

MID SEMESTER EXAMINATION

MAR-2019

CO-306 COMPUTER NETWORKS

Time: 1:30 Hours

Max. Marks: 30

Note: All questions are compulsory. Assume suitable missing data, if any.
All questions carry equal marks.

Q.1 (a) Write the difference between bit stuffing and character stuffing.

(b) Sketch the waveform for the bit stream 10110010 in differential Manchester encoding scheme.

Q.2(a) Explain the IP header format of IPv4 in detail.

(b) How is CSMA a clear improvement over ALOHA? How is it further improved by implementing CSMA/CD?

Q.3 (a) A channel has a bit rate of 4kbps and propagation delay of 20ms. What is the minimum size of frame does stop and wait give efficiency of at least 50%?

(b) Categorize three basic topologies and give an advantage and disadvantage of each type.

Q.4(a) A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is $x^3 + 1$. Show the actual bit string transmitted. Suppose the third bit from the left is inverted during transmission.

(b) Explain the distance vector routing algorithm and give the limitations of this algorithm.

Q.5 Write short notes on any two of the following:

- (a) IPv6
- (b) HDLC
- (c) PCM
- (d) IEEE 802.5