

R09

Code: 9A04806

B.Tech IV Year II Semester (R09) Advanced Supplementary Examinations, July 2013

**WIRELESS COMMUNICATIONS AND NETWORKS**

**(Common to ECE & ECC)**

Time: 3 hours

Max Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 (a) Explain the different variations of the CSMA protocol.  
(b) If a US AMPS cellular operator is allocated 12.5 MHz for each simplex band as if  $B_t$  is 12.5 MHz,  $B_{\text{guard}}$  is 10 KHz, and  $B_c$  is 30 KHz. Find the number of channels available in an FDMA system.
- 2 (a) Discuss the first and second generation wireless networks.  
(b) Differentiate connection oriented and connectionless services.
- 3 (a) List the link layer characteristics for CDPD.  
(b) With a neat diagram explain the SS7 protocol architecture.
- 4 (a) With a neat diagram explain the different operations involved when IP datagrams are exchanged over a connection between the mobile node and another host.  
(b) When would each of the three WTP transaction classes be used?
- 5 (a) What are some key advantages of infra red LANs?  
(b) With a neat diagram explain IEEE 802.11 frame structure.
- 6 (a) Explain the different applications areas supported by Bluetooth.  
(b) List and briefly explain L2 CAP logical channels.
- 7 (a) With a neat diagram explain GPRS technique.  
(b) Discuss short messaging service in GSM.
- 8 (a) Explain the different layers of ATM.  
(b) Differentiate adhoc network with wireless LAN.

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