B Tech V Semester Back Paper Examination - 2016
TCS 50 2 - COMPUTER NETWORK

Time: 3 Hours *Total Marks: 100*

Note: *(i) Attempt **ALL** que stions.*
(ii) All Questions carry equal marks.
(iii) Be precise in you r answer.

1. Attempt ***any four*** parts of the following: (5 × 4 = 20)
   (a) What are the two reasons for using layered protocols?
   (b) What is ISDN? Draw the ISDN communication architecture?
   (c) Compare twisted pair, co-axial and fiber optic cable.
   (d) If the frequency spectrum of a signal has a bandwidth of 500 Hz with the highest frequency at 600 Hz according to the Nyquist theorem. What should be the sampling rate?
   (e) Write short notes on the following term:
   i) LAN ii) WAN

2. Attempt ***any four*** parts of the following: (5 × 4 = 20)
   (a) Compare and contrast CSMA/CD with CSMA/CA.
   (b) What is IEEE 802 .11 standard?
   (c) Sketch the Manch ester encoding to the bit stream: 001110101.
   (d) State drawbacks o f stop and wait protocol.
   (e) Explain performance issues for the following data link layer prot ocols:
   i) Go-Back- N protocol.
   ii) Sliding wi ndow protocol

3. Attempt ***any two*** parts of the following: (10 × 2 = 20)
   (a) Explain the flow control algorithm to regulate the traffic in a data network.
   (b) Discuss the architecture of TCP/IP reference model.
   (c) Explain briefly, t e new features in IPv6 as compared to IPv4. What is the purpose of multiple headers? Explain briefly, how IPv6 handles multiple headers.

4. Attempt ***any two*** parts of the following: (10 × 2 = 20)
   (a) What is UDP? W hat is the maximum and minimum size of a UD P datagram? Also discuss the use of UDP.
   (b) What is cryptogra phy? Differentiate between symmetric key cryp tography and asymmetric-key c ryptography.
   (c) What is silly win dow syndrome in TCP flow control? Explain Na gel's algorithm and Clark's solution for the syndrome created by sender and receiver.

5. Attempt ***any two*** parts of the following: (10 × 2 = 20)
   (a) (i) When we pages are sent out, they are prefixed by MIME headers. Why?
   (ii) What is the difference between http and https protocol?
   (b) (i)How does FTP work? Differentiate between passive and active FTP.
   (ii) What are t he problems for full implementation of voice o ver IP? Do you think we will stop using the telephone network very soon??
   (c) (i)What is multipurpose Internet Mail Extension (MIME) an d for what it is used?
   (ii) Compare and contrast TCP with RTP. Are both doing the same things?