Assignment 1

Course: CSE405 (Sec 1, Sec 2 and Sec 3)

Due Date: 29 April (Thursday) 2021

Marks: 20

Please answer the following questions.

Question 1. Describe briefly the waiting convention of Binary Exponential Backoff (BEB) algorithm. Illustrate how and when two hosts A and B get into collision consecutively if sets to pick elements for the hosts are *set = {0,1,2,3,4,5,6,7}* and *set = {0,1,2, ……., 14,15}* respectively. Propose and justify a solution how consecutive collisions can be minimized. (4+2+6) = 12 marks

Question 2. Consider A is the source and D is the destination in the following figure. Find and analyze the contention period for the node A. Assume the LAN uses CSMA/CD protocol for channel allocation purposes, τ_{A-E} is the propagation delay for the two farthest hosts and propagation delay τ_{A-D} is less than τ_{A-E}. (3+5) = 8 Marks