbors. Consider the distance vector algorithm and show the entries for each node. Here XY is your ID, suppose your ID is 132-027-042, then X = 2, Y = 7. As per ID calculation if the value of X = 0 and Y = 0, then make it 1. 4




4. Suppose, at time $t_0$, Alice wants to send data to Bob. Bob has only one buffer and the rate of data transfer from Alice to Bob is very high. At time $t_2$, the buffer of Bob is full, but Alice does not know that situation. In this case, whether the data will be accepted by Bob or will be discarded? Explain. 2

5. We know that, there are two types of Protocol Suites, TCP and UDP. If we use an application which uses UDP Protocol Suite, is it possible for that application to enjoy reliable data transfer even when the application runs over UDP? If it is possible then how, explain. 2

6. Assume an ISP(Internet Service Provider) is assigned an address block, and consider one of the address from that block is 184.73.XY.0/26. (Suppose, ID is 142-011-042, then X = 1 and Y = 1 . You have to consider your ID and as per your ID set the values of XY, if X = 0 and Y = 0 then make it 1). 4
   Calculate the followings:
   i) Number of subnetworks created from this ip address
   ii) Number of ip addresses residing in each subnetwork
   iii) Network address of each subnetwork
   iv) First and Last assignable ip address of each subnetwork
   v) Broadcast address of each subnetwork
   Specify each step of calculation very clearly.

7. Suppose, there are 3 users A, B and C and they share a link which is 4 Mbps. Each user transmits continuously at 2 Mbps when transmitting, but each user transmits only 35 percent of the time. If in this scenario, circuit switching is used, then how many users can be supported at a time? Explain with appropriate example. 3

8. Determine whether the following statements are True/False, if False give the correct statement: 3

   a) When an OSPF route sends its link state information, it is sent only to those nodes directly attached neighbors.
   b) For research purpose 223.123.23.1 ip address is used.
   c) In packet switching full link bandwidth is used.

9. Fill in the blanks with appropriate words: 2

   a) De Encapsulation is started from frame and ended at _____.
   b) Upgrade version of CIDR value is _____.