

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

PAPER ID : 2474

Roll No.

--	--	--	--	--	--	--	--	--	--

**B.Tech.**

(SEM. VI) EVEN THEORY EXAMINATION 2012-13

**COMPUTER NETWORK**

*Time : 3 Hours*

*Total Marks : 100*

**Note :—Attempt ALL questions.**

1. Attempt any four parts of the following : (5×4=20)
  - (a) Which OSI layer perform following :
    - (i) Responsibility for delivery between adjacent nodes.
    - (ii) Reliable process to Process transportation.
    - (iii) Responsible for Error detection and correction.
  - (b) What is Signal to noise ration required to achieve channel capacity of 20 mbps with 3 MHz bandwidth ?
  - (c) What is an Integrated Services digital network ? What are types of ISDN ? Explain its functions.
  - (d) What is Transmission Media ? Describe the types of Transmission Media.
  - (e) What are the differences among Circuit Switching, Packet Switching and Message Switching networks ?
  - (f) Write a note on network topologies.

2. Attempt any **four** parts of the following : (5×4=20)
- (a) Draw the format of IEEE 802.3 MAC frame. Explain each field in brief. Differentiate between Ethernet and IEEE 802.3.
  - (b) A series of 8-bit message blocks (frame) is to be transmitted across a data link using a CRC for error detection. A generator polynomial of 1101 is to be used. Use an example to illustrate the following :
    - (i) The CRC generation process
    - (ii) The CRC checking process.
  - (c) Explain the sliding window protocol.
  - (d) Compare the delay of Pure-Aloha to Slotted Aloha at low load.
  - (e) Sketch the Manchester and differential Manchester for the bit stream : 0001110101.
  - (f) Explain in brief channelization techniques.
3. Attempt any **four** parts of the following : (5×4=20)
- (a) What is adaptive routing algorithm ? Explain various types of adaptive routing algorithm.
  - (b) A company in granted a site address 201.70.64.0. The company needs six subnets. Design the subnets.
  - (c) Explain ARP and RARP with example. Give difference.

- (d) Give difference between IPV4 and IPV6.
  - (e) Write and explain Count to infinity problem.
  - (f) Compare the TCP header with UDP header.
4. Attempt any **two** parts of the following : (10×2=20)
- (a) Describe the encryption and decryption process used in a cipher of your choice.
  - (b) Explain connection establishment and release using 3-way handshaking in transport layer.
  - (c) Write and explain at least four Socket Primitives that are used in network programming
5. Write notes on any **two** of the following : (10×2=20)
- (a) DNS
  - (b) Virtual Terminal
  - (c) SMTP.