17216(N)

B. Tech 5th Semester Examination

Computer Networks (CBS)

CS-501

Time : 3 Hours   Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Attempt five questions in all selecting one question from each of the section A, B, C and D of the question paper and all the subparts of the section E.

SECTION - A

1. (a) Define protocol architecture. Explain TCP/IP model. (6)

    (b) Explain various transmission modes used in computer networks. (6)

2. (a) With relevant examples differentiate between simplex, half duplex and full duplex communication. (3)

    (b) What is the difference between a protocol and a service interface? (3)

    (c) Explain different multiplexing techniques with example. (6)

SECTION - B

3. (a) Discuss the MAC layer functions of IEEE 802.11. (6)

    (b) Explain HDLC protocol in detail. (6)

4. (a) Define CRC. Explain CRC generator & CRC checks in detail with one example. (3)

    (b) Define FDDI & its needs in detail. (6)

    (c) Write a brief note on virtual LANS. (3)

SECTION - C

5. (a) What is meant by IP addressing? Discuss in detail the various aspects of IPv6 and IPv4. (6)

    (b) Write a note on transition from IPv4 to IPv6. (6)

6. (a) What are various types of messages supported by ICMP? (6)

    (b) Describe the IPv4 header in detail along with the neat diagram. (6)

SECTION - D

7. (a) Why is a three way handshake done in TCP and not UDP protocol? (3)

    (b) Explain Domain hierarchy. (3)

    (c) Explain SMTP, HTTP, SNMP. (6)

8. (a) Give the architectural overview of World Wide Web. (4)

    (b) Explain the role of a DNS on a computer network. (4)

    (c) Explain client server protocols. (4)

SECTION - E (Compulsory)

9. (i) What is the difference between network service and transport service?

    (ii) Define Bit stuffing.

    (iii) How does a DNS Resolver bootstrap the domain name lookup process?

    (iv) Define SMTP.

    (v) Define Piggybacking.

    (vi) Draw the process of error detection in block coding? (2×6=12)