

Q. A bit string, 011110111110111110, needs to be transmitted at the data link layer. What is the string actually transmitted after bit stuffing?

A:

Show Answer 011110111110011111010

Q. What is the remainder obtained by dividing $x^7 + x^5 + 1$ by the generator polynomial $x^3 + 1$? (give your answer as bit string)

A:

Show Answer 111

Q. A channel has a bit rate of 4 kbps and a propagation delay of 20 msec. For what range of frame sizes does stop-and-wait give an efficiency of at least 50 percent?

A.

bits

Show Answer 160

Q. Consider an error-free 64-kbps satellite channel used to send 512-byte data frames in one direction, with very short acknowledgements coming back the other way. What is the maximum throughput for window sizes of 1, 7, 15? The earth-satellite propagation time is 270 msec. (give your answer as an integer)

A. A. for window size=1:

bps

A. A. for window size=7:

bps

A. for window size=15:

bps

Show Answer 6781

Show Answer 47470

Show Answer 64000

Q. A 100-km-long cable runs at the T1 data rate. The propagation speed in the cable is $\frac{2}{3}$ the speed of light in vacuum. How many bits fit in the cable?

A.

bits

Show Answer 772