

PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENGINEERING

Final Examination Semester II : Academic Year : 2002
Date : 25 February 2003 Time : 13.30 – 15.30 Room : R300
Subject : 240-544 Telecommunication, Wireless and Mobile Networking

Instruction:

- Make sure that there are 6 questions in your exam paper.
- This exam is **closed book** and you have 2 hours to complete your exam.
- All of your answers can be written either in Thai or English.
- Dictionary and Calculator are allowed.
- No palm pilots or other hand held computers are allowed.

Wireless Local Area Network: IEEE 802.11

1. Draw a figure of IEEE 802.11 Wireless LAN Architecture and give the definitions of Basic Service Set (BSS), Access Point (AP), and Extended Service Set (ESS).
(2 points)
2. Provide a detailed description of how IEEE 802.11 MAC works. How does PCF/DCF coexist? (8 points)
3. What is the purpose of PCF-IFS (PIFS), DCF-IFS (DIFS) and Short-IFS (SIFS) time intervals and how are they used? (3 points)
4. Explain briefly the following questions
 - a) Hidden terminal problem (2 points)
 - b) IEEE 802.11 Power Management (2 points)
 - c) Difference between probe and beacon (3 points)

Mobile IP

5. Explain how does Mobile IP operate and detail three protocol mechanisms as follows:
 - Advertisement,
 - Registration, and
 - Tunneling.(6 points)
6. Limitation in using agent advertisement to drive Mobile IP handoff. (4 points)

Suntorn Witosurapot
February 2003