

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

PAPER ID : 110601 Roll No. 

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**B.Tech.**

(SEM. VI) THEORY EXAMINATION 2013-14

**COMPUTER NETWORK**

Time : 3 Hours

Total Marks : 100

Note :- (1) Attempt **all** questions.

(2) All questions carry equal marks.

1. Attempt any **four** parts of the following : **(5×4=20)**

- (a) Discuss the TCP/IP protocol suite on the basis of protocol layering principle.
- (b) Define topology and explain the advantage and disadvantage of Bus, Star and Ring topologies.
- (c) Explain briefly the bus backbone and star backbone.
- (d) Explain the user access in ISDN.
- (e) Compare twisted pair, co-axial and fiber optic cable.
- (f) Explain the various types of Switching Methods with suitable examples.

2. Attempt any **four** parts of the following : **(5×4=20)**

- (a) State drawbacks of stop and wait protocols.
- (b) What is piggybacking ?
- (c) Which are the requirements of CRC ?



- (d) How can you compare pure ALOHA and Slotted ALOHA ?
- (e) Explain about CSMA/CD and CSMA/CA and its uses.
- (f) Differentiate between 802.3, 802.4 and 802.5 IEEE Standards.

3. Attempt any **two** parts of the following : **(10×2=20)**

- (a) What is meant by fragmentation ? Is fragmentation needed in concentrated virtual circuit internets, or in any datagram system.
- (b) Give an IP address, how will you extract its net-id and host-id and compare IPv4 and IPv6 with frame format.
- (c) (i) What is meant by unicast and multicast routing with suitable diagrams ?  
(ii) Write a short note on Leaky bucket algorithm.

4. Attempt any **two** parts of the following : **(10×2=20)**

- (a) Explain about the TCP header and working of TCP protocol and differentiate between TCP and UDP with frame format.
- (b) Define cryptography with the help of block diagram of Symmetric and Asymmetric key cryptography.
- (c) Write short notes on :
  - (i) Digital audio
  - (ii) Audio compression
  - (iii) Streaming audio.

5. Attempt any **two** parts of the following : **(10×2=20)**

- (a) Explain the two mail access protocols in brief :
  - (i) POP3
  - (ii) IMAP
  - (iii) SMTP
- (b) Write a short note on :
  - (i) FTP
  - (ii) DNS
  - (iii) MIME
  - (iv) TFTP
- (c) Explain about e-mail architecture and services.