Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐☐

H 2186

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2009.

Eighth Semester

Electrical and Electronics Engineering

EE 049 — COMPUTER NETWORKS

(Common to Mechatronics Engineering)

Time : Three hours   Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is the difference between a service-point address, a logical address and a physical address?

2. Name the four factors needed for a secure network.

3. What is peer-to-peer process?

4. What strategies have been devised for the transition of IPV4 to IPV6?

5. What is the difference between 10 Base-2 and Gigabit Ethernet?

6. When you want to send an e-mail, what happens if your computer cannot find a DNS server?

7. Discuss the purpose of using routers in Internetworking?

8. What is the function of DHCP?

9. What is the difference between pure ALOHA and slotted ALOHA?

10. How is secret key different from a private key?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Describe the standardization of OSI layer. (8)

     (ii) Discuss the various topologies and their suitability for computer networking. (8)

Or

(b) A bit stream 1010001011 is transmitted using the standard CRC method. The generator is $g(x)=x^4+x^3+x^2+1$. Show the actual bit string transmitted. Suppose the second bit from the left is inverted during transmission, show that this error is detected at the receiver's end. (16)

12. (a) (i) Explain the mechanism of CSMA/CD. (6)

     (ii) Discuss the different type of switching technologies and compare the advantages and disadvantages of each. (10)

Or

(b) Describe the functions and Protocol architecture of Bridge in LAN. (16)

13. (a) (i) Discuss the difference between OSI and TCP/IP reference model. (8)

     (ii) Explain the TCP Entity State with Diagram. (8)

Or

(b) (i) Briefly explain the services provided by TCP. (10)

     (ii) Explain the functions of the session layer. (6)

14. (a) (i) Explain the different encryption methods with examples. (8)

     (ii) Discuss the mechanisms of SMTP and FTP. (8)

Or

(b) (i) Describe the principal characteristics of ISDN. (8)

     (ii) Discuss the relationship between the ISDN layers and OSI model layers. (8)

15. (a) (i) Explain the format of SNMP messages. (8)

       (ii) Discuss the various issues and tools in managing the performance of a network. (8)

Or

(b) Briefly explain the SNMP Architecture. (16)

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