

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

PAPER ID : 2474

Roll No.

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B.Tech.

(SEM. VI) EVEN THEORY EXAMINATION 2012-13

COMPUTER NETWORK



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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 is 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.

