



Printed Pages : 3

TEC – 802

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

**PAPER ID : 0386**

Roll No.

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## 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 character oriented and bit oriented protocols.

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(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 Gateways 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.
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