



EEC173B/ECS152C

Winter 2006

Homework 3 (due Feb 2)

1. **(18%) Wireless cellular network.**
 - a) (6%) What is the difference between HLR and VLR?
 - b) (6%) What is registration? When does it happen?
 - c) (6%) Which network elements are involved in the registration process?
2. **(32%) Mobile IP**
 - (a) (8%) List the entities of mobile IP and describe data transfer from a mobile node to a fixed node and vice versa. Why and where is encapsulation needed?
 - (b) (6%) Show the steps required for a handover from one foreign agent to another foreign agent, including layer 2 and layer 3.
 - (c) (6%) Explain packet flow if two mobile nodes communicate and both are in foreign networks. What additional routes do packets take if reverse tunneling is required?
 - (d) (6%) Name the inefficiencies of mobile IP regarding data forwarding from a corresponding node to a mobile node. What optimizations are possible and what additional problems do they cause?
 - (e) (6%) What is the basic purpose of DHCP and how can it be used for supporting mobility?