(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0386 | Roll No. |

B. Tech.

(SEM. VIII) EXAMINATION, 2008-09

DATA COMMUNICATION NETWORKS

Time : 3 Hours]   *[Total Marks : 100*

Note :   (1)   Attempt all questions.

(2)   All questions carry **equal** marks.

(3)   Be precise in your answer.

(4)   No second answer book will be provided.

1   Attempt any **four** of the following: 5×4=20

(a)   Discuss design issues for the layered architecture of data communication.

(b)   Classify service primitives. Define protocol. Discuss the service primitive, used for connection oriented services.

(c)   Compare EIA RS-232C and ETA RS-449.

(d)   Discuss the specifications of Ethernet.

(e)   What is Multiplexing ? Compare TDM and FDM.

(f)   Discuss the salient features of Hybrid switching with relevant example.

2   Attempt any **four** of the following: 5×4=20

(a)   Discuss the salient features of charter oriented and bit oriented protocols.

(b) What is the importance of Data link layer ? Discuss the services it is providing to Network layer.

(c) What are the IEEE standards develop for Local Area Networking ? Explain their working.

(d) Explain the working of stopard wait ARQ and GO-Back, N ARQ

(e) For p=110011 and M = 11100011, find CRC.

(f) Differentiate between pure and slotted ALOHA. Show frame transmission and vulnerable time for slotted ALOHA and prove that the maximum utilization of slotted ALOHA occurs at G=1 with value 36.8%.

3 Attempt any **two** of the following: **10×2=20**

(a) Discuss the design issues of Network layer with example. Explain Bell man-Ford routing algorithm.

(b) Differentiate between open loop and closed loop congestion control. How traffic policing differs from traffic shapping ? Explain leaky bucket algorithm.

(c) Discuss the role of Bridges routers Gatways in Internet connection. List the message types associated with Internet Control Message Protocol (ICMP).

4 Attempt any **two** of the following: **10×2=20**

(a) Discuss the design issues of Transport layer. Explain the term connection management.

(b) Explain TCP transmission policy and congestion control.

(c) Discuss the performance issues of computer Network.

5   Attempt any **four** of the following: 5×4=20

    (a)   TCP / IP protocol suite

    (b)   Addressing mechanism of TCP /IP

    (c)   DNS

    (d)   FTP

    (e)   SMTP

    (f)   Relevance of w.w.w.