V Semester B.C.A. Examination, March/April 2022
(Y2K14 – CBCS) (F + R)
COMPUTER SCIENCE
BCA 501 : Data Communication and Networks

Time : 3 Hours   Max. Marks : 100

Instruction : *Answer all Sections.*

SECTION – A

I. Answer **any ten** questions. **Each** question carries **2** marks.   (10×2=20)

1) What is Topology ?
2) What is Datagram ?
3) Define the term encryption and decryption.
4) What is a switch ?
5) Define line coding and unipolar encoding.
6) Write the applications of co-axial cable.
7) What is pipelining ?
8) What is CRC ?
9) What is a gateway ?
10) What is polling ?
11) Define thin and thick ethernet.
12) What is congestion ?

SECTION – B

II. Answer **any five** questions. **Each** question carries **5** marks.   (5×5=25)

13) Explain FTP in detail.
14) Explain the different communication modes.
15) Explain SONET multiplexing in detail.
16) Explain CRC method for error detection with an example.
17) Explain sliding window flow control protocol.
18) Write the comparison between FDMA and TDMA.

19) Explain FDDI Frame structure in detail.

20) Explain Dijkstra's Algorithm by taking an example.

SECTION – C

III. Answer **any three** questions. **Each** question carries **15** marks.   (3×15=45)

21) a) Explain OSI Model in detail.   8
    b) Explain HTTP in detail with basic operations and key attributes.   7

22) a) Explain the different scheduling approaches to medium access model.   10
    b) Explain Slotted Aloha.   5

23) a) Explain IEEE standard 802.5 token ring.   9
    b) What is Bridge ? Explain the various types of Bridges.   6

24) a) Explain in detail :
       i) Twisted pair cable
       ii) Fiber optic cable.   8
    b) Explain space division switching.   7

25) a) Explain structure of packet switch.   8
    b) Explain Leaky Bucket Algorithm.   7

SECTION – D

IV. Answer **any one** question. **Each** question carries **10** marks.   (1×10=10)

26) Explain TCP/IP model in detail.

27) Explain digital modulation in detail.