Total No. of printed pages = 4

CS 131605

21/06/18

Roll No. of candidate

2018

B.Tech. 6th Semester End-Term Examination

COMPUTER NETWORKS

Full Marks – 100   Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer Q.No. 1 and any *six* from the rest.

1.   Answer the following questions :   (10 × 1 = 10)

   (a)   During connection establishment, in TCP, the
         mode of data transmission is

      (i)   Full-Duplex

      (ii)   Half-Duplex

      (iii) Simplex

      (iv)   None of these

   (b)   Internet is a

      (i)   LAN   (ii)   WAN

      (iii) MAN   (iv)   Both LAN and MAN

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(c) The main function of transport layer is

    (i) Synchronization

    (ii) Node- to-node delivery

    (iii) Process-to-process delivery

    (iv) Updating routing table

(d) Unguided signals can propagate in ———————— ways.

    (i) One   (ii) Three

    (iii) Two   (iv) Eight

(e) Which of the following multiplexing techniques involves signals composed of light beams?

    (i) FDM   (ii) TDM

    (iii) WDM   (iv) All of these

(f) CRC computation is based on

    (i) OR operation

    (ii) AND operation

    (iii) XOR operation

    (iv) NOR operation

(g) If a codeword in hamming code is of seven bits, then how many parity bits it contains?

    (i) 2   (ii) 7

    (iii) 3   (iv) 9

(h) In which of the following protocols, a station sends a frame whenever it wants?

    (i) Pure ALOHA

    (ii) Slotted ALOHA

    (iii) Both (i) and (ii)

    (iv) None of these

(i) How many bits are allocated for the host ID in an IP address of class A?

(i) 8   (ii) 24

(iii) 48   (iv) 16

(j) TCP exchanges data in the form of

(i) Datagrams (ii) Packets

(iii) Segments (iv) Frames

2. Answer the following questions :

(a) Explain the layers of OSI reference model. (10)

(b) Compare OSI model with TCP/IP model. (5)

3. Answer the following questions :

(a) What will be the checksum of the transmitted data 10110011 10101011 01011010 11010101?

(5)

(b) Compare TCP and UDP. Which one is more reliable and why? (5)

(c) What will be the message to be transmitted using CRC, if the data is 100101 and divisor is 1100? (5)

4. Answer the following questions :

(a) What is transmission media? Explain the different types of transmission media. (8)

(b) What is electronic mail? How it works? (4)

(c) What is burst error? Explain with example. (3)

5. Answer the following questions :

 (a) What are the causes of transmission impairments? (5)

 (b) State the principles of pure ALOHA and slotted ALOHA. (5)

 (c) What is hamming distance? Find the hamming distance between the two pair of words d(10110, 11011). (5)

6. Answer the following questions :

 (a) What is shortest path algorithm? Explain with the help of a suitable example? (10)

 (b) Explain client/server and P2P architecture with suitable diagram. (5)

7. Answer the following questions :

 (a) What is congestion? Why do we need congestion control? What are its categories? (10)

 (b) Explain the components of data communication system. (5)

8. Answer the following questions :

 (a) What is multiplexing? Explain the different types of multiplexing? (8)

 (b) What do you mean by data transmission? Explain the modes of transmission with diagram. (7)

9. Write short notes on the following: (5+5+5)

 (a) ARP and RARP

 (b) SNMP and HTTP

 (c) ICMP and DHCP.

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