

Roll Number:

**UNIVERSITY DEPARTMENTS, ANNA UNIVERSITY, CHENNAI**  
**B.E./B.TECH(Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL/MAY 2011**  
**COMPUTER SCIENCE & ENGINEERING BRANCH**  
**SIXTH SEMESTER – REGULATIONS 2009**  
**CS9352: MOBILE AND PERVASIVE COMPUTING**

41

Time: Three hours

Max.Marks:100

**Answer All Questions**  
**Part – A (10X2 = 20 Marks)**

1. Distinguish features of WiFi and WiMax.
2. In a CDMA system users A and B have 8 bit Walsh codes  $(-1\ 1\ -1\ 1\ -1\ 1\ -1\ 1)$  and  $(-1\ -1\ 1\ 1\ -1\ -1\ 1\ 1)$  respectively. Simultaneously, A transmit a data bit 0 and B transmit a data bit 1. The receiver Rx wants to tune to B, show the output at Rx if the received signal power from A is twice that of B.
3. How are the additional elements in GPRS mapped with GSM?
4. Draw sequence diagram for mobile originated call in a cellular network.
5. Compare pure ALOHA and Slotted ALOHA. How are collisions avoided during data transmission?
6. What are the features of WML scripts?
7. What are the three classes of transaction service offered by WTP to the higher layer?
8. List the three low power states and security levels of Bluetooth device.
9. Draw block diagram showing the email access via WAP phone.
10. List the required features for Human-device interface for pervasive computing scenario.

**Part – B (5X16 = 80 Marks)**

11. a) Explain a suitable MAC scheme that can give hard guarantees related bandwidth and delay. (8)  
b) Describe solutions to hidden and exposed terminal problems. (8)
  12. a) Explain synchronization management in MAC layer of IEEE802.11 (16)  
(OR)  
b) Describe the Channel Access Control(CAC) sub layer of HIPERLAN. (16)
  13. a) i. Describe how tunneling works mobile IP with generic encapsulation. (8)  
ii. Explain how DHCP works and be used for mobility support? (8)  
(OR)  
b) i. How does DSR routing handle routing? (8)  
ii. Describe any one of the multicast routing algorithms. (8)
  14. a) Explain the working principle of Snooping TCP. Compare it with other schemes. (8+8)  
(OR)  
b) Describe WAP architecture. Explain WWW programming model. (10 +6)
  15. a) i. Explain secure pervasive web application architecture. (10)  
ii. How do you use biometrics for authentication? (6)  
(OR)  
b) i. What are the requirements for pervasive computing? How do you realize them? (10)  
ii. How do you synchronize data among devices? (6)
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