(Following Paper ID and Roll No. to be filled in your Answer Book)										
PAPER ID: 110601	Roll No.									

## 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:

 $(5 \times 4 = 20)$ 

- (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:

 $(5 \times 4 = 20)$ 

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

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- (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:  $(10\times2=20)$ 
  - (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:  $(10\times2=20)$ 
  - (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.