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13MCA31

Third Semester MCA Degree Examination, Dec.2017/Jan.2018
Computer Networks

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions.

- 1 a. Explain TCP/IP protocol suite with a neat diagram. (10 Marks)
- b. Explain the terms:
 - (i) MAN
 - (ii) WAN
 - (iii) PAN
 - (iv) LAN
 - (v) Network protocols. (10 Marks)
- 2 a. What is transmission impairment? Explain the different types of transmission impairments with examples. (10 Marks)
- b. Explain NRZ-L, NRZ-I, Manchester, RZ and differential Manchester encoding schemes for the data 0 1 1 0 1 0 0 1. (10 Marks)
- 3 a. What is digital modulation? Explain FDMA, TDMA and CDMA techniques in detail. (10 Marks)
- b. Explain the feature, characteristics and drawbacks of 1G, 2G, 3G and 4G mobile telephone communications. (10 Marks)
- 4 a. Explain sliding window algorithm in detail. (10 Marks)
- b. Explain CRC error detection technique with an example. (10 Marks)
- 5 a. Explain the functionality of Ethernet (802.3). Give its frame format. Explain its merits and demerits. (10 Marks)
- b. With a suitable diagram explain IPV₄ header and explain the advantages of IPV₆ over IPV₄. (10 Marks)
- 6 a. Explain Leaky bucket algorithm in detail. Compare it with token bucket algorithm. (10 Marks)
- b. Explain classless routing (CIDR) and Interdomain routing (BGP) in detail. (10 Marks)
- 7 a. Explain the connection establishment and connection release using 3-way handshake protocol. (10 Marks)
- b. Explain the TCP header format with a suitable diagram. (10 Marks)
- 8 Write short notes on:
 - a. Wireless sensor networks.
 - b. RFID
 - c. DNS
 - d. UDP. (20 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.