Institute of Business Administration
MIS & CS Department
CSE-556 Internetworking
Fall Semester 2002
Second Hourly Test
October 5, 2002

Time Allowed: One Hour **Total Marks: 100**

Instructions

1. Attempt all questions. Maximum/Total Marks are 100. All questions carry 20 points.
2. Time allowed is 1 hour.
3. Do NOT write on the Question Paper. Provide your answers on the answer sheet provided for this purpose.

Question 1:

Draw a table comparing the eight different types of transmission media (five guided and three un-guided) used primarily for data communications as discussed in the class in terms of data rate, cost, interference characteristics, distance, propagation delay and licensing requirements. Please only use short phrases and do not describe in detail.

Question 2:

Using bit stuffing show how the following sequence of data will be transmitted:

01111101011111101011111001111011101111110001

Question 3:

Compare the HDLC frame with the PPP frame. For any differences provide a justification.

Question 4:

Calculate and verify the Frame Check Sequence (FCS) using Cyclical Redundancy Check (CRC) for a message $M = 11101010111$ with $P = 11011$.

Question 5:

Compare the utilization using Stop and Wait Flow Control for a 100m long optical fiber LAN link with a geo-synchronous Satellite link when both are operating at 100 Mbps with a frame size of 8000 bytes.

Bonus Question (10 points):

Explain why a sequence number field of n-bits in the frame header allows a window size of $2^n - 1$ to be used for flow/error control instead of 2^n.