

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

**PAPER ID : 1078**Roll No. 

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**B.Tech.**

SS

(SEM VI) EVEN SEMESTER THEORY EXAMINATION,  
2009-2010

**COMPUTER NETWORKS**

Time : 3 Hours

Total Marks : 100

- Note :** (i) Attempt *ALL* questions.  
(ii) You may make suitable assumptions where necessary.

1. Attempt *any four* of the following :
- (a) Which OSI layer handles each of the following ?
    - (i) Framing
    - (ii) Routing
  - (b) What are the two reasons for using layered protocols ?
  - (c) How much minimum bandwidth is required to digitally transmit a analog stream which is generated at 50 kHz after manchester encoding ?
  - (d) State with reasons if circuit switching is better suited for real time traffic.
  - (e) What are the number of cable links required for  $n$  devices connected in mesh, ring, bus and star topology ?

2. Attempt *any four* parts of the following :

- (a) Write three major problems with CDMA (Code Division Multiple Access)
- (b) 128 input callers are to be connected to 128 outputs. Using the 3-stage switching structure. If there are 16 first stage and third stage matrices then how many cross points are needed if the structure is to be non-blocking.
- (c) What are the problems encountered when IEEE 802.4 LAN as source is connected to IEEE 802.3 LAN as destination ?
- (d) What is the band rate of the standard 10 Mbps 802.3 LAN ? Explain your answer ?
- (e) Explain the binary exponential back off algorithm ?

3. Attempt *any two* parts of the following :

- (a) What are the network number, subnet number, and host number for address 135.104.192.100, mask 255.255.128.0 ?
- (b)
  - (i) Explain ARP (address resolution protocol) and RARP (reverse ARP) ? What is an ARP-cache ?
  - (ii) Is CIDR network prefix visible outside IP network ? Justify ?
- (c)
  - (i) What are the limitations of leaky bucket algorithm ? How are they resolved ?
  - (ii) Write a brief note on traffic shaping ?

4. Attempt *any two* parts of the following :

- (a) Explain TCP congestion control algorithm in Internet ?
- (b) Explain TCP segment header ? Also discuss the TCP connection management ?
- (c) Discuss various Qos (qquality of services) primitives looked at transport layer.

5. Attempt *any two* parts of the following :

- (a)
  - (i) When web pages are sent out, they are prefixed by MIME headers. Why ?
  - (ii) Explain the difference between http and https protocols ?
- (b) What is the difference between active and dynamic web page ? Explain the structure of interface between access of a data base over webpages ?
- (c) Write short notes on :
  - (i) DNS
  - (ii) SNMP
  - (iii) XML

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