Hall Ticket Number :										

R-14

Code: 4G385

IV B.Tech. II Semester Supplementary Examinations March 2019

Wireless Communication & Networks

(Electronics & Communication Engineering)

Max. Marks: 70 Time: 3 Hours

Answer *all five* units by choosing one question from each unit (5 x 14 = 70 Marks)

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UNIT–I

1. a) Explain the concept of Frequency reuse. 6M
   b) If a normal GSM time slot consists of 8 trailing bits, 12 guard bits, 26 synchronization Bits and three bursts of 58 bits of data, find the frame efficiency of GSM TDMA frame. 8M

OR

2. a) Derive the expression for the system spectral efficiency of FDMA. If a US AMPS cellular operator is allocated 15 MHz total spectrum, guard band is 10 KHz and full duplex channel bandwidth is 40 KHz & number of channels allocated for control signaling is 20. Find the spectral efficiency of FDMA. 7M
   b) Explain with a block diagram the working of Frequency hopped spread Spectrum. What is the difference between Fast frequency hopping and Slow Frequency Hopping? 7M

UNIT–II

3. a) Illustrate the Signaling System No-7 architecture with a diagram. 10M
   b) List the differences between wireless and fixed telephone networks. 4M

OR

4. a) Explain ATM protocol stack. Explain the functions of each layer. 7M
   b) Explain the ATM cell header with a diagram. Mention the functions of VCI, Payload Type, Cell Loss Priority and Header Error Control. 7M

UNIT–III

5. a) Explain Wireless Datagram Protocol. 8M
   b) What is Wireless Markup Language Script? What are the major difference between JavaScript and WML Script? 6M

OR

6. a) Explain the following:
      i. A *home agent* (HA)
      ii. A *foreign agent* (FA)
      iii. Foreign agent care-of address
      iv. Co-located care-of address 10M
   b) Explain the process of tunneling in mobile IP. 4M

UNIT–IV

7. a) Discuss protocol architecture of IEEE 802.11. 8M
   b) Explain radio specifications and baseband specification of Bluetooth. 6M

OR

8. a) Write short notes on narrowband microwave LANs 8M
   b) Explain *Logical Link Control and Adaptation Protocol* (L2CAP). 6M

UNIT–V

9. a) What is CDPD? Explain the reference architecture in CDPD. 8M
   b) Explain the features of HiperLAN. 6M

OR

10. a) Explain the protocol layers in GPRS 10M
    b) What is HiperLAN/2? 4M

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