



## Department of Computer Science and Engineering

### Faculty of Science & Information Technology

Midterm Exam Examination, Summer 2021 @ DIU Blended Learning

Center Course Code: CSE313 (EVE), Course Title: Computer Networks

Level:2 Term:2 Section: (B)

Instructor: MMA Modality: Open Book Exam

Date: Sunday 4July,2021 Time:07:15pm- 9:45pm

**Two and half hours (2:30) to support online open/case study based assessment Marks:25**

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**Answer all of the following questions. Figures in the right-hand margin indicate full marks.**

[1] a) Let, there are four departments in DIU. You have got the network address 128.118.0.0. Prepare an IP addressing plan for these four departments with the following questions with proper calculation. 7

- Find out the first host address of 1<sup>st</sup> usable subnet.
- Find out the last host address of 2<sup>nd</sup> usable subnet.
- What is the network address of 3<sup>rd</sup> usable subnet?
- What is the broadcast address of 4<sup>th</sup> usable subnet?
- What is the total number of usable hosts in each subnet?

b) Consider yourself a very efficient worker. You are given a network address 192.168.21.0/24. Your manager asked your help to generate subnets for 4 department with below requirement- 5

- Department A: 14 hosts
- Department B: 118 hosts
- Department C: 50 hosts
- Department D: 24 hosts

What will be the network and broadcast addresses of 4 departments? Describe with proper calculation.

c) Suppose, a router has a packet containing data, source IP address and destination IP address and other necessary information. How the router can help the packet to reach its appropriate destination? Explain with figure. 3

[2] Suppose, you are having a communication with a client situated in Australia. You need 5 to make a reliable data transfer with him from Bangladesh. Explain the best possible mechanism (**no data loss**) to do this with proper figure.

[3] What happens when a receiver do not receive the data at the same rate of transmission 5 by the sender? What is the mechanism to overcome this problem?

Write the subnet mask for the following classful IP addresses.

**192.168.19.12**

**11.14.11.10**

**132.14.13.19**