(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 : **(5×4=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 ?

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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 : **(10×2=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.

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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.

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