

Reg. No. : \_\_\_\_\_

**Question Paper Code : 11298**

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2011

Sixth Semester

Electronics and Communication Engineering

EC 2352 — COMPUTER NETWORKS

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions

PART A — (10 × 2 = 20 marks)

1. List out the four basic Network topologies.
2. Distinguish between ADSL and SDSL.
3. Define flow control and error control.
4. How is a repeater different from an amplifier?
5. Find the class of each address
  - (a) 00000001 00001011 00001011 11101111
  - (b) 14.23.120.8
6. Draw the general format of ICMP messages.
7. Suppose a TCP connection is transferring a file of 5000 bytes. The first byte is numbered 10,001. What are the sequence numbers for each segment if data are sent in five segments, each carrying 1000 bytes?
8. Mention the techniques used to improve QOS in process-to-process delivery.
9. Why do we need POP3 or IMAP4 for E-mail?
10. Differentiate ciphertext and plaintext.

PART B — (5 × 16 = 80 marks)

11. (a) Describe briefly the various layers and functions of OSI model and compare OSI Model with Internet model. (16)

Or

- (b) Briefly explain the different types of packet switching techniques with suitable networks. Write each of its advantages and disadvantages. (16)

12. (a) (i) What is CSMA/CD? How does it work? Distinguish between 1-persistent and non-persistent CSMA. (8)

- (ii) Explain in detail about the frame format and control field of HDLC. (8)

Or

- (b) (i) Draw and explain the frame format of Standard Ethernet. What are the physical media that Ethernet can run over? (8)

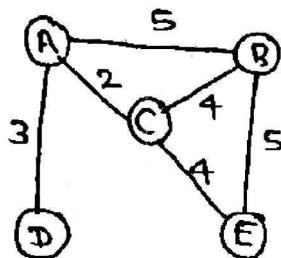
- (ii) Briefly explain the Bluetooth Technology. List out the applications and limitations of Bluetooth Technology. (8)

13. (a) Explain the various classes of Internet (IPv4, IPv6) addressing with suitable examples. (16)

Or

- (b) (i) Briefly explain IGMP message format and IGMP operation. (8)

- (ii) Tabulate the shortest path between all nodes for the following network using distance vector routing. (8)



14. (a) (i) Draw the structure of TCP segment. Explain the features of TCP. (8)  
(ii) What do you understand by "3-way Hand shake" in TCP? Explain. (8)

Or

- (b) (i) Explain congestion control with a suitable example. Discuss various categories of congestion control. (8)  
(ii) Define QOS. Elaborate the characteristics of QOS. (8)
15. (a) (i) Describe how SMTP protocol is used in E-mail applications. (8)  
(ii) Illustrate the operation of FTP with a neat sketch. (8)

Or

- (b) Explain the following :  
(i) Symmetric key and public key cryptography (8)  
(ii) Digital signature. (8)