

Grade Book Detail

Exercise 3 (Chap 3)

Started: October 13, 2019, 4:31 pm

Last change: October 14, 2019, 3:42 pm

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

A: 011110111110011111010

Show Answer 011110111110011111010

Question 1: 10 out of 10 in 44 attempt(s)

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: 111

Show Answer 111

Question 2: 10 out of 10 in 44 attempt(s)

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. 160 bits

Show Answer 160

Question 3: 10 out of 10 in 44 attempt(s)

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: 6781 bps

A. A. for window size=7: 47470 bps

A. for window size=15: 64000 bps

Show Answer 6781

Show Answer 47470

Show Answer 64000

Question 4: 9 (parts: 3, 3, 3) out of 10 in 44 attempt(s)

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. 772 _____ bits

Show Answer 772

Question 5: 10 out of 10 in 44 attempt(s)

A CRC generator polynomial is $G(X) = X^{16} + X^{15} + X^2 + 1$. How many bits will the checksum be?

- ☐ 14
- ☐ 15
- ☒ 16
- ☐ 17

Show Answer 16

Question 6: 10 out of 10 in 44 attempt(s)

Assume the sequence number has 3 bits. What is the maximum number of outstanding sending frames for a go back N protocol?

7

Show Answer 7

Question 7: 10 out of 10 in 44 attempt(s)

Assume the sequence number has 5 bits. What is the maximum number of outstanding sending frames for a selective repeat protocol?

16

Show Answer 16

Question 8: 10 out of 10 in 44 attempt(s)

Which is not the CSMA / CA rule of 802.11?

- ☐ If station X received RTS of station A, X must remain silent for a short time
- ☒ If station X received RTS, but did not receive CTS, then X may not transmit its data.
- ☐ If station X has not received RTS, but received CTS, then X may not transmit its data
- ☐ If station X has received both RTS and CTS, then X may not transmit its data

Show Answer

If station X received RTS, but did not receive CTS, then X may not transmit its data.

Question 9: 10 out of 10 in 44 attempt(s)

After the sender first sends frames from 0 to 6 and at the end of timeout receives the acknowledgements for frame 1, 3, and 5, the next frame it will re-transmit is frame _____. (assume the protocol is go-back-n)

- ☐ 1
- ☐ 2
- ☐ 5
- ☒ 6

Show Answer 6

Question 10: 10 out of 10 in 44 attempt(s)

Total: 99/100

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