[5254] - 92

B.E. (Electronics) (Semester - II)
COMPUTER NETWORK AND SECURITY
(2008 Pattern)

Time : 3 Hours]   *[Max. Marks : 100*

Instructions to the candidates :

   1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6 from Section - I.
   2) Attempt Q.7 or Q.8, Q.9 or Q.10, Q.11 or Q.12 from Section - II.
   3) Answers to the two sections should be written in separate books.
   4) Neat diagrams must be drawn whenever necessary.
   5) Assume suitable data, if necessary.

SECTION - I

Q1) a) With diagram explain various types of networks? **[8]**

b) What is the relation between service, primitive and protocols? Explain with an example. **[6]**

c) With diagram and application explain the working of X.25. **[4]**

OR

Q2) a) Discuss the compatibility of layers in OSI and TCP/IP reference model.**[8]**

b) What are the various types of addressing? Explain. **[8]**

c) Justify horizontal and vertical communication in networks. **[2]**

Q3) a) With proper diagram and example explain the working of TELNET. **[6]**

b) Develop an advertisement using HTML tags. **[6]**

c) What is the significance of Ping and Traceroute? When is it used? **[4]**

OR

Q4) a) Explain the working of Email with proper diagrams. **[6]**

b) What is socket programming? Where and when is it used? **[6]**

c) How does www work? Elaborate. **[4]**

P.T.O.

Q5) a) How does process to process delivery happen? Explain with diagrams. **[6]**

   b) Describe in detail Path vector routing. **[6]**

   c) What is the significance of ICMP and IGMP? How does each work? **[4]**

<div align="center">OR</div>

Q6) a) What are various Network layer issues? Discuss each in detail. **[8]**

   b) Explain with suitable diagram TCP connection Establishment, TCP data transfer and TCP connection Termination. **[8]**

<div align="center">

SECTION - II

</div>

Q7) a) Explain protocols of noiseless channel. **[6]**

   b) What is bridged and switched Ethernet? Explain each. **[6]**

   c) How does a controlled access techniques work? Explain any one. **[6]**

<div align="center">OR</div>

Q8) a) What are the basic functions of datalink layer? Elaborate each. **[6]**

   b) Explain the working of datalink layer of IEEE 802.11. **[6]**

   c) How does virtual LANs work? Explain with its application. **[6]**

Q9) a) Explain in detail the structure and working of any one guided media. **[6]**

   b) A channel has a B.W. of 5KHz and signal to noise ratio power ratio is 63. Determine the Bandwidth Needed if the S/N power ratio is reduced to 31. **[4]**

   c) What is a SONET? How does it work? What is its application? **[6]**

<div align="center">OR</div>

Q10) a) Give the application of each type of switching technique? **[4]**

   b) With diagram explain the working of microwave communication. **[6]**

   c) How does physical layer of IEEE 802.15 WPAN work? Give diagram. **[6]**

Q11) a) Draw and explain Cryptography model. **[6]**

   b) Explain with steps UTP cabling PC to PC communication. **[6]**

   c) How is internet accessed through leased line? Draw diagram. **[4]**

<div align="center">OR</div>

Q12) a) Draw and explain network security model. **[6]**

   b) How does cable tester work? Where is it used? **[4]**

   c) What is the use of Hash functions? How do they work? **[6]**

<div align="center">▽ ▽ ▽ ▽</div>