Name: _____   **Roll No.**_____
Section: _____

Computer Networks Final Exam Fall 2012   **Total marks: 50**   **Time allowed: 2.5 hours**

NOTE: Write **only** in the space provided for the answers. No extra sheet will be provided
        This exam consists of 8 questions on 5 pages (You can use back side of each page for rough work).

Q1. How do you compare Datagram Subnets to Virtual Circuit Subnets? State three differences (6)

Q2. How simultaneous data and voice communication is possible in Digital Subscriber's Line using DSL modem. Why this cannot be done using an ordinary modem? (4+3)

Q3. The polynomial generator $x^4+x^3+x^2+1$ is used for communication between two machines **A** and **B**. Machine **A** wants to send bit stream of 101011111 to machine **B** using the Cyclic Redundancy Check method. Show the actual bit stream transmitted. (4)

Q4. State four advantages of subnetting. Find the maximum number of hosts a network can handle with a subnet mask of 255.255.240.0. (4+2)

Q5. What are Hidden Station and Exposed station problems? Which of these problems is solved using MACA protocol and how? Explain with the help of diagram (4+4)

Q6. What potential problem can occur in distance vector routing protocol. Describe with the help of an example subnet. Do you think this protocol is scalable? Please describe

the reason (Scalable means that a protocol performance does not degrade as the network size increases) (5+4)

Q7. How Tomlinson's solution solves problem of delayed duplicates in data TPDU? (6)

Q8. How three way handshake protocol is used for identifying delayed duplicates in connection TDPUs? (4)