Network Protocols - Assignment II

(Probable assignment conduction dates: anytime from Feb 16, 2015)

1) With a neat diagram, explain the different fields of the IP datagram header.

2) A datagram contains 4000 bytes of data and no options. This datagram is fragmented into two fragments consisting of 2500 bytes and 1500 bytes respectively. The fragment containing 1500 bytes is further fragmented into two fragments consisting of 1000 bytes and 500 bytes respectively. Draw a neat diagram representing the fragmentation. Show the values of all the fields which are relevant to fragmentation.

3) With a neat diagram, explain, record-route type of option.

4) A router with IP address 125.45.23.12 and Ethernet physical address 23:45:AB:4F:67:CD has received a packet for a host destination with IP address 125.11.78.10 and Ethernet physical address AA:BB:A2:4F:67:CD.
   a) Show the entries in the ARP request packet sent by the router.
   Assume no subnetting.
   b) Show the entries in the ARP packet sent in response to part a.
   c) Encapsulate the packet made in part a in a data link frame. Fill in all the fields.
   d) Encapsulate the packet in part b in a data link frame. Fill in all the fields.

5) With pseudo code, explain ARP Output Module.