1. What is the basic purpose of the symbol timing recovery (STR) block?

To obtain the optimal points for sampling the I and Q waveforms to get bit stream.

1. Is the input to the STR an IF or baseband waveform?

Baseband waveform.

1. The STR works by multiplying the input signal with itself delayed by \_\_\_\_\_\_\_\_\_ symbol periods.

Tc/2.

1. The PLL that tracks the symbol timing should be tuned to a center frequency of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

1/T.

1. How long should the sample indicator bit stream output be for a single block input into the STR?

As long as the input block

1. What do 0 and 1 indicate in the sample indicator stream?

0 indicates that the output sample should be skipped and 1 indicates that the output sample should be stored.

1. Where should the optimal sample points be relative to transitions of i[n] or q[n]?

For each rising edge at the output of the symbol timing PLL. Positive zero crossing at accum = 0.75

1. What is the purpose of frame synchronization?

To determine where to start reading the message. Starting at incorrect position leads to ASCII characters.

1. How does frame synchronization work?

Many symbols are arranged into a frame and a known sequence is placed at the beginning of the frame. The known sequence is given to us for the lab. In this way the beginning of the frame can be found and tracked from one frame to the next, removing ambiguity of where to begin decoding symbols.